











THE NEW  
INTERNATIONAL  
YEAR BOOK



# THE NEW INTERNATIONAL YEAR BOOK

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A COMPENDIUM OF THE WORLD'S  
PROGRESS

FOR THE YEAR

1940

EDITOR

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## PREFACE

The twentieth century has seen many startling developments in the first two-fifths of its course, but these—the automobile, the airplane, motion pictures, radio, and even the first World War, to name the high lights of the period—have been of comparatively slow evolution; they have unfolded from year to year as one turns the pages of a book, progressing from stage to stage with some degree of logical order. But the year 1940 has been a succession of shocks, of severe jolts not forecast by events of the preceding year nor dreamed of as remote possibilities in any future year. The European War of 1939, even with the devastating “Blitzkrieg” in Poland and the unexpected flare in Finland, did not seriously disturb the serenity of the world. It looked as if it might be a long-drawn affair, with the probability of ultimate German defeat as England and France gradually tightened the economic noose; but otherwise, except in Germany, the world was operating under the sign, “Business as Usual.”

By the end of 1940 that sign had been taken down—everywhere. No country in the world had altogether escaped some tremor, great or small, of the cataclysmic disturbance. War, until May confined to a few miles of a thin line between two countries, suddenly engulfed the whole of Europe, overflowed into Africa, and spread into ripples that touched and threatened the shores of every sea. Almost no line of industry or science or the ordinary affairs of life remained unaffected by the close of the year, anywhere on the globe. Hence, this issue of *THE NEW INTERNATIONAL YEAR BOOK* might rightly be called a “War Volume,” for almost no page does not reflect some touch from the innumerable tentacles of war. Music, literature, and art felt its fingers; medicine, sanitation, and engineering turned from peace to war problems; nations began to subordinate their programs for the normal progress of their peoples and to convert their factories into arsenals and their young men into armed forces.

To provide space for a full review of all the great developments of the year without increasing the bulk of the present volume over preceding issues and without sacrificing any of the former standards, certain modifications have been made in the presentation of some of the usual material. In each instance, however, the modification has permitted an extended amount of information. Thus, by the assembly of the data pertaining to universities and colleges into a tabular list, many more of such institutions are presented than heretofore. Similarly, a greatly extended list of “Societies and Associations” is offered under this title. Biographical sketches of the important persons who died during the year now appear under the heading “Necrology” without exception. Although these and other modifications were undertaken primarily as space-saving devices, it is believed that all of them tend to increase the convenience of the book for ready reference and to increase its value.

As with preceding issues of *THE NEW INTERNATIONAL YEAR BOOK*, the 1940 *YEAR BOOK* is also truly international in its scope. No country is so small that the most recent available facts pertaining to it are not included, and the larger countries of the world are treated with great fullness. Especial attention is given to statistics of population, education, production, trade, finance, government, and to historical developments, all as of the year 1940 or of the most recent date for which statistical information has been officially issued. Reviews in the fields of chemistry, physics, medicine, and other sciences are also international in character and treatment. It has been the intent of the editors to

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## PREFACE

omit no important development of the year in any major field of interest throughout the world. Naturally, however, as this book circulates chiefly within the United States, about one-half of its topics pertain to the commerce, industry, literature, sports, politics, transportation, and so on of this country.

The contents are, as usual, alphabetically arranged by subjects, and numerous cross-references serve to guide the consultant, not only to the main subject, but to the specific section within that subject that he may be seeking. For his further convenience, on page xvi is listed an index of certain special features to be found in the volume that he might otherwise overlook or be uncertain as to heading or location.

A book such as this, offered anew from year to year, must necessarily mark the appearance of new names among its contributing editors from time to time. Among those in this issue—new to these pages, but by no means new in the fields of their various subjects—are Dr. H. A. De Weerd, who presents a masterly review of the EUROPEAN WAR during 1940; Dr. Clarence B. Farrar, with a review of PSYCHIATRY; Dr. Ales Hrdlička, ANTHROPOLOGY; Philip Murray, CONGRESS OF INDUSTRIAL ORGANIZATIONS; Hans Olav, SCANDINAVIAN LITERATURE; Charles McD. Puckette, NEWSPAPERS AND MAGAZINES; E. E. Russell Tratman, various engineering topics, and Leroy Whitman, MILITARY PROGRESS. The editor welcomes these and other new contributors, and extends his gratitude to them, to the remaining contributors, and to the large number of men and women who, with no thought of recognition or remuneration, supplied numerous items without which much of the statistical information could not have been supplied.

The editor is unable adequately to express his deep appreciation of the services of his associates and his staff. Obstacles that seemed almost insuperable were met and overcome by their unremitting labor and unswerving loyalty. He is especially grateful to Mr. Ronald Kain who, faced with the tremendous complexities that the European War, the Russo-Finnish War, and the Sino-Japanese War thrust into the governments of the world, has labored far into many nights to present his usual clear accounts of the historical developments of all countries and to ensure the accuracy of statistical data affecting them. He is also deeply grateful to Miss Mamie Harmon who, aside from regular editorial duties, proposed and carried to their conclusions the solutions to many frustrating problems and also relieved him of many of the details connected with a work of this magnitude. Although he does not call the roll of the other members of his staff he is nonetheless appreciative of the value of their work and the earnestness with which they have carried it through.

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THE NEW  
INTERNATIONAL  
YEAR BOOK

## SPECIAL FEATURES

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**ABYSSINIA (ETHIOPIA).** See ITALIAN EAST AFRICA; EUROPEAN WAR under *Campaigns in Africa*

**ACADEMIC FREEDOM.** See EDUCATION; WYOMING under *History*.

**ACADEMY, French (Académie Française).** The oldest of the five academies which make up the Institute of France and officially considered the highest, founded in 1635. The membership is limited to 40. The list of the Immortals in 1940, in order of their election, was as follows: Gabriel Hanotaux, Henri Lavedan; Maurice Donnay, Marcel Prévost, Henri Bergson, Mgr. Alfred Baudrillart, Henri Bordeaux, André Chevillon, Édouard Estaunié; Georges Lecomte, Émile Picard; Louis Bertrand, Auguste de Caumont, Duc de la Force, Paul Valéry; Abel Hermant; Émile Mâle; Louis Madelin; Maurice Paléologue, Marshal Henri Pétain; André Chaulmeix; Gen. Max Weygand, Pierre Benoit; Abel Bonnard; François Mauriac, Maurice, Duc de Broglie; Léon Bérard; Marshal Louis Franchet d'Espérey; Claude Farrère, André Bellessort, Georges Duhamel, Louis Gillet, Edmond Jaloux, Joseph de Pesquidoux; Lucien Lacaze; Mgr. Georges Grente, Bishop of Le Mans; Jacques de Lacretelle, Charles Maurras; André Maurois; and Jérôme Tharaud.

On Jan. 11, 1940, the Academy elected Paul Hazard to the seat of the late Georges Goyau. The death of Henri Lavedan was announced from Vichy in September. See FRENCH LITERATURE.

**ACADEMY, Royal Italian.** See ITALIAN LITERATURE.

**ACADEMY, Spanish.** See SPANISH LITERATURE.

**ACADEMY OF ARTS, Royal.** See ART.

**ACADEMY OF ARTS AND LETTERS, American.** A society founded in 1904 by members of the National Institute of Arts and Letters for the purpose of furthering and representing the interests of literature, painting, sculpture, architecture, and music. Its membership is limited to 50 chairs, vacancies caused by death being filled by elections from the membership of the Institute.

The membership of the Academy as of Nov. 14, 1940, consisted of the following in the order of their election: George de Forest Brush, Bliss Perry, Abbott Lawrence Lowell, Nicholas Murray Butler, Herbert Adams, Archer Milton Huntington, Newton Booth Tarkington, Charles Dana Gib-

son, Royal Cortissoz, Charles Downer Hazen, Wilbur L. Cross, Hermon A. MacNeil, James Earle Fraser, William Mitchell Kendall, Robert Frost, James Truslow Adams, William Lyon Phelps, Adolph Alexander Weinman, Walter Damrosch, Anna Hyatt Huntington, Paulanship, Cecilia Beaux, Eugene O'Neill, Henry Dwight Sedgwick, Walter Lippmann, M. A. de Wolfe Howe, Frank Jewett Mather, Jr., Stewart Edward White, Deems Taylor, Charles McLean Andrews, Van Wyck Brooks, Herbert Putnam, William Adams Delano, Charles Warren, Bernard Berenson, Chauncey Brewster Tinker, Albert Spalding, Sinclair Lewis, Willa Cather, Stephen Vincent Benét, Ellen Glasgow, Thornton Wilder, Henry Osborn Taylor, Ralph Adams Cram, Edna St. Vincent Millay, and Carl Sandburg.

Beginning with Nov. 14, 1940, a joint exhibition of the works of Childe Hassam, a member of the Academy who died in 1935, and of Edwin Austin Abbey, a member of the Academy who died in 1911 has been shown in the art gallery, and will continue indefinitely. The Abbey paintings were lent by Yale University. This gallery and the permanent museum are open and free to the public from 10 a. m. to 5 p. m. weekdays and from 2 to 5 p. m. Sundays and holidays.

Officers of the Academy elected in 1940, were: President, Nicholas Murray Butler; Chancellor and Treasurer, Wilbur L. Cross; Secretary, William Lyon Phelps; Directors: Stephen Vincent Benét, Van Wyck Brooks, Walter Damrosch, William Adams Delano, Charles Dana Gibson, and Archer M. Huntington. Administrative offices are at 633 West 155th St., New York City.

**ACADEMY OF DESIGN, National.** An organization of American artists, established in New York City in 1825 and incorporated in 1828 for the purpose of "cultivation and extension of the arts of design." In 1906 the Society of American Artists merged with the Academy.

The Academy maintains annual Exhibitions of painting, sculpture, and engraving, to which all artists may contribute, subject to jury. At these exhibitions various prizes are awarded. It conducts an Art School at which no tuition is charged. It also administers the Henry W. Ranger Fund for the purchase of paintings, to be presented to various museums. Its membership is limited to professional painters, sculptors, engravers, and architects.

The Academicians elected at the annual meeting in April, 1940, were: Painters—Guy Pene du Bois, Dean Cornwell, Robert Brackman, Jon Corbino,

Ogden Pleissner, Roy Mason, Francis Speight, Theodore Van Soelen, Hugo Ballin. Sculptors—Gertrude Lathrop, Wheeler Williams. Architect—Grosvenor Atterbury. Graphic Arts—Thomas W. Nason.

The Associates elected in March, 1940, were: Painters—Isabel Bishop, Allyn Cox, Nan Greacen, George Harding, Robert K. Ryland, Ferdinand E. Warren, N. C. Wyeth. Sculptors—Cornelia Van A. Chapin, Nathaniel Choate, Janet de Coux, Donald de Lue, Herbert Haseltine, Gertrude V. Whitney. Architect—Eliei Saarinen. Graphic Arts—Roi Partridge, Grant T. Reynard, Cadwallader Washburn.

Elected officers were: Hobart Nichols, President; Edward McCartan, First Vice-President; John Taylor Arms, Second Vice-President; Charles C. Curran, Corresponding Secretary; Georg Lober, Assistant Corresponding Secretary; Charles S. Chapman, Recording Secretary; Frederick Ballard Williams, Treasurer; Charles Keck, Assistant Treasurer.

Headquarters are at Amsterdam Avenue and 109th Street, New York City, where there also is located the Academy's School, Charles L. Hinton, dean, and Virginia Ferrell, clerk of the Academy.

**ACADEMY OF SCIENCES, National.** The National Academy of Sciences was incorporated by Act of Congress in 1863 for the purpose of investigating, examining, experimenting, and reporting upon any subject of science or art whenever called upon by any department of the United States Government. Membership is by election, in recognition of outstanding achievements in scientific research, and is limited to 350 active members and 50 foreign associates. Members must be citizens of the United States. New members are elected by the Academy on nominations from its eleven Sections: Mathematics, Astronomy, Physics, Engineering, Chemistry, Geology and Paleontology, Botany, Zoology and Anatomy, Physiology and Biochemistry, Pathology and Bacteriology, and Anthropology and Psychology. The names considered by the Sections in their nominating ballots originate from suggestions made by members; consequently, there are no applications for membership.

At the Annual Meeting held in Washington, D.C., Apr. 22, 23, and 24, 1940, fifteen new members were elected, as follows: Rollin Thomas Chamberlin, Carl Ferdinand Cori, George Washington Corner, Louis Frederick Fieser, Wendell Mitchell Latimer, Karl Friederich Meyer, James Bumgardner Murphy, Isidor Isaac Rabi, Stephen Walter Ranson, William Jacob Robbins, Richard Edwin Shope, William Hay Taliaferro, Stephen Timoshenko, Ernest Glen Wever, Claus Hugo Hermann Weyl. Four foreign associates were elected: Bernardo Alberto Houssay, James Peter Hill, Giuseppe Levi, and Sir Henry Hallett Dale.

Three medals were presented at the dinner on Apr. 23, 1940:—The Agassiz Medal for Oceanography (gold), to Frank Rattray Lillie, past president of the Woods Hole Oceanographic Institution, for his important contributions to the science of Oceanography; the Public Welfare Medal (gold), to John Edgar Hoover, of the Federal Bureau of Investigation, for his application of scientific methods to the problem of crime prevention; and the Charles Doolittle Walcott Medal (bronze) and accompanying honorarium, to A. H. Westergaard, of the Sveriges Geologiska Undersokning, Stockholm, Sweden, for his eminent researches on the stratigraphy and paleontology of the Cambrian formations of Sweden.

raphy and paleontology of the Cambrian formations of Sweden.

The Autumn Meeting was held at the University of Pennsylvania, Philadelphia, Pennsylvania, on Oct. 28, 29, and 30, 1940. The Academy publishes an Annual Report, Biographical Memoirs of its deceased members, occasional scientific Memoirs, and monthly Proceedings. The officers are: Frank B. Jewett, President; Arthur L. Day, Vice-President; L. J. Henderson, Foreign Secretary; F. E. Wright, Home Secretary; J. C. Hunsaker, Treasurer; and Paul Brockett, Executive Secretary. The Academy building is at 2101 Constitution Avenue, Washington, D.C.

**ACCIDENTS.** The 1940 accident toll in the United States, according to National Safety Council estimates, amounted to 96,500 deaths, approximately 9,100,000 non-fatal injuries, and direct costs aggregating nearly \$3,500,000,000. These totals represent increases of about 4 per cent from the 1939 accident toll. In contrast, the preliminary estimate of property destroyed or damaged by fire alone was \$306,500,000, or 3 per cent below the comparable preliminary estimate for 1939. The trend of accidental deaths over the last decade has been mixed. In 1930 the total was 99,147. In 1932 it reached a low of 89,031, but in 1934 it was up to 100,977, and in 1936 to 110,052. These two high totals were in part due to a large number of deaths from excessive heat—also a factor in the 1940 increase.

The following table shows the 1939 and 1940 death totals for the four principal classes of accidents, together with the per cent increase in each class:

	1940	1939	Increase
All Accidental Deaths ...	96,500	92,623*	4%
Motor Vehicle	34,400	32,386*	6%
Public (not motor vehicle) .	15,500	15,500	No change
Home	32,500	32,000	2%
Occupational	17,000	15,500	10%

\* The 1939 figures for all accidents and motor vehicle accidents are from the U.S. Census Bureau. All others are National Safety Council estimates. The totals exclude the duplication of occupational and motor vehicle deaths.

Approximately half of the increase in total accident deaths came from motor vehicle accidents, and about a third from occupational accidents.

The 1940 accidental death rate per 100,000 population was 73.2. Comparable rates are: 1939, 70.7; 1930, 80.6; 1920, 71.3; 1910, 84.4. Heart disease, cancer, cerebral hemorrhage, and nephritis were the only causes of death exceeding accidents in 1939, according to U.S. Census Bureau data. Preliminary information indicates the same ranking for 1940. Among males, alone, accidents have for several years been either the second or third most important cause of death, being exceeded by heart disease and, in some years, cancer. From age 3 to 21 accidents caused more deaths than any disease in 1939. Among males they were first from age 3 to 38.

The 1940 accidental deaths were distributed by age as follows: 0-4 years, 6650; 5-14 years, 6550; 15-24 years, 12,500; 25-64 years, 43,400; 65 years and older, 27,400. The 1940 Census population figures are not yet available, but it is certain that the highest death rate per 100,000 population was for 65 years and older—in the neighborhood of 340. In contrast, the rate for children 5 to 14 years old was only about 27, or one-twelfth as much. In recent years the rate for elderly people has been

rising steadily, while that for school children has been going down.

**Motor Vehicle Accidents.** The 1940 motor vehicle accident death total of 34,400 represents an increase of 6 per cent from 1939. However, there were also 6 per cent more vehicle-miles driven in 1940, so the death rate per 100,000,000 vehicle-miles remained unchanged at 12.0. Since 1930, when the death rate was 17.4, there has been a 31 per cent reduction in the rate. In addition to the deaths, about 1,200,000 persons received non-fatal injuries in motor vehicle accidents during 1940, or one out of each 110 persons in the United States. Wage loss, medical and insurance costs amounted to about \$800,000,000, and property damage to approximately an equal amount—a grand total of \$1,600,000,000. The increase in motor vehicle deaths from 1939 to 1940 came principally from rural accidents. These rose about 9 per cent to a total of 20,700 while deaths from accidents in towns and cities went up only 3 per cent to 13,700.

Pedestrian deaths increased moderately—3 per cent, to a total of 12,600. Non-pedestrian fatalities totalled 21,800—up nearly 8 per cent from 1939. Children under 5 years of age were the only persons with a better motor vehicle death record in 1940 than in 1939. Deaths in this group numbered only 1100, compared to 1192 for the previous year, a decrease of 8 per cent. In contrast, deaths of school children, 5 to 14 years, rose 11 per cent, from 2339 to 2600. This is one of the few increases in school child death rates that have interrupted the general downward trend which started two decades ago. Deaths in the 15-24 age group went up 8 per cent from 6318 to 6800. In the 25-64 age group fatalities numbered 18,250, or 6 per cent more than in 1939. For persons 65 years or older the death total rose 6 per cent from 5328 to 5650.

**Public (not motor vehicle) Accidents.** There was no change from 1939 to 1940 in the number of deaths from public (not motor vehicle) accidents. In each year the fatality total amounted to 15,500. Since 1930, however, these deaths have decreased by 4500. The 1940 non-fatal injury total was approximately 1,850,000. Wage losses, and medical and insurance expenses amounted to about \$400,000,000.

Although the death total remained the same as in 1939 there were some changes in individual types of accidents in 1940. Outstanding in the year's record was the Natchez, Miss., dance hall conflagration in which 210 lives were lost. Air transport companies had three fatal accidents after having completed nearly 18 months of no-fatality operations. Thirty-five passengers were killed in these accidents, compared to a 1939 total of only 12 passenger deaths. Railroad passenger fatalities increased about 49, according to 11-month reports, but trespasser deaths decreased by 259. Fatal falls and deaths from excessive heat in public places increased.

**Home Accidents.** Deaths from home accidents rose from 32,000 in 1939 to 32,500 in 1940. In 1930 home accident deaths totalled only 30,000. Non-fatal injuries in 1940 numbered about 4,750,000. Wage losses, and medical and insurance costs amounted to approximately \$600,000,000. Little information is available on the trend of the different types of home accidents. However, it appears certain that deaths from excessive heat increased sharply due to the July heat wave. Available information indicates a small increase in deaths from burns, a slight decrease in fatal falls.

**Occupational Accidents.** The 1940 death total for occupational accidents was 17,000, an increase of about 10 per cent from the 1939 total of 15,500. However, the record is still favorable compared to the 1930 total of 19,000 deaths. There were approximately 1,400,000 non-fatal injuries in 1940. Total wage loss, and medical and insurance expenses amounted to about \$650,000,000.

Four coal mine disasters in Ohio, Pennsylvania, and West Virginia resulted in 257 deaths, or one-sixth of the total 1940 death increase. A New Jersey powder mill explosion killed 51 workers. The increase in occupational accidents was accompanied by greater employment. According to available data manufacturing employment increased 6 to 7 per cent over 1939, and total employment went up 3 to 4 per cent. However, accident rates based on man-hours worked, and covering both fatal and non-fatal injuries, were higher in 1940. Plant safety contest reports show an increase of 2 to 5 per cent in both the frequency rate (injuries per million man-hours) and the severity rate (days lost per thousand man-hours).

See AERONAUTICS; AUTOMOBILES under *Accidents*; INSURANCE under *Casualty Insurance*; LABOR CONDITIONS under *Health and Safety*; MINES, BUREAU OF; VITAL STATISTICS.

A. D. BATTEY.

**ACCOUNTS, Bureau of.** See FISCAL SERVICE.

**ADEN.** See under ARABIA.

**ADULT EDUCATION.** See AMERICAN FEDERATION OF LABOR; EDUCATION; EDUCATION, U.S. OFFICE OF; LIBRARY PROGRESS.

**ADVANCED STUDY, Institute for.** An institution of higher learning founded in 1930 by Mr. Louis Bamberger and Mrs. Felix Fuld. The Institute is different in character from any other American educational institution in that it is planned for students who wish to pursue advanced research beyond the level of the doctor's degree. It has no tuition fee, no routine requirements, no examinations, and awards no degrees. The work is largely individual, though there are seminars and courses of lectures in some subjects. Since the individuals who attend the Institute are in many cases extremely eminent in their subjects, the word "student" is not used, but they are rather designated as "members." The two groups, the faculty and members of the Institute, are in reality a body of scholars working together.

The Institute for Advanced Study is supported entirely by an endowment which amounts to just over \$8,000,000. In addition to the gifts made by the founders, the Rockefeller Foundation has contributed half the cost of the Gest Oriental Library, and the Carnegie Corporation and the Rockefeller Foundation have contributed funds which maintain a number of promising scholars. Located at Princeton, N.J., the Institute has no official connection with Princeton University, though there is a great deal of informal co-operation between the two institutions. In 1939-40 there were 46 members working at the Institute and 17 professors on the staff, in addition to the director, Frank Aydelotte. Abraham Flexner is Director Emeritus and Alanson B. Houghton is chairman of the Board of Trustees. Headquarters: Fuld Hall, Olden Lane, Princeton, N.J.

**ADVENT MOVEMENT.** A religious movement which originated in America with William Miller (1782-1849), who believed in the imminent, personal second coming of Christ. There are six

Adventist bodies in the United States, the largest being the Seventh-day Adventist Denomination, formally organized in 1860, which observes Saturday as the Sabbath of the Scriptures. Headquarters, Takoma Park, Washington, D.C. For statistics, see RELIGIOUS ORGANIZATIONS.

**ADVERTISING.** See FEDERAL TRADE COMMISSION; GARMENT INDUSTRY; NEWSPAPERS AND MAGAZINES.

**AEGEAN ISLANDS, Italian.** The islands in the Aegean sea, near Turkey in Asia, belonging to Italy. They comprise Rhodes, Castelrosso, and the Dodecanese group. Total area, 1035 square miles; total population (1936), 140,848 (natives, 85 per cent; Italians, 12 per cent). Chief towns, Rhodes (capital), 27,466 inhabitants (1936); Kalyrnos, 15,247. The chief agricultural products consist of grapes, olives, tobacco, oranges, and vegetables. Oriental carpets, wine, olive oil, pottery, and tiles are manufactured. Sponge fishing is an important industry. In 1938, imports were valued at 157,421,000 lire; exports, 21,851,000 lire. Budget (1934-35): 48,000,000 lire. The Italian navy has a station at Rhodes, and a base at Liros in the Dodecanese group. On September 4 a British Mediterranean squadron bombarded the Italian stronghold at Karpathos (Scarpanto) in the Dodecanese group. Numerous air attacks were made on the islands. Governor, Gen. Ettore Bastico who succeeded Count de Vecchi on Dec. 7, 1940. See EUROPEAN WAR.

**AERONAUTICS, Military Aviation.** The year of 1940 for all of its terrible demonstrations of the importance of air power in modern warfare still left a number of long-debated questions not yet finally decided. For example, despite some claims to the contrary, there was as yet no definite proof that an attacking aircraft or squadron of aircraft had been able to sink a first line battleship. There was also no complete proof that bombing attacks had been able completely to destroy the production capacity of a major industrial city or region. There was still no answer as to whether a nation could be driven to its knees solely or in large part through long-continued and heavy bombing attacks. Despite an overwhelming numerical supremacy, the German air force had not yet demonstrated that it was capable at will of securing air supremacy over its British opponent above any area where such supremacy was of vital importance. But if these general questions remained without definitive answer, the developments of the year (see EUROPEAN WAR) drove home with terrific emphasis other lessons in aerial tactics and strategy.

If the battleship versus bomber argument was not completely settled, it was nevertheless clear by the end of the year that attacking aircraft were capable of sinking or inflicting devastating damage upon all other categories of surface vessels when such surface vessels were in harbor or when such vessels were in the open sea and not otherwise protected by fog or night. Perhaps even more vital in the development of the war than the results of direct conflicts between bombers and naval vessels were the depredations wrought upon British commerce vessels by German aircraft operating above the sea lanes to England. Against such attack, even heavily escorted convoys have so far proven extremely vulnerable.

In the land campaigns of Western Europe, the events of the year once more emphasized the supreme importance of air mastery in the execution

of modern military campaigns. By establishing such clear supremacy, the Germans were able to drive home their victories in Norway, the Netherlands, Belgium, and France. By losing their supremacy temporarily, the Germans failed to prevent the rescue of the British Expeditionary Force at Dunkirk. On the other hand, the British, campaigning in Libya at the year's end, were tremendously aided in their land efforts by mastery over the locally effective Italian air squadrons.

As regards bombing of objectives of industrial or secondary military importance, the raids carried out during the last months of the year over England by the German air force, and over German-held territory by British airmen, seemed to indicate in general terms, (1) that mass daylight raids are extremely costly to the attacking air force, but that (2) night raids are almost impossible to stop completely through any defensive tactics so far developed.

Lessons learned in innumerable individual or squadron combats throughout the year reaffirmed once more the general importance of top speed, climbing speed, and maneuverability in the design of all types of military aircraft. New emphasis was placed upon the value of rapid-fire cannon in preference to machine-guns, or at least to machine-guns of the ordinary caliber, upon the desirability of furnishing at least light armor-plate protection for pilots, upon the value of mechanically operated gun-turrets; and upon the value of self-sealing fuel tanks. Ability to conduct operations at extremely high altitudes seemed to be emerging as a fundamental requirement for all types of bombing and fighter aircraft. See EUROPEAN WAR; MILITARY PROGRESS; NAVAL PROGRESS.

**World Air Transport.** A year during which the sound of an airplane overhead was a cause for alarm to a large portion of the earth's inhabitants would hardly seem one in which it would be logical to expect great activity in peaceful international air transportation. Yet, with the exception of Europe and Africa, international air transport either held its own or registered real progress during 1940. Even in Europe the war did not wholly stop international air traffic. German, Scandinavian, and Italian operators continued to fly routes which extended from Oslo to Luby, from Moscow to Lisbon. The British maintained connecting services with the Pan American Clipper service to Portugal and kept up at least skeleton services on its Empire routes south and east of Alexandria. The energetic Royal Netherlands Airlines, while barred of course from Europe, continued operations in the Netherlands East Indies and in the Caribbean.

In Asia the U S S R. continued development of its impressively long network of airlines connecting its component republics. Japan increased its services to the mainland. Even the China National Airways continued to operate schedules between Hong Kong and Chengtu via Chungking and from Chungking to Rangoon.

In the Western Hemisphere and across its two adjoining oceans, Pan American Airways effected improvements and extensions in its airline network which made 1940 one of the most constructive in its history. On August 4 a Pan American clipper completed the 200th crossing of North Atlantic route opened by that airline in the spring of 1939. Long before August however the clipper route had come to be accepted as the surest, safest, and certainly by far the quickest means of travel between

the United States and war-torn Europe. During its first 200 flights this service carried more than 2600 passengers and 300,000 lb. of mail. On July 12 another clipper inaugurated a service between San Francisco and Auckland, New Zealand, via Los Angeles, Hawaii, Canton Island, and New Caledonia. This new service to New Zealand was, of course, completely supplementary to the trans-Pacific service between San Francisco and Hong Kong which Pan American has conducted since 1935. Pan American also opened during the year a new year-round service between Seattle and Alaska and inaugurated a new high-speed service between Miami and Rio de Janeiro. The last service, which cuts the time of transit to three days, is carried on with big thirty-passenger Boeing-built four-engined "strato-clippers," designed to fly at extremely high altitudes without discomfort to passengers or crew, each ship being equipped to maintain a comparatively low-level pressure throughout its cabin by means of superchargers. The present service to Rio de Janeiro also is featured by the use of a new and shorter route to that city. Instead of following the long Brazilian coastline south from Belem, as Pan American coastwise clippers have done for a decade, the new planes now strike directly across the interior from Belem toward Rio de Janeiro, thus saving an almost exact 1000 miles. At the end of 1940 Pan American Airways were operating 69,464 miles of route through 53 countries or colonies, employed 6500 persons and had 144 aircraft in constant use.

See AUSTRALIA under *History* for crash killing Cabinet and military leaders.

**Domestic Air Transport.** During 1940 the sixteen operators of scheduled airlines within the continental boundaries of the United States once more adhered to the tradition of the industry by flying more miles, carrying more passengers, and handling more air mail and air express than in any preceding year. During the twelve months period the domestic operators flew an estimated 108,254,000 revenue airplane miles, an increase of 31 per cent over the corresponding figure for 1939; passenger traffic reached 1,054,393,000 revenue passenger-miles, an increase of 55 per cent over 1939 performance, express traffic gained 25 per cent over the previous year to a total of 6,826,150,000 pound-miles, and mail figures, not yet available, are known substantially to exceed the record set in 1939.

For the first time in the history of the American industry, national defense requirements raised serious problems for the air carriers. In former years the operators had always been able to count upon the nation's military or naval services for a constant supply of well-trained airmen. In 1940 this supply not only dried up, but younger airmen, still in the lower rungs of airline employment, were being attracted back to the services by the prospect of long terms of active duty. The procurement of flying equipment by the end of the year had also become difficult in the face of the national policy of allocating priority of deliveries to Great Britain or to our own military squadrons. While no final decision on airline deliveries had been reached by the year's end, it seemed unlikely that the airlines would receive more than a fraction of the new planes they had ordered in 1940 and which would be needed for continued expansion of services.

By no means for the first time, the air transport history of the past year in the United States demonstrated the inseparable relationship between air-

line safety and the acceptance of air transportation by the American public. On Mar. 26, 1939, an accident occurred on an airline operating out of Oklahoma City, Okla. Thereafter no accident fatal to any person in the air or on the ground was caused by domestic airline operation until Aug. 31, 1940. During those seventeen months indices of passenger traffic climbed at a rate which exceeded the most sanguine expectations. March is usually one of the leaner months in the airline traffic year. March, 1940, set a new all-time record for air travel, well above the best "good-weather" peak of 1939. Thereafter each succeeding month until September set another all-time record, August traffic being 66.69 per cent above the corresponding traffic for 1939. September traffic following the August 1940 accident showed a slight decrease from August. Apparently the first accident was not long in being forgotten, October witnessed another record. But then a second fatal accident occurred on November 4 followed on December 4 by still a third. In November traffic levels broke sharply. Preliminary reports on December show a continuing loss to a point where the airlines were carrying only 7 per cent more passenger traffic than in 1939 yet were flying approximately 19 per cent more airplane miles. The set back was nothing which a return to safety could not remedy but it caused the entire industry and the related governmental agencies the deepest concern.

The past year witnessed another substantial modification in the organization established by the U S government to control and develop the air transportation industry (and in fact all of American civil aviation). The Civil Aeronautics Act of 1938 (see 1938 YEAR BOOK, page 6) created an independent administrative agency, known as the Civil Aeronautics Authority. To the five members of this Authority were assigned full control of the economic affairs of interstate carriers, and the promulgation and enforcement of safety regulations for all civil flying. An official, known as the Administrator of the Authority, was charged with the responsibility of building, maintaining, and operating the system of emergency fields, beacon lights, and radio aids to navigation forming the Federal Airway System. Still another group of three officials was set up as an independent Air Safety Board within the Authority framework to investigate aircraft accidents and study safety measures. In April, 1940, President Roosevelt, exercising the powers granted him by the Reorganization Act, directed that the five-man authority should hereafter have control of economic matters, the promulgation of safety regulations (but not of their direct enforcement), and should assume responsibility for the work formerly conducted by the Air Safety Board. To the responsibilities of the Administrator were added the direction of all field inspections, all promotional functions, and control of the Civilian Pilot Training Program. The organization of the Administrator, now designated as the Civil Aeronautics Administration, was placed entirely within the Department of Commerce. The former five members of the Authority, now constituting the Civil Aeronautics Board, were left in a semi-independent status, dependent upon the Department of Commerce for such services as personnel, budgeting, and accounting. The reorganization was bitterly opposed by at least part of the aeronautical industry, and by many legislators. It was defeated in the House of Representatives but was finally approved by the Senate. Under terms of the Reorganization Act

the President's order thereby became law and the reorganization was made effective July 1.

**Private Owner Aviation.** Unrestricted flying by individual non-military pilots must perforce cease almost to exist in a nation engaged in modern warfare. Even when that nation is separated from the actual theater of war by thousands of miles of ocean—as, for example, Canada, Australia, and New Zealand were during 1940—all civilian aviation save scheduled airline transportation becomes quickly absorbed in the national military training programs. Privately owned planes are bought up or commandeered as trainers. Qualified pilots and mechanics are drawn into the military services or become instructors in military schools or in civilian schools now engaged entirely in the elementary instruction of military cadets. With the spread of war, it would be safe to say, private-owner aviation in its peacetime form became during 1940 almost non-existent throughout all the world save in the United States, its possessions, and Latin America. Even in the United States where this type of flying broke all previous statistical records, 1940 witnessed a marked shift toward an evaluation of its achievements and limitations almost entirely by the yardstick of military preparedness.

By any yardstick, the American achievement was spectacular. For several years preceding 1940, the number of individuals holding certificates of competency as pilots had been growing rapidly larger and planes registered by private owners had steadily increased. Production of aircraft for domestic civil use had been making gains reminiscent of the growth of automobile production figures thirty-five or forty years earlier. Yet all these once-exciting measures of progress were completely dwarfed in 1940. During the twelve months of that year, the number of certificated pilots increased from 31,264 to 65,000. The number of registered civil aircraft rose from 12,829 to 17,000. Aircraft production for domestic civil use reached 3715 during 1939, but last year it increased to more than 6750. Comparison of these figures with corresponding statistics for earlier years is shown in the accompanying table. The figures for 1940 are approximations based on very nearly completed surveys by the Civil Aeronautics Administration.

	1936	1937	1938	1939	1940
Civilian Pilot Certificates (As of December 31) . . . . .	15,952	17,681	22,983	31,264	65,000
Registered Civilian Aircraft (As of December 31) . . . . .	7,424	9,152	10,000	12,829	17,000
Aircraft Production for Domestic Civil Use (During year). . . . .	3,010	3,773	2,698	3,715	6,750

Much of this progress was obviously due to the Civilian Pilot Training Program directed by the Civil Aeronautics Authority and financed by the Federal government. But one must not lose sight of the fact that a substantial part was also due to the fact that Americans in increasing numbers are taking the time and trouble expending their own funds to qualify themselves as pilots. Except for the few hundred per year who found their way into civil flying from the military or naval services, all those qualifying prior to 1939 did so on this basis. During 1939 only a few hundred qualified for certificates after C.P.T.P. training, but during 1940 some 9000 of the approximate 34,000 increment in

certificated pilots was over and above the product of the Federally-subsidized program.

The Civilian Pilot Training Program, launched in 1939 (see 1939 YEAR BOOK, p. 6) underwent a swift acceleration during 1940 as it became apparent that the United States must make every possible move to increase its military assets. Initiated on an experimental basis during the spring of 1939 with an enrollment of 330 students at 13 colleges, the C.P.T.P. received \$4,000,000 from Congress for the fiscal year of 1941 and launched training units at more than 500 colleges and at 70 non-college communities. By July 1, 1940, a total of 8327 students had received approximately 38 hours each of flying instruction in light planes and had qualified for their Private Pilot Certificates.

As originally conceived, the program was first a means of stimulating through governmentally financed education a phase of aviation which held promise of someday becoming a major industry; only secondarily was the program considered a means of creating a partly trained military reserve. The events of the spring of 1939 reversed that emphasis. Congress increased appropriations for the program to \$36,000,000 for the fiscal year of 1942. A summer term of the program was launched and the primary training course of 35 hours was telescoped from two academic terms to one. A secondary training course of approximately 45 hours of advanced pilotage was set up to be conducted in somewhat larger airplanes. By the year's end instruction units were in operation at 703 colleges and 202 non-college centers. Some 2416 aircraft were in program use at 586 different airports. Training was proceeding at such a rate that between July 1, 1940, and July 1, 1941, no less than 45,000 trainees would receive their first 38 hours of preliminary training and an additional 30,000 pilots already holding at least a Private Pilot Certificate would receive some form of advanced instruction. Both the elementary and advanced flying instruction continued to be co-related with extensive ground school classes.

As America became more anxious over the state of its defenses, criticism was leveled at the military worth of the C.P.T.P. Even its immediate sponsors admitted that cadets fully enrolled in the military or naval air arm, flying comparatively larger training ships, and working under service instructors, were capable of more rapid and immediately useful training. As the army and navy swung additional training centers into action it was obvious that the C.P.T.P. might well decelerate its efforts and the Bureau of the Budget consequently recommended only \$18,000,000. But as a means of promoting the interest of college students and other persons in the same age group in flight training and as a training method which did not require the interruption of a college career, the program was still unchallenged. As of Dec. 1, 1940, some 2600 graduates of its courses had applied for enrollment in the air arms of the U.S. forces. Five hundred more were waiting to apply and more than 500 instructors who had received valuable experience and training in the C.P.T. program had been used in setting up army or navy flying schools.

Long range observers are already speculating on the possibility that the immense pilot training programs now in progress throughout the world will at the end of the present emergency result in the daily use of private-owner aircraft by some hundreds of thousands of people. Forecasting on such a subject at this time is hazardous to the extreme.



Terms of any possible peace agreement, the future economic situation of nations and continents, and other such unpredictable factors might well act against any such development. There is every reason to believe, however, that the availability of cheaper, more reliable, and more useful aircraft, the comparative thoroughness of training, and the permanently increased air-consciousness of the entire human race should all be factors in making possible a far greater boom in private owner flying after this conflict than after the World War of 1914-18.

**Airports.** The swift increase of all types of flying activity in the United States and the certainty that new military and civilian developments would increase such activity several-fold in the near future, focussed widespread attention upon America's airport problems. At more than 20 airports, traffic surveys showed more than 10,000 aircraft landings or aircraft take-offs occurring each week throughout the summer season. At almost 200 airports the intensification of civilian training and general flying activities created serious traffic problems for the operators of scheduled airlines who themselves were in the process of steadily increasing airplane movements. The establishment of primary Air Corps training centers at some 29 municipal airports, provisions for basing large military tactical units at some 40 other municipal airports, and the construction of a number of huge military flying areas in regions already in active use by civilian aircraft, brought about a nationwide need for airport construction over and above that directly executed by the Army and Navy or carried out as in preceding years by the Works Progress Administration.

As a result, Congress appropriated the sum of \$40,000,000 to implement the building, extension, or improvement of 200 airports under the immediate direction of the Administrator of Civil Aeronautics. While airport projects carried out under this program were subject to the preliminary approval "as necessary for national defense" of a Board consisting of the Secretary of War, the Secretary of the Navy, and the Secretary of Commerce, the airports selected were primarily civilian in nature. The completion of these projects during 1941 and 1942 was expected to be of real benefit in handling the nation's rapidly growing air traffic problem, but it was felt by many experts that the program would eventually have to be many times expanded to effect a really adequate solution. At the end of the year there were a total of 2331 recognized airports or landing fields throughout the United States; 788 of these were municipal; 496 commercial; 796 were designated as intermediate or auxiliary in character; 21 were owned and operated by the Navy, 69 by the Army, and 134 were privately owned. Of the total of 2331, some 776 were partially or fully lighted for night operations.

See ACCIDENTS; COLOMBIA under *History*; ELECTRICAL INDUSTRIES; METEOROLOGY; PHOTOGRAPHY.

DANIEL SAYRE.

**AFGHANISTAN.** A kingdom in central Asia. Area, about 251,000 square miles; population, variously estimated at from 7,000,000 to 10,000,000. Estimated populations of the chief towns: Kabul (capital), 80,000; Kandahar, 60,000 (with suburbs); Herat, 50,000; Mazar-i-Sharif, 30,000. Persian, Pashto, and Turki are the principal languages and Mohammedanism is the chief religion. Schools in 1940 included 130 primary, 4 secondary,

13 military, 1 normal, 1 medical college, and a few technical, art and commercial schools.

**Defense.** One-eighth of the male population of each city and village must serve in the army for two years. There is also a regular army recruited by life-long enlistment. The normal peace strength of the army is 60,000 men, including the small air force of 100 men with some European-trained pilots. The number of men under arms in 1940 was reported at between 150,000 and 250,000. Numerous tribesmen armed with modern rifles are available for service in time of war.

**Production and Trade.** Agriculture and stock raising are the chief occupations, the main products being cereals, fruits, vegetables, cotton, wool, hides and skins, and meat from the native fat-tailed sheep. Iron, gold, and lapis lazuli are mined. Other rich mineral resources remain undeveloped. There are state-owned factories at Kabul, Kandahar and elsewhere for the manufacture of arms, ammunition, boots, military clothing, furniture, matches, buttons, leather, and wool products.

Trade is chiefly with India, the U.S.S.R., and Iran, the main exports being Persian lambskins, fruits, nuts, other hides and skins, and vegetables. The government has a monopoly of exports of lambskins and of imports of sugar, gasoline, motor vehicles and spare parts. The aggregate value of the transit and direct trade with India in the year ended Mar. 31, 1939, was 46,400,000 rupees (rupee averaged \$0.3328 in 1939, \$0.3659 in 1938). Camels and ponies remain the chief means of transportation, but some 4000 miles of roads are passable to motor traffic in dry weather. Construction of an all-weather highway that would reduce the travel time by motorcar from Kabul via Jalalabad to Peshawar, India, to seven hours was under way in 1940. There are no railways. The large towns have telephone communications.

**Government.** Revenues of the state are estimated at 150,000,000 Afghanis (4 Afghanis equal 1 Indian rupee) annually. The government is a constitutional monarchy, with legislative power vested in a parliament consisting of the King, a senate of 45 members appointed by the King for life, and a national assembly of 109 elected members. King Mohammed Zahir Shah succeeded to the throne Nov. 8, 1933, upon the assassination of his father, Mohammed Nadir Shah.

**History.** The danger of a Russian attack upon Afghanistan, that led the Kabul Government to order a precautionary mobilization in the autumn of 1939 (see 1939 YEAR BOOK, p. 11), continued to keep the Afghan people in uneasy suspense during 1940. During January and February further consultations were held among the governments of Afghanistan, Iran, Iraq, and Turkey to discuss joint measures of defense against Soviet and German threats. In February the Afghan Minister to Turkey was recalled to Kabul for military discussions. Kabul authorities continued to co-operate with British-Indian military officials in curbing the activities of the Fakir of Ipi and other rebellious leaders among the tribes of the Afghan-Indian border region. However German propaganda, carried on by agents in Afghanistan and by radio broadcasts in Afghan from Berlin, was reported in July to have produced a pro-German tendency among some Afghan leaders, including the King's uncle, Minister of War Sirdar Ahmed Shah Khan. Nazi agents were said to be conspiring to place Ahmed Shah on the throne.

Conclusion of an important trade pact with the

Soviet Union was announced in Kabul July 24. It was hailed in Moscow as an evidence of increased Soviet-Afghan collaboration. Afghanistan agreed to export 10,000 tons of wool, 75,000 caracul skins and 1000 tons of sesame to the Soviet Union in return for specified quantities of Soviet agricultural implements, sugar, benzine, kerosene, etc.

See INDIA, IRAN, IRAQ, TURKEY, and UNION OF SOVIET SOCIALIST REPUBLICS, under *History*

**A.F.L.** See AMERICAN FEDERATION OF LABOR **AFRICA.** A continent with an area of about 11,696,000 square miles and a population estimated at 155,500,000 on Dec. 31, 1938. See the separate articles on its countries and territories, such as ALGERIA, EGYPT, ITALIAN EAST AFRICA, KENYA, MOROCCO, SOUTH AFRICA, UNION OF; TUNISIA.

**AFRICAN CAMPAIGNS.** See EUROPEAN WAR under *Campaigns in Africa*

**AGRICULTURAL ADJUSTMENT ADMINISTRATION (AAA).** An agency in the U.S. Department of Agriculture operating programs that carry out the purposes of the Soil Conservation and Domestic Allotment Act, the Agricultural Adjustment Act of 1938, the Sugar Act of 1937, and related legislation

The programs are pointed toward maintaining the Ever-Normal Granary, by which producers and consumers are assured of abundant supplies and emergency reserves of farm products at fair prices; conserving the soil resources of the Nation's individual farms; and assisting farmers in obtaining a fair share of the national income

To accomplish these purposes, the AAA program provides the agricultural conservation program, under which payments are made to farmers for complying with acreage allotments of soil-depleting crops and for carrying out specific soil-improving practices; parity payments to supplement farm income when prices for basic farm products are low; marketing quotas to promote orderly marketing of excessive crop supplies; commodity loans; and crop insurance on wheat. Stored commodities serving as collateral for loans and wheat stocks paid as premiums for insurance make actual the Ever-Normal Granary principle

The use of marketing quotas is subject to a two-thirds approval of farmers voting in referendums, participation in the rest of the program is voluntary. It is estimated that more than 6 million farmers, operating over 80 per cent of the Nation's cropland, took part in 1940.

Under the sugar program, the Secretary of Agriculture is required to estimate annually the sugar needs of American consumers and to allot the estimated quantity among the various areas, domestic and foreign, supplying this market. It also provides for payments to domestic sugarcane and sugar beet producers who qualify under its provisions

Congress appropriated for 1940 conservation payments, \$438,560,000 plus not to exceed \$60,000,000 of the unexpended balance of the previous year's appropriation; for parity payments on cotton, wheat, corn, rice, and tobacco, \$225,000,000; and for payments to sugar growers, \$47,975,000. Legislation provides for increases in payments under \$200, the percentage increase being larger for the smaller payments.

Local committees, elected from among their own number by co-operating producers, are in charge of the field administration of all phases of the AAA program, including commodity loans and crop insurance, made available through the Com-

modity Credit Corporation and the Federal Crop Insurance Corporation, respectively. These committees operated in more than 3000 counties and 24,000 communities during 1940. In the light of national defense needs, precipitated by the war in Europe, this committee organization assumes added importance as a means of making immediately available to farmers expedient changes in the program.

The 1940 AAA goal for soil-depleting crops (such as corn, wheat, rice, cotton, tobacco, potatoes, and peanuts) was set at from 270 million to 285 million acres which, with normal yields, it was estimated would provide ample supplies for all domestic, export, and reserve requirements.

Soil-improving practices included seeding green manure and cover crops, legumes, and grasses; applying phosphate and other fertilizers; planting, maintaining, and improving forest trees; strip cropping; contour listing or furrowing; contour farming intertilled crops; terracing; natural re-seeding of pasture; and constructing dams and reservoirs.

Three marketing quotas for 1940 were proclaimed by the Secretary of Agriculture, and growers approved their use by the following percentages: Cotton, 91.2 per cent; flue-cured tobacco, 90 per cent; burley tobacco, 83.3 per cent. New legislation enabled growers of flue-cured tobacco to vote on the question of marketing quotas for a three-year period instead of for one year; on July 20, 1940, quotas for 1941-43 were approved by 86.1 per cent of the farmers voting. Later in the year, farmers voted to use marketing quotas for cotton for 1941-42 by a favorable vote of 92.3 per cent. Tobacco growers approved quotas for 1941-43 by the following percentages: Burley, 76.5 per cent, dark air-cured, 84.2 per cent, fire-cured, 86.3 per cent

Crop loans may be made on any agricultural commodity; loans are mandatory on cotton, corn, and wheat under specified conditions of supply or price. Loans in 1940 for basic crops were made at the following rates: Corn, 61 cents a bushel in the commercial corn area, cotton, a minimum of 8.51 cents per pound for Middling  $\frac{7}{8}$ -inch gross weight basis, wheat, an average of 64 cents a bushel; rye, a maximum of 38 cents a bushel; and barley, a maximum of 35 cents on the basis of farm storage.

R M EVANS

**AGRICULTURAL CHEMISTRY AND ENGINEERING, Bureau of.** This bureau, established in 1938 by order of the Secretary of Agriculture, supersedes two former bureaus. It has co-ordinated and continued scientific and technological research on agricultural products, formerly conducted by the Bureau of Chemistry and Soils, and some of the engineering research, formerly conducted by the Bureau of Agricultural Engineering. The new bureau was authorized by the Secretary to administer and operate the four regional research laboratories established by the Department, pursuant to provisions in the Agricultural Adjustment Act of 1938, to develop new uses and wider industrial outlets for farm products and by-products.

Construction and equipping of the regional laboratories were nearing completion at the end of June, 1940. Active research was expected to begin in at least three of the four laboratories early in 1941.

The Eastern Regional Laboratory for Research

on Utilization of Farm Products, at Wyndmoor, Pa., near Philadelphia, is concerned with promoting industrial utilization of tobacco, potatoes, apples, vegetables, tanning materials, hides and skins, animal fats and oils, and milk products; the Northern Laboratory at Peoria, Ill., is giving first attention to corn, wheat, and agricultural residues; the Southern Laboratory at New Orleans, to cotton, sweet potatoes, and peanuts; and the Western Laboratory at Albany, Calif., near San Francisco, to western fruits and vegetables, potatoes, wheat, alfalfa, and poultry products and byproducts.

New fruit products developed in collaborative work include frozen apple slices for pies, frozen fruit purees for ice cream and sherbets, dehydrated sugared strawberries, clarified strawberry juice, butter and candied pomace from strawberry pulp, fresh prune beverage, fruit-and-milk beverages and improved packed juices of several fruits.

Hesperidin, the glucoside in orange peel, was found to be non-toxic. Cadmium compounds were found to have a toxic effect like that of fluorine compounds; both produce mottling of teeth and inhibit the action of the enzyme phosphatase.

The principal allergenic constituent of cottonseed was isolated and characterized as a protein-like compound not conforming to any type in existing classifications. The name "Natural proteose" was suggested.

Improved mechanical equipment was designed for use after a mild chemical treatment for removing most of the water from sweet potatoes before drying with hot air. Dried sweet potato meal was found to be a good source of carbohydrate for balancing cottonseed meal in feeding cattle.

As high as 99.5 per cent of the oil in ground tung nut kernels was extracted by solvent alone, without regrounding.

An application was filed for a public service patent on a process for making plastics from hemicelluloses and phenols; patents were procured on processes for preparing a plastic from lignin and alkyl resins from lactic acid.

Rosin soap solutions were found to be more active as germicides against *Staphylococcus aureus* than were solutions of soaps made from natural fats and oils.

A formerly unknown biological activity of bacteria, the production of 2-ketogluconic acid, was discovered; the bacterium was isolated.

In studies on farm structures, it was found that grass silage exerts greater pressure on silo walls than does corn silage, that low temperatures help to preserve wheat in storage, and that wind-pressure ventilators on grain bins reduce moisture content.

HENRY G. KNIGHT

**AGRICULTURAL MARKETING SERVICE.** The Agricultural Marketing Service, established July, 1939, as an agency of the U.S. Department of Agriculture, continued to emphasize marketing service and regulatory work during the 1940 fiscal year. Approximately 300 co-operative agreements were in effect with State Departments of agriculture, State agricultural colleges, and other agencies.

**Agricultural Statistics.** In the issuance of statistical reports, over 9 million questionnaires of various types were mailed to 800,000 voluntary reporters during the year, and the information furnished became the basis for over 5000 separate reports that were mailed to almost 11 million indi-

viduals. The reports issued contained information on the acreage, yield, production, farm utilization, and sales of more than 100 crops; on numbers of livestock on farms; on milk and egg production and consumption; on prices paid and received by farmers; on wages of farm labor and on the number of farm workers employed; on the rail, express, boat, and truck movement of farm commodities; on the utilization and stocks of most major farm products, and on cotton by grade and staple lengths. Research went forward on acreage estimates, soil moisture, crop-weather relationships, farm labor, and farm-product prices.

**Market News.** Information on the movement, supplies, quality, and prices of all major farm commodities was obtained at terminal markets, shipping points, and producing sections and was rapidly and widely disseminated to markets throughout the country by means of an extensive leased wire system. The market news was further distributed through trade and farm publications and by commercial and financial institutions. A new high record was set in 1940 with 400 radio stations regularly broadcasting market news one or more times daily.

Special emphasis was placed on the dissemination of fruit and vegetable market news in 1940. A broadcast from New York City, going on the air at 6:30 each weekday morning, was very helpful to nearby growers who sell to farm-to-farm buyers. Consumer broadcasts developed during the year stressed the products in heavy supply or new products on the market. Such broadcasts were prepared by market news offices in several cities, including Cincinnati, Boston, Cleveland, and Kansas City.

A new livestock market news office was opened at Peoria, Ill. The coverage of tobacco markets was greatly improved; and it is thought that more farmers received usable price quotations on cotton in 1940 than ever before in the history of the cotton industry.

**Standards for Quality of Farm Products.** Standards of quality were already established for grain, cotton, tobacco, livestock, meats, 57 of the fruits and vegetables, and for most of the other farm products. During 1940, additional quality standards were developed for shelled and unshelled walnuts, sweet cherries for sulphur brining, pears, canned blackberries, canned freestone peaches, canned red raspberries, dried prunes, and frozen lima beans. Grades were revised for canned apples, asparagus, beets, carrots, red sour pitted cherries, sweet cherries, grapefruit juice, yellow clingstone peaches, pears, and plums.

Official standards for soybeans became effective under the U.S. Grain Standards Act, Nov. 20, 1940. Also, rather drastic changes were made in the standards for American-Egyptian cotton because the old standards had been rendered obsolete by the production of a new variety and by other changes in the crop. Revised standards for wool top, which became effective Jan. 1, 1940, include 13 grades, 8 of which are on a specification basis.

Almost 56,000 farmers and farm boys were reached through demonstrations, meetings, and farm visits, aimed at showing proper methods of preparing tobacco for market. Short courses on tobacco grades were held at seven agricultural colleges. Officials of the Service demonstrated the application of the official grain standards and discussed grain quality at 154 meetings in 23 States. Approximately 8500 grain producers, grain deal-

ers, county agricultural agents, and high school agricultural teachers attended these meetings. It is estimated that 25,000 people attended livestock grading demonstrations in 1940.

**Inspection, Classification, and Grading.** The services of Federal or Federal-State inspectors, classers, or graders were available for most standardized farm products in the principal producing areas, receiving centers, or in other convenient localities.

One of the most significant developments in this line of work during the past three years has been the free classification and market news services for members of cotton improvement groups. During the first season the plan was in operation—in 1938—18,589 grower members of 311 improvement groups became eligible for the services. For the current 1940-41 season, the number of approved groups exceeds 1570, with a membership of over 128,000 and a combined acreage of 4,108,500. By late December, 1940, samples representing nearly 1,500,000 bales had been classed for eligible growers. The class on any of these bales is acceptable for Government loan purposes.

Material expansion was made in work under the Tobacco Inspection Act. Seven additional markets were designated for free and mandatory inspection, and the inspections increased from 255,231,000 lb. during the 1939 fiscal year to 489,310,000 lb. the past year.

Inauguration of the "continuous inspection service" on canned fruits and vegetables blazed a new trail in grade labeling. Under this service, such lots as are sold by the canner for labeling in terms of the United States grades bear the grade statement incorporated in the shield insignia authorized for that purpose. The new service is on an experimental basis at the present time. Only canned products packed under the continuous observation of trained inspectors can carry the prefix "U.S." in connection with the grade designation. When the grade is indicated on the label, such as "U.S. Grade A (Fancy)," it is accompanied by the statement, "This product was packed under the continuous inspection of the Agricultural Marketing Service, U.S. Department of Agriculture, and the above grade officially certified."

Other commodities whose quality can be readily identified by the individual homemaker under certain conditions because of the device, or stamp, or certificate, or other visual indication of grade include beef, veal, lamb, poultry, eggs, butter, cheese, rice, honey, and certain fresh, canned and frozen fruits and vegetables.

During the 1940 fiscal year, 463,886 cars or carlot equivalents of fresh fruits and vegetables were inspected at shipping points and 47,256 cars were inspected at receiving markets. Approximately 642 million pounds of meat and meat products were graded, of which about 547 million pounds were beef. The quantity of dressed poultry inspected for condition and wholesomeness at plants where full-drawn poultry is prepared increased by half, and the volume of turkeys graded about doubled. The Federal-State egg-grading program was further extended, notably in Michigan and Virginia. A total of 1,174,933 inspections of grain were made, covering 1,877,000,000 bu.

**Regulatory Work.** In its service and regulatory work, the Agricultural Marketing Service administered 20 specific Acts of Congress in addition to the authority granted by the annual appropriation act. Administration of the Insecticide Act

and the Naval Stores Act was transferred to the Agricultural Marketing Service from the Food and Drug Administration in July, 1940. The Federal Seed Act, passed by Congress during the year, became effective for imported seed and agricultural seed in interstate commerce on Feb. 5, 1940, and for vegetable seed in interstate commerce on Aug. 9, 1940. The Service co-operated with State agencies and members of the seed industry in the framing of a uniform State seed law aimed at facilitating the enforcement of the Federal Seed Act.

At the end of the 1940 fiscal year, 20,750 licenses were in effect under the Perishable Agricultural Commodities Act, a statute that makes nine practices unlawful in the interstate marketing of fruits and vegetables. During the year 2168 complaints were filed. Informal amicable settlements were effected in 782 cases involving payments of \$277,000; and 203 formal orders of the Secretary were issued, of which 165 awarded reparations totaling \$72,000. One license was revoked; 5 licenses were conditionally suspended; and 36 licenses were automatically suspended by operation of the Act through failure to pay reparations as ordered.

In the enforcement of the two Standard Container Acts in 1940, 123 manufacturers were involved in 166 instances of technical violation, 91 of which had been corrected when the year closed. Enforcement of these statutes involved the removal of 232,763 non-standard containers from the channels of the fruit and vegetable trade.

Approximately 200 posted stockyards operated under the Packers and Stockyards Act in 1940. Sixteen poultry markets were designated under the Act, and there were 1781 licenses in effect. The capacity of licensed warehouse space set a new record with facilities for 10,048,500 bales of cotton and 187,745,000 bu. of grain.

**Marketing Research.** Various fields of marketing were explored in 1940 to learn more about the special problems that complicate the distribution of farm products.

Cotton mill requirements and preferences were analyzed, and the first full year of research in cotton packaging was completed. An analysis of gin packaging, transportation, storing, and handling of bales in marketing channels indicated that a 500-lb. bale with a density of about 25 lb. has advantages over other bales in commercial channels. Work is in progress on the development of a mechanical device for automatically sampling cotton at the gin. Spinning tests have thrown light on the utility of new cotton varieties.

Research in wool shrinkage went ahead in 1940 in an effort to develop a reliable method for ascertaining the clean-wool content of grease wool before either the entire clip or a large sample has been scoured.

To an increasing extent, the Service was endeavoring to bring about more efficient operation of receiving markets. During 1940, a survey of New York City's wholesale fruit and vegetable markets was made in co-operation with the Bureau of Agricultural Economics. The study showed that a new market to replace outmoded facilities would save growers, distributors, and consumers large sums of money every year.

CLARENCE W. KITCHEN.

**AGRICULTURE.** Agriculture in the United States in 1940 was co-operating to the fullest extent in the defense program, although faced with

new difficulties caused by the war. The farming industry, through State, Federal, and local co-operation, was maintaining its output for all requirements, adjusting the crops to changing demands, conserving soil, and mobilizing human and material resources for the general welfare. The cash farm income including Government payments was more than \$452,000,000 above that of 1939 and the second largest since 1929. Crop production, on fewer acres but responding with high yields per acre to a generally favorable season, improved practices, and light losses from pests, was larger than in any recent year except 1937, and was well distributed with few bumper crops. Supplies of foods, feeds, and fibers were enough for current needs plus carryovers. Prices received by farmers were tending to rise, although part of the increase might be offset by higher production costs. Important trends during the year included a slight gain in values of farm real estate; a decline in volume of farm-mortgage debt to the lowest level in 22 years—but with increased financing through the Farm Credit Administration; adequate credit on increasingly favorable terms; a gain in volume of short-term loans; the largest farm population since the record of 1916; increased expenditures for farm machinery; higher costs for building materials and certain other supplies; and rising wages for farm labor. Agricultural exports had shrunk and continued to decline as continental European markets were cut off by war blockades, whereas domestic markets had expanded and increase in demand in 1941 was prospective. Substantial gains were registered for both competing and complementary agricultural imports.

Major problems of agriculture were being attacked by the agricultural adjustment program with its provisions for soil conservation, for benefit payments to farmers, and for commodity loans and storage in the ever-normal granary; crop insurance; land-use reorganization efforts; surplus storage and disposal plans; systems of marketing quotas and agreements; efforts directed at expanding of domestic and foreign markets for farm commodities; farm credit on easy terms; rural electrification; and by research of the State experiment stations and bureaus of the U.S. Department of Agriculture, and the activities of the extension services. Definite efforts were being made to distribute the beneficial effects and to cushion or minimize possible adverse effects of important technological developments during the last 20 years in the production and distribution of farm products. Aids for needy farmers comprised the rehabilitation of low-income families through loans and guidance; improvement of tenure; debt adjustments and live-at-home efforts; community and co-operative services including medical care; emergency grants in drought and flood areas; work grants to the destitute; the tenant farm purchase program; several types of homestead projects; and camps for migrant farm labor. A number of these and other significant trends and problems of the farming industry are elaborated in the following pages. (See also sections on *Agriculture* under the States; sections on *Production* under foreign countries; separate articles on leading crops, as CORN, COTTON, TOBACCO, WHEAT; CO-OPERATIVE MOVEMENT; DAIRYING; ENTOMOLOGY, ECONOMIC; FARM MACHINERY AND EQUIPMENT; FERTILIZERS; FORESTRY; HORTICULTURE; LIVESTOCK; METEOROLOGY; POULTRY. For government activities in the field of agriculture, see the agencies listed under AGRICUL-

TURE, U.S. DEPARTMENT OF, and UNITED STATES under *Legislation*.)

**Agricultural Situation. Farm Income.** The cash farm income for 1940 was estimated by the U.S. Department of Agriculture at about \$9,119,903,000 (1939, \$8,668,434,000), which would include \$8,354,104,000 (1939, \$7,861,369,000) from marketings and commodities placed under loan and \$765,799,000 (1939, \$807,065,000) government payments. A gross farm income of about \$10,469,903,000 (1939, \$9,897,434,000) was indicated when the farm value of products retained for home consumption \$1,250,000,000 (1939, \$1,229,000,000) was considered. The cash income from all crops \$3,535,712,000 (1939, \$3,371,701,000) included grains \$1,018,150,000 (1939, \$913,787,000); cotton and cottonseed \$659,835,000 (1939, \$628,575,000); tobacco \$240,639,000 (1939, \$268,597,000); vegetables \$624,422,000 (1939, \$588,168,000); and fruits and nuts \$441,237,000 (1939, \$445,043,000); and from all livestock and livestock products \$4,818,392,000 (1939, \$4,489,668,000) including meat animals \$2,427,181,000 (1939, \$2,276,076,000); dairy products \$1,501,126,000 (1939, \$1,355,067,000); poultry and eggs \$727,732,000 (1939, \$718,215,000); and wool \$109,339,000 (1939, \$84,324,000). Cash income from farm marketings averaged \$1370 per farm and government payments \$126 per farm in 1940. The largest increases in cash farm income from 1939 to 1940 were in the hard spring wheat area and in the Corn Belt, where above-average yields of crops were accompanied by increased income from livestock and livestock products. The declines in income were in those southeastern States where production of cotton or tobacco was reduced sharply in 1940 and in Florida, where a severe freeze reduced sales of crops and fruits.

**Farm Real Estate.** Values of farm real estate during the year ended Mar. 1, 1940, rose one point reaching an index of average values per acre of 85 per cent of the 1912-14 level compared with 84 in 1939 and 85 in 1937 and 1938, and yet about 15 per cent above the 1933 low of 73. The increase during the year reflected in part an increase in prices of farm products and the generally higher level of farm cash income in 1939. The average per-acre value continued upward in all groups of States, except the West North Central region, which showed a 1 per cent decline to 67 per cent in 1940. The largest average gains were in the East South Central group, 3 per cent to 112, and West South Central, 2 per cent to 99. Farm real estate holdings by leading groups of lending agencies were reported to total \$1,012,963,000 as of Jan. 1, 1940, slightly below holdings on Jan. 1, 1939, and largest holdings were by life insurance companies, amounting to \$700,530,000. The number of farms in the United States on Apr. 1, 1940, as reported by the U.S. Bureau of the Census totaled 6,096,789 (1930, 6,288,648); land acreage in farms, 1,060,507,355 acres (1930, 986,771,016 acres); and the valuation of land and buildings \$33,644,263,247 (1930, \$47,879,838,358). The frequency of distress transfers of farm real estate, 1936-39, resulting from mortgage debt difficulties was found by the U.S. Department of Agriculture to have declined to new low levels, while the frequency of voluntary sales was at higher levels than those prevailing in the 1926-30 period. Farmer bankruptcies were reported in 1940 to have totaled 1422 during the year ended June 30, 1939, 3.2 per cent of all bankruptcies, as compared with 1799 in 1938, 2479 in 1937, and 5917 in 1933.

**Taxes.** Taxes on farm real estate in 1939, according to the U.S. Department of Agriculture, rose about 2 per cent over taxes levied in 1938, the fourth time in 5 years that for the country as a whole small increases had appeared. The index of taxes per acre for the United States on a 1909-13 base stood at 190 in 1939 compared with 186 in 1938, 178 in 1934, 281 in 1929, and 244 in 1920. Taxes per \$100 of farm real estate value averaged \$1.16 in both 1938 and 1939 compared with \$1.13 in 1936, the lowest since 1926. For most States, changes in taxes per acre between 1938 and 1939 again were very small, and few of the fluctuations in the State series could be attributed to important changes in property-tax laws, as in some recent years. Current information was that little change in the average levies on farm real estate would be expected between 1939 and 1940.

**Farm Credit.** That a somewhat larger volume of credit was used by farmers in 1940 than in 1939 was reported by the U.S. Department of Agriculture. There was an increase in the volume of loans made by agencies supervised by the Farm Credit Administration, and interest on all types of loans through this administration continued at low levels. Debt secured by liens on farm real estate in the United States on Jan. 1, 1940, was estimated by the U.S. Department of Agriculture at \$6,909,799,000, the smallest amount outstanding at any time since 1919, 2.3 per cent below the \$7,070,896,000 on Jan. 1, 1939, and about 64 per cent of the peak of \$10,786,000,000 on Jan. 1, 1923. Declines in farm-mortgage debt during 1939 were the most marked in the West North Central States and increases were most evident in the New England and East South Central regions. Factors contributing to further decline in debt included principal repayments consequent upon the better income position of farmers, lower interest rates and, to a decreasing extent, foreclosures and other forced sales. Factors making for increase in debt showed little change as compared with previous years.

The total amount of farm mortgage loans made in the 1940 fiscal year was slightly larger than in 1939 and the Federal land banks, the insurance companies, and commercial banks were more active in this field than individual creditors. Farm mortgage debt outstanding in 1940 held by Federal Land Banks and Land Bank Commissioner totaled \$2,525,714,000 (Oct. 1, 1940); by life insurance companies (Jan. 1, 1940) \$883,414,000; commercial banks \$543,341,000 (July 1); joint stock land banks \$51,722,000 (October 1) and Farm Security Administration tenant purchase and development \$60,836,000, and farmstead improvement construction \$7,269,000 (October 1).

The volume of personal and collateral loans to farmers held by commercial banks tended to follow the movement of farm-commodity prices, although loans lagged behind prices. Loans by Federal agencies, similar in character to such personal and collateral loans had not increased substantially since 1934, while a large increase had taken place, however, in emergency crop and feed, rehabilitation, and commodity stabilization loans. Short term loans to farmers held by selected lending agencies comprised those by commercial banks \$1,183,846,000 (July 1) in 1940 versus \$1,193,466,000 in 1939; and Federal agencies (October 1), including intermediate credit banks, \$40,902,000 versus \$37,645,000; production credit associations \$194,558,000 versus \$174,032,000; regional agricultural credit corporations \$7,010,000 versus \$9,127,000; emer-

gency crop loans \$126,522,000 versus \$122,163,000; drought relief loans \$51,384,000 versus \$53,504,000; Farm Security Administration \$319,997,000 versus \$280,271,000; and Commodity Credit Corporation \$274,726,000 versus \$191,379,000. See also FARM CREDIT ADMINISTRATION; FARM SECURITY ADMINISTRATION; AGRICULTURAL ADJUSTMENT ADMINISTRATION; COMMODITY CREDIT CORPORATION; ELECTRIC LIGHT AND POWER.

**Prices.** Local market prices of agricultural commodities averaged 98 per cent of the August, 1909-July, 1914 (prewar), average during 1940 versus 93 in 1939. Although holding most of the gains made in September, 1939, when prices increased sharply with the outbreak of hostilities in Europe, the price index for all farm products declined from 101 in February to a low point for the year of 95 in June and July. From then on, it rose steadily and ended the year at 101 per cent. Prices received by farmers during 1940 averaged higher than in 1939 for all groups of commodities, except meat animals. Compared with 1939, truck crop prices averaged 14 points higher; grains 13; dairy products 9 points; cotton and cottonseed prices 8; and fruit, chickens, and eggs each 2 points higher, while meat animal prices at 108 per cent of the prewar level were 3 points lower.

The average prices received by producers Dec 15, 1940, based on reports to the U.S. Department of Agriculture, with preliminary seasonal average prices for crops in parentheses, were estimated for wheat 71.5 cents (67.0) per bu., corn 54.5 (62.4), oats 32.3 (29.1), barley 41.6 (38.7), rye 41.3 (40.6), flaxseed \$1.41 (\$1.341), soybeans 81 (75.8), rice (rough) 76.3 (70.2), potatoes 54.9 (56.4), sweet potatoes 80.1 (84.4), apples 86 (80.7) cents per bu., tobacco 15.0 (16.5), cotton 9.33 (9.40) cents per lb., and cottonseed \$24.08 (\$21.48) and hay \$7.53 per ton. Beef cattle sold for \$7.56 per 100 lb., hogs for \$5.59, veal calves \$9.01, lambs \$7.88 and sheep \$3.99. Eggs brought 26.8 cents per dozen, butter 30.5 cents per lb., and whole milk whole-saled at \$2.07 per 100 lb. Wool sold for 31.2 cents per lb. and live chickens 13.0 cents. Milk cows brought \$63.10 each, horses \$69.10, and mules \$87.30. The corn-hog ratio (number of bu. equal in value to 100 lb. of hogs) was 10.3 versus 10 in December, 1939, and 11.9 the 1909-14 average. The ratio of prices received to prices paid by farmers rose from 79 in December, 1939, to 83 in December, 1940.

**Foreign Trade in Farm Products.** The agricultural foreign trade of the United States during the year ended June 30, 1940, as viewed by the U.S. Department of Agriculture was featured by cross currents. For exports, excluding cotton, there was a decline in value of 22 per cent, while cotton exports, responding to extraordinary circumstances, nearly doubled their value had in 1938-39. The gain in cotton raised the total value of all agricultural exports 8 per cent above 1938-39. Considering imports, the 1939-40 trade in products similar in type to those produced in the United States was 17 per cent larger than in 1938-39, and as a consequence, the ratio of farm imports to farm exports rose. Imports of complementary (noncompetitive) items rose 30 per cent. The European War and measures taken to prepare for it were major factors influencing international trade in 1939-40 and other recent years. To place their national economies on a war basis, a number of foreign governments restricted imports or bought them from sources expected to be accessible in wartimes,

which curtailed trade, and created war industries requiring large supplies of imported raw materials, which in general expanded trade. United States agricultural exports were influenced primarily by the restrictive measures. Imports were affected to the extent that American industry responded to war stimuli supplied either by domestic policy or by foreign-buying programs.

The exports of farm products from the United States, exclusive of forest products, rose in value to \$739,571,000 during 1939-40, as compared with \$682,962,000 during 1938-39. As a result of trade-restrictive effects of the war, agricultural products formed a smaller proportion of total United States exports than ever before in history, 20 per cent compared to 24 in 1938-39. The indexes of quantity indicated that all major groups of these exports, except cotton and linters and lard were lower for 1939-40 than for 1938-39. Cotton exports were \$169,936,000 higher in value than in 1938-39 while exports of other agricultural products declined \$111,327,000. There was a decline of \$58,247,000 in grain and grain products, \$79,204,000 in tobacco, \$27,886,000 in fruits, and smaller declines in feed and fodder and pork and lard exports. Gains were made in certain other agricultural products especially soybeans and fresh pork. The volume index was 72 per cent of prewar, compared with 63 in 1938-39; 79 in 1937-38, 56 in 1936-37; 83 per cent in 1933-34; and with 136 in 1926-27. Exports of farm products continued to decrease during the latter months of calendar 1940 largely because of progressive closure of foreign markets due to the spread of the European War and various trade controls. Total exports of farm products were not likely to show any substantial improvement as long as the war continued.

Imports of farm products into the United States during 1939-40 were valued at \$1,239,389,000, an advance of 24 per cent from 1938-39, which totaled \$998,648,000 and compared with \$1,155,136,000 in 1937-38, \$1,536,695,000 in 1935-36, and \$614,000,000 in 1932-33, the low point of the depression. The supplementary agricultural imports in 1939-40, \$571,346,000, were about \$85,181,000 more than in 1938-39, a 17 per cent rise expected in view of the improvement in domestic economic activity. This 17 per cent rise included increases of \$29,000,000 in imports of sugar, \$22,000,000 in imports of wool for clothing and other uses except carpets, \$7,000,000 in hides and skins, \$6,000,000 in feeds, and \$6,000,000 in vegetable oils. Imports of pork decreased by \$9,000,000 and of flaxseed by \$5,000,000. The complementary group of agricultural imports, consisting largely (about 95 per cent) of rubber, coffee, silk, coarse wool for carpets, bananas, cocoa, tea, and spices, during 1939-40 were 30 per cent above the level of 1938-39. The principal increases were in rubber and silk. Agricultural imports made up about 50.6 per cent of all imports, \$571,346,000 being supplementary (competitive) items, and \$668,043,000 non-competitive. Consult TRADE, FOREIGN. Aspects of and factors involved in foreign trade in farm products were discussed in the *Report of the Secretary of Agriculture for 1940*, pp. 1-8, 14-16, 21-27, 31-34, 114-132 and in *Foreign Crops and Markets* 41 (1940) pp. 296-328 (Sept. 5, 1940), pp. 926-956 (Dec 18, 1940), all U.S. Department of Agriculture.

**Population.** The farm population in the United States, estimated by the U.S. Department of Agriculture to total 32,245,000 on Jan. 1, 1940, compared with 32,059,000 a year before, was the larg-

est since the record of 32,530,000 in 1916. Movement to farms totaled 805,000 and to cities 1,063,000, but the net loss by migration 258,000 was more than offset by the surplus of births over deaths. Largest increases in farm population in the last decade were in the Southeastern and Pacific Coast States and decreases were noted in areas most severely affected by drought, especially in the West North Central States.

**Outlook.** The outlook for 1941 as observed late in 1940 included prospects for continued improvement in the domestic demand for farm products, smaller agricultural exports, a higher general average of prices, and larger total cash income from marketings. Features of the agricultural situation in 1940 and indicated developments in production and marketing in 1941, concerned with domestic and export demand for farm products, prices and income, farm credit and labor, equipment and fertilizer, farm family living, and the status and future of field crops, fruits, truck crops, nuts, livestock, poultry and their products, prepared by the U.S. Department of Agriculture, co-operating with State agencies, were published in a number of special articles and in *Agricultural Outlook Charts Books for 1941*, and *The Agricultural Situation* (1940), monthly, (all U.S. Department of Agriculture).

**Crop Production in 1940.** The harvest of farm crops in 1940 was featured by high yields per acre and the total crop production, on a smaller acreage, was larger than in any year except 1937. Unlike the huge crops of that year, which came when reserves were greatly depleted, the U.S. Department of Agriculture points out, crops of 1940 were harvested after three good years so supplies of some products were much higher than indicated by production figures alone. The production of the principal field crops in 1940 was 104.5 per cent of the pre-drought (1923-32) level compared with 99.8 in 1939 and 109.9 in 1937. Fruit production was 33 per cent above pre-drought, and commercial vegetables 43 per cent above, and production of all these crops in 1940 was 107.9 per cent of the base average, exceeded only in 1937. Production was well distributed, with only a few bumper crops. The total production of bread and feed grains was about the average for the last three years; flaxseed made almost the largest crop on record; cotton exceeded the crops of 1936, 1938, and 1939, but was only two-thirds that of 1937; tobacco was about average; crops of hay and forage and hay seeds were larger; and sugar beets made a record. The favorable showing of individual crop yields in 1940 compared with several years ago was not accompanied by correspondingly heavy production because of the smaller acreages and the smaller proportion of crop land devoted to more intensively cultivated high-value crops. The total acreage of all (46) crops harvested, 333,825,000, was about 8,000,000 acres above the low area of 325,845,000 acres in 1939 and compared with a 1929-38 average of 340,138,000 acres.

Composited acre yields of field and fruit crops were 118.5 per cent of the "pre-drought" average, compared with previous high records of 117.7 in 1937 and between 113 and 114 in 1938 and 1939. Practically all of the principal or million-acre crops, except grain sorghums, yielded better than in either 1929-38 or the ten years before the 1933 drought. In parts of the central and eastern Gulf States, growing conditions were generally unfavorable and several crops grown extensively as sugar



cane, sweet potatoes, sorgo for sirup, cowpeas, and velvet beans showed below-average yields. Tobacco, peanuts, and sugar beets made record yields per acre and cotton, potatoes, oats, and flaxseed were much above average. The good yields of 1940, like those of 1937 to 1939, were due in part to favorable weather conditions and such related factors as relatively light losses from insects and diseases. In 1940, weather particularly favored cotton and potatoes, appeared primarily responsible for good yields of tame hay, oats, spring wheat, and flax, but was much less favorable for corn than in the three preceding years, yet better than average. Winter wheat suffered severely from drought in the fall of 1939, but the acreage surviving was helped greatly by favorable growing conditions. Other facts conducive to good yields in the last

three years included more people on the farms and fewer acres to handle with resultant better care, use of more fertilizer and lime, diversion of low yielding crop land to pasture, improved farming practices under the Agricultural Conservation Program, and better varieties of the crops being planted. The acreage and production of farm crops in the United States, as estimated by the U.S. Department of Agriculture, and yields for cereals in foreign countries, as reported by the International Institute of Agriculture and other agencies are shown in the accompanying crop production tables and in the articles on individual crops; as, CORN, WHEAT, ETC.

**Experiment Stations and Extension.** Research and extension services continued to be potent factors in the American farming industry. Many new and significant contributions to the improvement of agriculture and rural life resulted during 1940 from the research of the State agricultural experiment stations, usually located at the agricultural college in each State and territory. The current trend of investigation had been directed to meet local and national long-time as well as present needs for greater agricultural stability and permanency, and to promote highest standards of living and health. The more than 8500 active research projects of the stations, many co-operative with other stations and the U.S. Department of Agriculture and financed from Federal and State funds, were concerned with the improvement, production, marketing, and utilization of field crops, vegetables and fruits, and farm animals and their products; protection against diseases and insects, development of effective cultural and field methods and harvesting and storage practices; soils and plant foods; improvement in farm machinery, soil conservation, irrigation, farm structures, and electrification; research relating to foods and human nutrition, textiles and clothing, and the management and equipment of the household; and rural social science investigation on agricultural planning and land use, production costs, farm income and real estate, taxation and credit, population movement, rural welfare and rural-urban relations, and social groups. The results of the broad program of research were being published in numerous bulletins, reports, and journals of the stations or those of the Department and in a wide range of technical journals. A comprehensive review of recent results, with appropriate statistical data, is included in *Report on the Agricultural Experiment Stations, 1940* (U.S. Dept. Agr.). Federal grants provided \$6,848,750 and State and other supplementary sources \$14,391,546, making a total of \$21,240,296 for the administration and research of the stations for the fiscal year 1940.

Work and accomplishments of nine special research laboratories, established 1935-39 under provisions of the Bankhead-Jones Act of June 29, 1935, and co-operative among Departmental bureaus and State stations and supplementing their research, were set forth in *Report of the Chief of the Office of Experiment Stations, 1940* (U.S. Dept. Agr.). Each dealing with a research problem of significance in the region served, these include laboratories for improvement through breeding of vegetables (Charleston, S.C.), swine (Ames, Iowa), and sheep (Dubois, Idaho); pasture (State College, Pa.) and poultry viability (East Lansing, Mich.) improvement; animal diseases (Auburn, Ala.) ; soybean industrial products (Urbana, Ill.) ; salinity of irrigation waters (Riverside, Calif.) ;

ACREAGE AND PRODUCTION OF FARM CROPS IN THE UNITED STATES IN 1939 AND 1940

(Bushels except as otherwise indicated)

Crop	Year	Acres Harvested	Acre Yield	Production
Corn ...	1940	86,449,000	28.3	2,449,200,000
	1939	88,430,000	29.4	2,602,133,000
Wheat ..	1940	53,503,000	15.3	816,698,000
	1939	53,482,000	14.1	751,435,000
Oats	1940	34,847,000	35.5	1,235,628,000
	1939	32,968,000	28.4	935,942,000
Barley	1940	13,394,000	23.1	309,235,000
	1939	12,644,000	21.7	274,767,000
Rye ..	1940	3,192,000	12.7	40,601,000
	1939	3,832,000	10.2	39,049,000
Buckwheat .	1940	393,000	16.2	6,350,000
	1939	374,000	15.2	5,669,000
Flaxseed .	1940	3,228,000	9.6	31,127,000
	1939	2,250,000	9.0	20,152,000
Rice..	1940	1,051,000	50.2	52,754,000
	1939	1,040,000	51.7	53,722,000
Grain sorghum	1940	9,856,000	12.3	121,371,000
	1939	8,078,000	10.3	83,264,000
Cotton, lint	1940	24,078,000	252.4 <sup>1</sup>	12,686,000 <sup>1</sup>
	1939	23,805,000	237.9 <sup>1</sup>	11,817,000 <sup>1</sup>
Cottonseed .	1940	..	..	5,645,000 <sup>1</sup>
	1939	..	..	5,260,000 <sup>1</sup>
Hay. .	1940	72,488,000	1.31 <sup>2</sup>	95,156,000 <sup>1</sup>
	1939	69,953,000	1.22 <sup>2</sup>	85,124,000 <sup>1</sup>
Sweet sorghums	1940	8,042,000	1.72 <sup>2</sup>	13,816,000 <sup>1</sup>
	1939	5,905,000	1.47 <sup>2</sup>	8,704,000 <sup>1</sup>
Beans, dry edible .	1940	1,836,000	876 <sup>1</sup>	16,074,000 <sup>4</sup>
	1939	1,631,000	882 <sup>1</sup>	14,388,000 <sup>4</sup>
Peas, dry field.	1940	272,000	14.0	3,812,000
	1939	211,000	18.1	3,822,000
Soybeans for beans ...	1940	4,961,000	16.1	79,837,000
	1939	4,417,000	20.7	91,272,000
Cowpeas for peas... ..	1940	1,385,000	6.3	8,712,000
	1939	1,379,000	6.3	8,661,000
Peanuts .	1940	1,907,000	845 <sup>1</sup>	1,611,635,000 <sup>1</sup>
	1939	1,859,000	634 <sup>1</sup>	1,179,505,000 <sup>1</sup>
Potatoes ....	1940	3,053,000	130.3	397,722,000
	1939	3,018,000	120.3	363,159,000
Sweet potatoes	1940	772,000	80.3	61,998,000
	1939	862,000	84.3	72,679,000
Tobacco	1940	1,427,000	965 <sup>1</sup>	1,376,471,000 <sup>1</sup>
	1939	2,020,000	920 <sup>1</sup>	1,858,364,000 <sup>1</sup>
Sugar beets .	1940	921,000	13.0 <sup>2</sup>	11,969,000 <sup>1</sup>
	1939	917,000	11.8 <sup>2</sup>	10,781,000 <sup>1</sup>
Sugar cane ...	1940	289,000	15.7 <sup>2</sup>	4,551,000 <sup>1</sup>
	1939	277,000	22.5 <sup>2</sup>	6,244,000 <sup>1</sup>
Sugarcane for sirup	1940	105,000	141.0 <sup>2</sup>	14,809,000 <sup>1</sup>
	1939	145,000	171.8 <sup>2</sup>	24,909,000 <sup>1</sup>
Sorgo sirup ..	1940	200,000	59.3 <sup>2</sup>	11,865,000 <sup>1</sup>
	1939	180,000	56.8 <sup>2</sup>	10,230,000 <sup>1</sup>
Maple sirup... ..	1940	10,178,000 <sup>2</sup>	.	2,628,000 <sup>1</sup>
	1939	10,520,000 <sup>2</sup>	.	2,515,000 <sup>1</sup>
Maple sugar..	1940	10,178,000 <sup>2</sup>	2.13 <sup>2</sup>	629,000 <sup>1</sup>
	1939	10,520,000 <sup>2</sup>	1.98 <sup>2</sup>	760,000 <sup>1</sup>
Broom corn...	1940	279,000	297 <sup>1</sup>	41,000 <sup>1</sup>
	1939	230,000	268 <sup>1</sup>	31,000 <sup>1</sup>
Hops. ..	1940	33,000	1274 <sup>1</sup>	41,772,000 <sup>1</sup>
	1939	31,000	1224 <sup>1</sup>	37,932,000 <sup>1</sup>

<sup>1</sup> pounds <sup>2</sup> bales <sup>3</sup> tons <sup>4</sup> 100-lb bags <sup>5</sup> gallons <sup>6</sup> trees tapped.  
<sup>7</sup> total equivalent sugar per tree.



## AGRICULTURE

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PRODUCTION REPORTED BY COUNTRIES IN 1939 AND 1940 OF WHEAT, RYE, OATS, BARLEY, AND MAIZE (CORN)  
[International Institute of Agriculture and U S Department of Agriculture]

Country	Wheat		Rye		Oats		Barley		Maize (corn)	
	1940	1939	1940	1939	1940	1939	1940	1939	1940	1939
United States	816,698,000	751,415,000	40,601,000	39,049,000	1,235,628,000	935,942,000	309,235,000	274,767,000	2,449,200,000	2,602,135,000
Canada	551,390,000	520,623,000	13,994,000	15,307,000	404,309,000	408,432,000	104,256,000	101,147,000	6,956,000	8,097,000
Mexico	12,900,000	14,771,000								
Argentina	119,455,000	367,433,000	13,582,000	10,826,000	60,117,000	50,292,000	39,090,000	20,209,000	408,442,000	191,485,000
Chile	31,611,000	35,511,000				10,515,000		5,005,000		2,498,000
Uruguay	9,901,000	15,461,000			3,073,000	3,589,000		638,000		6,247,000
Belgium		12,822,000								
Bulgaria	61,839,000	71,155,000	8,582,000	9,674,000	9,370,000	9,810,000	14,422,000	15,332,000	43,305,000	35,038,000
Denmark		15,065,000	11,165,000	9,842,000	9,650,000	70,272,000		56,954,000		
Estonia	2,792,000	3,133,000	7,519,000	8,042,000	10,196,000	10,296,000	3,812,000	4,136,000		
Finland	6,908,000	8,503,000	10,590,000	13,031,000	41,041,000	59,922,000	7,073,000	8,819,000		
France		287,000,000								
Germany		206,257,000		372,221,000		473,144,000		195,746,000		
Great Britain		61,565,000		2,457,000	9,301,000	10,444,000	45,833,000	37,053,000		
Greece	29,395,000	38,291,000	2,086,000	34,004,000	30,148,000	25,209,000	9,186,000	10,160,000	11,614,000	10,796,000
Hungary	75,966,000	113,102,000	28,507,000			37,775,000	31,834,000	36,264,000	116,688,000	91,906,000
Ireland (Including Northern Ireland)		9,520,000		52,000		40,730,000		3,443,000		
Italy	268,226,000	293,210,000	4,700,000	5,692,000		40,430,000		11,270,000	135,071,000	90,500,000
Latvia		7,774,000		16,916,000		33,402,000		10,209,000		
Lithuania		9,429,000		25,951,000		28,176,000		11,784,000		
Luxemburg		945,000		23,780,000		31,002,000		156,000		
Netherlands		15,304,000		300,382,000		12,620,000		6,430,000		
Norway	2,609,000	2,551,000	256,000	408,000	11,092,000	198,415,000	4,200,000	4,753,000		
Poland		83,407,000		4,054,000		6,743,000		67,977,000		
Portugal	9,200,000	18,962,000		4,034,000	1,860,000	6,743,000	1,134,000	1,800,000	14,960,000	14,359,000
Rumania	89,295,000	163,611,000	12,558,000	16,987,000	31,349,000	31,327,000	30,572,000	27,158,000	203,010,000	157,828,000
U.S.S.R.		1,494,000,000		787,000,000		1,091,128,000		340,769,000		
Slovakia		13,999,000	8,912,000	7,907,000	13,099,000	10,748,000	12,789,000	12,447,000		
Spain		105,742,000	27,558,000	17,212,000		32,511,000	91,861,000	64,685,000		
Sweden		31,384,000	11,653,000	14,893,000		88,525,000	8,846,000	11,494,000		
Switzerland		6,360,000		1,287,000		1,764,000		390,000		
Yugoslavia	69,335,000	105,660,000	8,307,000	9,587,000	19,841,000	23,993,000	17,086,000	19,485,000	172,431,000	159,267,000
British India	191,064,000	169,309,000	20,472,000	16,779,000	24,536,000	20,351,000	120,794,000	105,397,000	28,660,000	28,114,000
Turkey	407,600,000	370,869,000								
China	700,000,000	677,000,000								
Korea (Chosen)	12,600,000	12,565,000								
Manchuria	32,257,000	34,753,000								
Japan	66,138,000	61,086,000								
Syria & Lebanon	27,600,000	42,672,000								
Algeria	49,995,000	49,008,000	6,900,000	44,000		375,000	77,492,000	81,666,000		
Egypt	23,900,000	38,764,000				15,157,000	15,000,000	16,994,000		
Morocco (Fr.)	12,493,000	18,555,000				5,236,000	50,524,000	50,524,000		
Tunis	15,310,000	17,093,000				2,067,000	11,073,000	10,959,000		
Union of South Africa	210,160,000	155,368,000	743,000		5,559,000			97,740,000		
Australia								16,076,000		
New Zealand	8,010,000	5,564,000					943,000		71,818,000	104,503,000
										269,000

Where no data are given, statistics are not available. <sup>a</sup> The production shown for countries in the Southern Hemisphere is for the crop years 1939-40 and 1938-39. <sup>b</sup> Present boundaries for 1940 estimates. <sup>c</sup> 1938. <sup>d</sup> Average 1933-37.

and relation of soils to plant, animal, and human nutrition (Ithaca, N.Y.). Regional laboratories for research on new and extended uses for surplus farm commodities, located near Philadelphia, Peoria, New Orleans, and San Francisco also made distinct progress during the year.

The Extension Service, co-operative among the U.S. Department of Agriculture, land-grant colleges and county governments, carried on varied activities during 1940 in every county of agricultural importance in the United States. The extension aids covered the entire range of farm and home activity from the preparation and storage of foods for consumption on the farm to the marketing of commercial crops. Its agents gave usable information and practical guidance to farm people of every group, and devoted special attention to needs of the lower-income groups. Exceptional conditions, resulting in part from the unresolved economic crisis and the European war, threw into the foreground the human problems of agriculture—those that result from misuse of soils, unbalanced or inefficient farming, contraction of export markets, and from the displacement of farm personnel through progress of agricultural technology. Owner-operators and tenant farmers in the low-income groups were helped to increase their cash crop income, to develop supplementary income from fruits and vegetables, to improve their homes, diets, health, and living standards through better management of incomes, and to co-operate more effectively with their neighbors. The services rendered aids to better economic and social organization as well as to better farm production and home economics. Extension agents assisted a total of about 5,500,000 farm families, white and Negro, and some 2,500,000 of these families were non-owners. White extension agents worked with Negro as well as white farmers and about 500 Negro agents worked with Negro families. The result was a definite raising of standards of farm practice and of farm living.

The Extension Service gave attention to technique of farm production for sale and encouraged production for consumption on the farm; helped about 1,000,000 low-income rural families in more than 12,000 communities to obtain surplus cotton and make it into mattresses for their own use; and provided technical knowledge and building plans leading to construction of thousands of inexpensive new farm homes and to the remodeling of many old dwellings. They helped farmers also to improve their kitchen facilities and other essentials of efficient home living. This program, making considerable use of farm-grown lumber, complemented extension work in economics of consumption, e.g. of food and clothing. Farm and home demonstrations assisted farmers to use farm outlook information better and to co-operate more effectively in the agricultural conservation program. Landlord-tenant co-operation was encouraged, particularly in improvement and stabilization of leasing systems. In 46 States the service co-operated with more than 70,000 farm men and women in organizing and conducting the work of more than 6800 community and county land-use planning committees. The total of \$33,052,000 of funds available in 1939-40 for all co-operative extension work comprised \$18,530,181 from Federal grants to the States, \$6,348,011 from State funds, \$7,181,799 from county appropriations, and \$992,009 from farm organizations.

#### World Conditions and American Agricul-

ture. Lost export markets for United States agricultural products as a result of the impact of the European war (treated above under *Foreign Trade in Farm Products*) was a major world condition affecting the American farming industry during the year. A number of measures employed or indicated as desirable to offset or soften the blow of this depressive factor included commodity loans, surplus disposal plans, and to cope also with increased consumer purchasing-power, adjustments in regional agriculture, e.g. widespread shifts in production of major farm commodities among producing regions. Increased attention was being paid to the development of closer inter-American co-operation, especially by encouraging the development of complementary agricultural products in the other American republics. Other movements and activities in foreign countries which had affected or might affect United States agriculture in its world trade relations, also discussed in detail in *Foreign Agriculture* (vol. 4, 1940), and in *Foreign Crops and Markets* (vols. 40 and 41, 1940), both U.S. Department of Agriculture, included the food and feed situation in continental Europe, 1940-41; wartime agricultural surpluses of the Danube Basin; the cession of important crop areas by Rumania; wartime agriculture and food control in Germany; agricultural conditions in Denmark, Finland, Netherlands, Norway, and Sweden, particularly as affected by the war; decline of hog numbers in many countries; Italian agriculture under fascism and war; Turkish agriculture and the changing agro-economic policy; expansion of cotton production in Southeastern Europe to meet needs of industry; the Russian peasant household under the *mir* and the collective farm system; British price policy and price developments in wartime, and control of agricultural prices in the United Kingdom; increase in Argentine production of vegetable oil and oil-seeds, and pastures and the cattle-grazing industry in Argentina; wartime agricultural measures in Canada, Japan's food self-sufficiency; the agriculture of Chosen, the Netherlands Indies, and the Philippine Islands and its problems; tobacco in the principal producing countries of the Far East; and United States re-exports of agricultural products, and agricultural trade with noncontiguous territories. See the respective countries under *Production*.

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**AGRICULTURE, U.S. Department of.** See AGRICULTURE; UNITED STATES under *Administration*, and separate articles on the following branches of the Department: AGRICULTURAL ADJUSTMENT ADMINISTRATION; AGRICULTURAL CHEMISTRY AND ENGINEERING, BUREAU OF; AGRICULTURAL MARKETING SERVICE; COMMODITY CREDIT CORPORATION; COMMODITY EXCHANGE ADMINISTRATION; FARM CREDIT ADMINISTRATION; FARM SECURITY ADMINISTRATION; FEDERAL CROP INSURANCE CORPORATION; PLANT INDUSTRY, BUREAU OF; SOIL CONSERVATION SERVICE; SURPLUS MARKETING ADMINISTRATION. See also ENTOMOLOGY, ECONOMIC; ELECTRIC LIGHT AND POWER

**AIR CONDITIONING.** See HEATING AND VENTILATING.

**AIRPLANES, AIRPORTS, AIR TRANSPORT, AIRWAYS.** See AERONAUTICS

**AIR RAIDS, AIR WARFARE.** See AFRO-NAUTICS; EUROPEAN WAR; FIRE PROTECTION, NAVAL PROGRESS

**ALABAMA.** Area, 51,998 square miles, including (1930) 719 square miles of water. Population, Apr 1, 1940 (census), 2,832,961 (30.2 per cent urban), 1930, 2,646,248 (28.1 per cent urban). Birmingham had (1940) 267,583 inhabitants. Montgomery, the capital, 78,084; Mobile, 78,720.

**Agriculture.** Alabama harvested 7,847,980 acres, in 1940 of principal crops. Cotton, still the foremost of these, occupied 1,980,000 acres and gave 790,000 bales, of which the estimated value, to the growers, totaled \$37,130,000. Corn, on 3,476,000 acres, made 43,450,000 bu (estimated value, \$33,891,000); tame hay, on 852,000 acres, 606,000 tons (\$7,030,000); peanuts, 290,000 acres, 210,250,000 lb (\$6,097,000); sweet potatoes, 82,000 acres, 4,920,000 bu. (\$4,428,000); potatoes, 48,000 acres, 4,176,000 bu (\$2,174,000); oats, 150,000 acres, 3,000,000 bu. (\$1,650,000).

**Manufacturing.** Yearly production of manufactured goods in Alabama totaled \$574,670,690 for 1939, \$573,763,522 for 1937. Other manufacturing totals for 1939 (with those for 1937 subjoined) follow: 2052 (1874) manufacturing establishments paid \$92,018,670 (\$96,058,401) in wages to 116,800 (120,301) persons and contributed \$247,383,611 (\$237,435,861) as value added to goods by manufacture.

**Mineral Production.** Alabama's yearly production of native minerals was reckoned, in the *Minerals Year Book of 1940*, at \$46,496,293; a large additional total resulted from the processing of crude minerals to make coke and iron. Mines' output of coal rose to some 11,995,000 net tons for 1939, from 11,061,493 (value, \$26,769,000) for 1938. Coking ovens' yearly output totaled 3,854,505 net tons (1939) and 3,378,044 (1938); in value, \$10,917,559 and \$9,888,292. Mines' production of iron ore mounted to 5,960,507 gross tons for 1939, from 4,303,329 for 1938. The mines' shipments of iron ore totaled 5,985,208 tons (1939) and 4,281,332 (1938); in value, \$9,971,024 (1939) and \$7,341,620 (1938). The blast furnaces' output of pig iron, increasing to 2,717,502 gross tons for 1939 from 1,990,342 tons for 1938, rose in yearly total value

to \$43,902,681 for 1939, from \$29,190,091 for 1938. Shipments of cement, approximating production, rose to 5,042,921 bbl. for 1939, from 4,548,079 for 1938; in value, to \$6,690,765, from \$6,114,246. The yearly output of clay products (except pottery and refractories) attained \$1,487,067 for 1938.

**Education.** Alabama's inhabitants of school age (from 6 years to 20) were reckoned for the academic year 1939-40 at 875,019. The year's enrollments of pupils in all public schools numbered 686,767. Of these, 496,973 were in elementary study and the rest, 189,794, in high school. Expenditures for public schools, reported for the previous year, 1938-39, totaled \$25,027,706, of which \$18,828,876 was current expenditure. Teachers in the public schools and the distinct vocational-training system numbered 18,686, and their pay averaged \$696, in that year.

**History.** Alabama's statute making it a misdemeanor to picket for the purpose of hindering, delaying, interfering with, or injuring lawful business or to go near or loiter at premises in order to restrain persons from dealing or being employed there was overthrown by the U.S. Supreme Court; the decision held the statute an infringement of free speech. A newly created State Board of Pardons denied, March 8, a motion for the release of the five Negro convicts in the Scottsboro case; the Board indicated, however, a purpose to give future consideration to the cases individually, as the prisoners might show improvement under institutional care. The city of Bessemer engaged in canvassing with the aid of police, to win customers from the Birmingham Electric Company to the municipal system distributing electric current from the TVA, disputes between the city's and the company's men occurred, and some of the latter were arrested. See FLOODS

At the general election (November 5) the usual heavily Democratic vote went to Roosevelt for President; for Roosevelt (Dem.) 250,726; Willkie (Rep.) 42,184. Nine Democrats, all of them incumbents save one, were elected U.S. Representatives; there was no election for Governor.

**Officers.** Alabama's chief officers, serving in 1940, were Governor, Frank M. Dixon (Dem.), Lieutenant Governor, A. A. Carmichael; Secretary of State, John Brandon; Treasurer, Charles E. McCall; Auditor, Howell Turner; Attorney General, T. S. Lawson; Superintendent of Education, A. H. Collins.

**ALAND ISLANDS.** See FINLAND and SWEDEN under *History*.

**ALASKA.** Non-contiguous Territory of the United States. Area, 586,400 square miles, inclusive of inland waters. Population, 1940 (taken Oct. 1, 1939) 72,524; 1930, 59,278, whites (1930) numbered 28,640; Indians and Eskimos, 29,983. Capital, Juneau, population (1930), 4403. Governor, Ernest Gruening.

**Mineral Production.** The value of native minerals produced in Alaska in 1940, as stated by the U.S. Geological Survey, totaled \$27,658,000; to this sum, gold contributed more than nine-tenths. The value of gold in the material mined in 1940 was \$25,375,000, this exceeded the corresponding amount for any previous year of the Territory's mineral production. Such was not the case, however, with gold's yearly quantity. The gold in material mined in 1940 made some 725,000 Troy oz. Greater quantities had been produced yearly throughout the period 1905-16; they brought less, in each case, because the price of gold, set at \$35

an oz. in 1934, had previously been \$20.67. The mining of gold produced about \$2,100,000 more in 1940 than in 1939; an increase in placer mining activity brought a greater yield in 1940 from this type of gold-mining, and this additional yield was the main element in the higher production of 1940; the placers produced \$17,912,000; the lode mines, \$7,463,000. The Yukon region yielded \$11,636,000 of the placer gold Dredges brought in much the greater part of all placer production.

The production of platinum increased to 28,860 oz. for 1940, by value, \$1,092,000, surpassing previous yearly totals. Most of the platinum continued to come from the Goodnews district, near the mouth of the Kuskokwim River; it was obtained mainly by dredging. Coal was mined in the Healy River field (northern slope of the Alaska Range) and the Matanuska field (Cook Inlet). The production of coal totaled about 170,000 tons (value estimated at \$680,000) for 1940; the quantity exceeded that recorded for any previous year. The Healy River product was high-grade lignite, the Matanuska coal was bituminous. Copper-mining, which had formerly rivaled gold-mining in returns, dwindled further in 1940 to a mere production of some 70,000 lb. of recoverable metal, worth around \$7900; all of it was a by-product of ores of other metals.

**Fisheries and Furs.** The salmon fishery took, in 1939, 79,220,420 salmon, chiefly pinks and reds; the pack of canned salmon, 5,263,153 cases, was valued at \$34,441,082. The totals fell below those of 1938, also an off year. Salmon, nevertheless, came to 73 per cent in bulk and 91 per cent in value of the production of all fish in 1939. Herring products attained \$2,090,743; the catch of halibut, \$893,686.

At the Pribilof Islands the Government took, in 1939, 60,473 skins of fur seals; it sold at St Louis 51,257 dyed sealskins, which brought \$1,066,250. A computation at the Pribilofs in 1939 showed the fur seals as still on the increase and numbering 2,020,774. The value of other furs, shipped from Alaska in 1939, totaled \$1,892,968; beaver, mink, and blue fox furnished the greater part of the total.

**Transportation and Roads.** The Alaska Railroad, owned and operated by the Federal Government, connects Seward, on the Southern coast, with Fairbanks, to the north, and maintains transportation by water, in the open season, thence to places on the Yukon River. It hauled by rail, in the operating year 1939-40, 194,467 tons of freight and 29,510 passengers. The freight, mainly coal, paid \$2,311,152, or somewhat under \$12 to the ton; the passengers paid \$264,715, or \$9 to the passenger, on the average. Including river traffic the system's receipts, \$3,058,055, exceeded operating expenses, \$2,712,628, by more than \$340,000. Aviation rivaled the railroad in number of passengers, if not in freight. In the fiscal year 1939-40, aviators reported making 14,296 trips, covering 3,598,790 miles, and carrying 31,435 passengers and 4,315,660 lb. of freight. The Alaska Road Commission, a part of the War Department, maintaining 1932 miles of road and a great mileage of trail, had spent, up to June 30, 1939, \$27,783,560 in 34 years, to build and maintain roads in the Territory; it spent \$240,766 for new construction and \$704,056 for maintenance in the year that followed.

**Agriculture.** Interest in the possibilities of agriculture still centered on the Federal colony in the Matanuska Valley. The colony, despite some defec-

tions, comprised (1940) 147 occupied tracts; these had about 4200 acres cleared and planted, mainly to peas, oats, and hay, but also to other grains and a variety of vegetables. There were some 500 milch cows in the valley. The colony's co-operative association took over from the Government (Jan. 15, 1940) the direction of a hospital, power house, and other public services.

The colonists and other farmers of the Matanuska Valley were reported to have sold, in the crop season of 1939, \$9521 of vegetables, \$4469 of butter fat, \$4517 of eggs, and \$7661 of meat. Of these sums' total, \$26,168, the colonists sold \$21,680. There were prospects that the aeronautical base at Anchorage would create much additional demand for the produce.

**History.** Governor Gruening gave particular attention, in his annual report, to Alaska's relative freedom from taxation. He indicated the absence of a general tax on property (save in incorporated places), and of taxes on incomes and on corporations, and concluded that the system of taxation needed revision in the interest of the Territory's aspirations.

The construction of aeronautical bases for the Army and Navy, at Anchorage and other points, went on actively during the year. Laws to hasten colonization for the aid of defense were sought in Washington.

The Federal Government put in motion early in 1940 a project of distributing reindeer among the Eskimo population. It was estimated that, before this distribution, 4700 natives, mainly Eskimo, owned in all some 300,000 reindeer, while 46 whites, engaged in reindeer-herding, had about 180,000. Despite the widespread Eskimo ownership, it appeared that families in considerable number possessed no reindeer and lacked sufficient support of other kinds. The plan was to buy animals from white herders at three dollars a head or thereabout and donate them to the non-possessors.

The Territorial Legislature enacted changes tending to increase payments obtainable under the unemployment-compensation law. That law, even before amendment, brought about a fairly big distribution of money—\$349,923 for the calendar year 1939, or about 44 per cent more per capita than the corresponding rate for the Union. In the first half of 1940 the payments ran to \$283,749. In consequence of labor troubles that had interrupted the salmon fishery sailing yearly from San Francisco, people formerly employed in these expeditions' canneries claimed a relatively great total in unemployment compensation; the Territorial unemployment-compensation commission's examiner held the claims invalid; they were still in course of adjudication late in the year. Their amount was said to exceed the sum on hand from the levies on the canners and to threaten the stability of the whole fund for unemployment compensation in Alaska.

See GENERAL LAND OFFICE; METEOROLOGY; TIN.

**ALBANIA.** A former Balkan kingdom on the east shore of the Adriatic Sea, occupied by Italian troops on Apr. 7, 1939, and proclaimed an Italian protectorate the following day. Area, 10,629 square miles; population, estimated at 1,057,000 on Dec. 31, 1938 (1,003,124 at the 1930 census). Capital, Tirana (pop. 30,806 in 1930); other chief towns, Scutari (Shkodër), 29,209; Koritsa (Korçë), 22,787; Elbasan, 13,796; Durazzo (Durrës), the chief port, 8739.

**Defense.** The Albanian army was incorporated in the Italian defense establishment May 29, 1939.

**Education and Religion.** Primary education is nominally compulsory, but illiteracy remains high. In 1939 there were 663 state primary schools, with 56,936 pupils; 19 intermediate schools, with 6235 pupils; and about 500 Albanian students in various foreign universities. The estimated religious division of the population was: Moslems, 688,280; Orthodox Christians, 210,313; Roman Catholics, 104,184.

**Production.** Albania's chief products are corn, tobacco, wool, timber, hides, dairy products, fish, olive oil, and petroleum (see 1939 YEAR BOOK for available production figures). The December, 1938, livestock census showed 391,175 cattle, 1,573,857 sheep, 932,333 goats, 54,426 horses, 44,579 asses, and 10,391 mules. Besides petroleum, with an output estimated at 300,000 metric tons in 1939, there are considerable mineral resources. These were under development by Italy in 1940. The first shipment of 1000 metric tons of chromite was exported to Genoa in April. Flour, olive oil, and cheese are the principal manufactures.

**Foreign Trade.** Imports in 1938 totaled 22,397,890 gold francs (1 franc equalled 6.25 Italian lire), of which 8,337,109 francs were from Italy, exports, 9,749,959 francs (6,665,257 to Italy). Wool, hides and furs, cheese, cattle, eggs, and timber are the chief exports.

**Finance.** Budget estimates for the fiscal year ended Mar. 31, 1940, balanced at 40,000,000 gold francs. The 1938-39 estimates were: Receipts, 28,565,499 francs, expenditures, 28,235,400. The public debt in 1938 was 68,200,000 gold francs, outstanding from a series of loans extended by Italy in return for political and economic concessions (see 1938 YEAR BOOK, p. 27).

**Transportation.** Early in 1940, Italian sources announced that work would begin in April on a railway from the port of Durazzo to Elbasan and Labinoti, a distance of 56 miles. There are no other railways. Highways in 1940 were reported to total 1759 miles, but only about 750 miles were suitable for automobiles. Italian air services connect Tirana and other Albanian cities with Rome and other points.

**Government.** On Apr. 12, 1939, an Italian-controlled Constituent Assembly at Tirana abrogated the Albanian constitution and ended King Zog's regime. A new government headed by Premier Shevket Verlaci offered the Crown of Albania to King Victor Emmanuel of Italy. A personal union between the two kingdoms was effected on April 14. A constitutional statute issued by Victor Emmanuel on June 3, 1939, made the Albanian throne hereditary under his dynasty and vested legislative, judicial, and executive powers in the King's hands. Legislative powers were delegated in part to an Albanian Fascist Corporative Council, based on a newly organized Albanian Fascist party, and executive and judicial powers to Albanian officials acting under Italian guidance. Albanian remained the official language. A treaty signed the same date placed Albania's foreign relations in the hands of the Rome Government (see YEAR BOOK, 1939, p. 22).

**History.** The task of converting Albania into a base for Italian military operations in the Balkans, started under the direction of the Italian Chief of Staff soon after the annexation to Italy in 1939, was pushed rapidly forward during the first 10 months of 1940. The Italian budget for 1940, published in January, contained 300,000,000 lire for land reclamation projects and strategic

roads in Albania. In April it was announced that 25,000 Italian workmen were being sent to Albania to construct roads and other public works. Some of them assisted large contingents of Italian troops in converting Koritsa and other Albanian towns covering the Greek and Yugoslav frontiers into military bases. On May 21-26 Count Ciano, Italian Foreign Minister, made a tour of the Italian construction projects in Albania. At Tirana he announced the appointment of two Albanians as Ministers of State. The puppet government there responded with a pledge of support for Italy in the event she entered the European War.

Meanwhile Greek and Yugoslav sources reported frequent shipments of additional Italian troops and supplies to Albania. In May and again in August uprisings were reported in mountainous districts as a result of the requisitioning of livestock and the conscripting of natives for service in the Italian military forces. The August revolt apparently assumed serious dimensions among the Mirditi tribesmen south of Scutari. Albanian exiles in Yugoslavia continued their efforts to organize resistance to the Italian occupation of their country, despite restriction upon their activities by the Yugoslav authorities. The Belgrade Government in May reportedly rejected a request from the exiled King Zog, who was then in France, for permission to enter Yugoslavia. Upon the German invasion of France, Zog with his Queen and the infant Crown Prince escaped to England, arriving in London June 27.

Coincident with Count Ciano's visit to Albania, an Italian-sponsored agitation for the expansion of Albania's frontiers to include the Albanian minorities in Yugoslavia and Greece attracted attention. This agitation assumed a more menacing tone following Italy's entrance into the European War, and was eventually channeled mainly against Greece. During August, September, and October, the Italian-controlled Albanian press bitterly criticized alleged Greek persecutions of the Albanian minority in Greece and provocative forays across the Albanian frontier. One such alleged incursion was given as a reason for the Italian invasion of Greece, launched October 28 (see GREECE and ITALY under History; EUROPEAN WAR). The Greeks denied all of these charges.

Albania suffered severely when the Italian invaders were driven out of Greece and pursued deep into Albanian territory. Koritsa, one of the chief cities, was taken by the Greeks after a long artillery bombardment. Tirana, the ports of Durazzo, Valona and Porto Edda (Santi Quaranta), and other points were repeatedly bombed by Greek and British air forces while the Italian and German air forces devastated the Greek-occupied districts. Rebellious Albanian tribesmen were reported to have extended their guerrilla warfare against the Italians, while some of the Albanian conscripts either deserted or surrendered to the Greeks without fighting. In December King Zog was reported to have arrived in the Balkans to aid in organizing the Albanian rebellion. Severe fighting was continuing at the year end.

**ALBERTA.** A prairie province of Canada. Area, 255,285 square miles; population (June 1, 1939 estimate), 789,000 compared with (1936 census) 772,782. Chief cities (1936 census figures in parentheses): Edmonton (85,774), Calgary (83,407), Lethbridge (13,523), Medicine Hat (9592). Vital statistics (1939): 16,323 living births, 5780 deaths, and 7835 marriages. Education (1938):

180,308 students enrolled in schools and colleges of all kinds.

**Production.** The gross value of agricultural production for 1939 was \$173,139,000. Crop output (1939): Wheat 150,000,000 bu., oats 85,000,000 bu., barley 27,000,000 bu., rye 2,400,000 bu., flaxseed 350,000 bu., potatoes 60,950 tons, hay and clover 569,000 tons, alfalfa 207,000 tons, grain hay 1,425,000 tons, sugar beets 262,000 tons. The value of all field crops in 1940 totaled \$136,225,000 (\$121,132,000 in 1939). Livestock (1939): 1,337,400 cattle, 993,000 swine, 834,300 sheep, 658,600 horses, 7,723,000 poultry. Fur production (1937-38): 1,476,696 pelts valued at \$1,156,011 (\$1,345,100 in 1938-39). The output of the forests in 1938 was equal to 104,630 M cu. ft. valued at \$3,169,009.

Mineral production (1939) was valued at \$30,691,617 of which coal (5,519,208 tons) accounted for \$14,415,281, petroleum (7,576,932 bbl.) \$9,362,363, natural gas (22,513,660 M cu. ft.) \$4,915,832. Manufacturing (1938): 970 factories, 12,684 employees, \$30,755,626 net value of products.

#### PRODUCTION OF ALCOHOLIC LIQUORS, FISCAL YEARS 1933 TO 1940

[Report of the Alcohol Tax Administration]

Year	Alcohol <sup>a</sup>	Distilled spirits	Still wines	Sparkling wines	Fermented malt liquors
	Proof gallons	Tax gallons	Gallons	Gallons <sup>b</sup>	Barrels <sup>c</sup>
1933	115,609,754	7,795,160	18,755,652	35,819	9,797,818
1934 <sup>d</sup>	165,103,582	76,506,388	77,778,388	532,874	37,678,313
1935	180,645,920	169,126,472	91,930,362	310,722	45,228,605
1936	196,126,236	253,867,925	170,903,108	413,851	51,812,067
1937	223,181,228	258,956,886	222,045,241	481,126	58,748,087
1938	201,033,858	150,155,924	228,726,368	489,014	56,340,163
1939	201,017,546	145,326,176	231,959,287	334,188	53,870,553
1940	243,727,756	143,455,192	212,367,737	481,740	54,891,737
Total	1,526,445,880	1,205,190,123	1,154,466,143	3,079,334	368,367,338

<sup>a</sup> Approximately 87 per cent of this alcohol is denatured and used for industrial purposes <sup>b</sup> Converted from half-pint units, using 20 half-pint units per gallon <sup>c</sup> Sales of fermented malt liquors containing not more than 3 2 per cent alcohol by volume legalized for beverage purposes Apr 7, 1933 <sup>d</sup> Sales of all liquors for beverage purposes legalized Dec 5, 1933 <sup>e</sup> Barrels of 31 gallons

**Government.** Finance (1938-39): revenue, \$24,269,817, expenditure, \$21,242,625; public debt (net), \$125,917,194. The King is represented by a lieutenant-governor (appointed by the governor-general in council), aided by a ministry which is responsible to the legislature and resigns office when it fails to hold the confidence of that body. There are 57 members in the legislature (including the ministry), all elected by direct vote of the people. After the provincial general election held on Mar 21, 1940, the standing of parties in the legislature was: Social Credit 36, Independents 19, Labor and Liberal 1 each. The province is represented by 6 senators (appointed for life) and 17 commoners in the Dominion parliament at Ottawa. Lieutenant-Governor, J. C. Bowen (appointed Mar. 20, 1937); Premier, William Aberhart (Social Credit). See CANADA.

**ALBERT CANAL.** See BELGIUM under History; EUROPEAN WAR.

**ALCOHOLIC LIQUORS.** Trends in the production of alcoholic liquors since the repeal of the prohibition amendment in 1933 appear in the accompanying table from the report of the Alcohol Tax Administration of the U.S. Treasury Department. Production of alcoholic beverages has maintained a fairly even pace for the past three or four years, indicating a better adjustment of the industry to demand than was possible in the years immediately following repeal. The quantity of alcohol produced more than doubled in the seven-year period; since the larger portion of alcohol is de-

natured, the increase has little to do with repeal but reflects increased industrial use.

Tax collections on liquors for the fiscal year 1940 maintained the upward trend of previous years, totaling \$624,253,156, as compared with \$587,799,700 in 1939. The principal items were: distilled spirits, \$346,833,775; fermented malt liquors, \$267,776,187, and wines, \$9,643,193. Tax-paid withdrawals of domestic alcoholic liquors were also well above the previous year, totaling 128,325,941 tax gal. for distilled spirits (including alcohol), 82,176,586 gal. for still wines, 418,830 gal. for sparkling wines, and 53,014,230 bbl. (of 31 gal.) for fermented malt liquors.

The success of the Alcohol Tax Administration in its efforts to reduce the illicit liquor traffic to a minimum is indicated in the consistently small number of seizures over the past three years. During the last year of prohibition, 29,561,813 gal. of mash were seized for violation of prohibition and internal revenue laws relating to liquors. Because of the inability of legitimate producers to cope

with demand, bootlegging continued to thrive in the immediately succeeding years and seizures were still at the high level of 21,373,107 gal. for the fiscal year 1935. By contrast, the figure for 1938 was 7,553,848 gal., for 1939 was 8,076,461, and for 1940 reached the new low of 6,480,240. The number of stills seized in 1940 was 10,663; number of vehicles seized, 4523; number of persons arrested, 25,638.

**ALCOHOLISM.** See PSYCHIATRY.

**ALEXANDRETTA,** Sanjak of. See SYRIA AND LEBANON.

**ALFALFA.** See ENTOMOLOGY, ECONOMIC; HAY

**ALGERIA.** A North African colony of France. Area, 851,350 square miles, of which all except 222,206 square miles are desert. Capital, Algiers (Alger). The estimated population (Dec 31, 1938) was 7,490,000. At the 1936 census there were 7,234,684 inhabitants (6,592,033 in the Northern Territory and 642,651 in the Southern Territory), including 987,252 Europeans (853,209 French citizens) and 6,247,432 Moslem natives. On July 22, 1940, there were 20,000 Italians permanently established in Algeria. Chief cities (1936 populations): Algiers, 264,232; Oran, 200,671; Constantine, 113,777; Bona (Bone), 86,332; Philippeville, 66,112; Sidibel-Abbes, 54,754. Education (1938): For non-Moslem education, there were 21,249 pupils in 120 infant schools, 159,725 pupils in 1224 primary schools, 9386 pupils in 30 higher primary schools, 14,306 pupils in 18 secondary schools, 484 students in 6 normal schools for

teachers, and 2248 students in the university at Algiers. For Moslem education, there were 77,022 students in 692 schools.

**Production.** The main occupations of the people are agriculture and stock raising. In 1939 the yields of the important cereal crops (in metric tons) were: Wheat 1,160,000, barley 1,100,000, oats 220,000. Other important products (1938 production figures in metric tons unless otherwise stated) were: Olive oil 10,300 (1938-39), potatoes 145,300, tobacco 19,400, wool and mohair 7400, wine 567,703,479 U.S. gal. Dates, figs, bananas, and almonds grow abundantly. Livestock (1938): 181,000 horses, 182,000 mules, 319,000 asses, 789,000 cattle, 5,965,000 sheep, 2,737,000 goats, 170,000 camels, and 60,000 swine. The 1936 fisheries catch was valued at \$1,750,397 francs. Mineral production (1938), in metric tons (figures are, in most cases, for metal content of ore): iron ore 1,649,000, lead 4400, phosphate rock 584,000, pyrites 44,000, zinc ore 7000, antimony 150.

**Foreign Trade.** In 1938, imports totaled 4,995,000 francs; exports, 5,639,000 francs. Normally over 80 per cent of Algeria's trade was with France. The average exchange value of the franc was \$0.0251 for 1939, \$0.0288 for 1938. See **TRADE, FOREIGN**.

**Finance.** Budget (1939): Revenue, 2,416,617,471 francs; expenditure, 2,322,898,075 francs. Estimates (1940): Revenue, 2,526,128,968 francs; expenditure, 2,525,778,285 francs.

**Transportation.** The 2735 miles of railway line open for traffic during 1938 carried 8,439,899 passengers and 5,328,321 tons of freight. The air services with France, Morocco, Belgian Congo, French Congo, and Tunisia were disrupted as a result of the capitulation of France in the European War. Later there was a partial restoration of air communications. During 1938 some 3956 ships aggregating 7,163,459 tons entered the ports of Algeria. See **ROADS AND STREETS**.

**History.** Algeria and the adjoining French North African colonies became the principal bastion of French power and the principal hope for survival of the French empire after the French Government's capitulation to Germany in June, 1940. Substantial sentiment for continuing the war on the side of the "Free French" forces of Gen. Charles de Gaulle was reported. However the civilian officials and military commanders of French North Africa adhered to the Vichy Government and successfully held their colonies in line. The British attack on the French fleet at Oran on July 3 strengthened North Africa's ties with the Pétain Government.

Gen. Auguste Nogues, French High Commissioner for North Africa and commander of its armed forces, declared on June 25 that the armed forces would not be reduced despite the signing of the armistice and that any foreign effort to seize control would be resisted. However members of the Italian Armistice Commission were reported in December to be controlling shipping between French North African ports and Marseille.

To tighten its grip on North Africa, the Vichy Government in mid-July appointed Admiral Jean Marie Abrial to replace Georges Le Beau as Governor General of Algeria. Later Gen. Maxime Weygand was sent to Algiers to command all French armed forces in Africa and Syria. At the risk of alienating the native Jewish and Moslem populations, Governor General Abrial placed in effect many of the anti-democratic measures pre-

viously introduced in France by the Pétain Government. The Cremieux Law of 1870, giving the Jews of Algeria the same civil and political rights as Frenchmen, was repealed on October 8.

Like the neighboring French colonies, Algeria was hard hit economically by the developments in France and the subsequent partial application of the British blockade. In mid-July directors of financial and economic services in French North Africa met in Algiers to seek a restoration of normal economic activity through developing inter-colonial trade, etc. Little improvement in conditions was apparent by the year's end and economic difficulties were said to be fanning native unrest.

See **EUROPEAN WAR** under *Effects of the Fall of France*; **FRANCE** under *History*.

**ALIENS AND ALIEN REGISTRATION.** See **IMMIGRATION, EMIGRATION, AND NATURALIZATION**, **INTERNATIONAL LAW** under *Nationality*, **UNITED STATES** under *Aliens and Disturbers*.

**ALL-AMERICAN CANAL.** See **AQUEDUCTS**; **RECLAMATION, BUREAU OF**.

**ALSACE-LORRAINE.** The two border provinces annexed by Germany after the Franco-Prussian War and returned to France by the Versailles Treaty (June 29, 1919). They were re-occupied by German troops in June, 1940, and re-incorporated in the Reich on or about Nov. 30, 1940. Area, 5605 square miles; population (1936 census), 1,915,627. Lorraine was merged with the Saar district (Saarpfalz) to form the new German province of Westmark. See **FRANCE** and **GERMANY** under *History*.

**ALTMARK INCIDENT.** See **NORWAY** under *History*.

**ALUMINUM.** Two events of 1940 marked the importance of aluminum and its principal ore, bauxite, in the conduct of modern warfare. The defense program of the United States, coupled with aid to Great Britain, created a demand for light metals and alloys for airplanes and other equipment that made necessary a great increase in domestic production facilities. The conquest of France by Germany gave the latter full access to the high grade bauxite deposits that had previously made France the largest single producer of the ore. It may be assumed, therefore, in the absence of statistics, that Germany continued in 1940 to hold first place as a producer of aluminum, with the United States second, as in 1939.

During the year the Aluminum Company of America announced three price reductions of one cent each, in March, August, and November, bringing the price down to 17¢ per lb. A price of 20¢ had prevailed throughout 1938 and 1939. The company also greatly expanded its facilities for producing metal. Ingot production in the latter part of 1940 reached the rate of about 465,000,000 lb. per year, compared with 327,000,000 lb. in 1939. Production was expected to reach an annual rate of 690,000,000 lb. by July, 1941, and 825,000,000 lb. early in 1942.

The Government lent the Reynolds Metals Company \$15,800,000 to construct a plant in the Tennessee Valley for the production of 10,000 tons of aluminum a year. Construction was to be completed in 1941.

Transit difficulties affected normal shipments of ore from Italy, Yugoslavia, Greece, Hungary, Rumania. Production in the Guianas was greatly increased to supply the United States and Canada. Imports of crude bauxite ores into the United



States for the calendar year of 1940 amounted to 629,552 tons.

Public anxiety over reported shortage in aluminum supplies, and the effect of that shortage on national defense was quieted by the National Defense Commission, which explained that ample provision had been made for metal production, and a temporary deficiency in forge-hammer capacity was rapidly being remedied.

See CHEMISTRY, INDUSTRIAL; ELECTRICAL INDUSTRIES; LABOR CONDITIONS under *Strikes*.

H. C. PARMELEE.

## AMBASSADORS AND MINISTERS.

The accompanying table lists the diplomatic rep-

DIPLOMATIC REPRESENTATIVES BETWEEN THE UNITED STATES AND FOREIGN COUNTRIES, 1940

Country	To the United States	From the United States
Afghanistan ..		Louis G. Dreyfus, Jr. (E) *
Argentina ..	Don Felipe A. Espil (A)	Norman Armour (A)
Australia ..	Richard G. Casey (E)	Clarence A. Gauss (E)
Belgium ..	Count Robert van der Straten-Ponthoz (A)	John Cudahy (A)
Bolivia ..	Don Luis Fernando Guachalla (E)	Douglas Jenkins (E)
Brazil ..	Carlos Martins (A)	Jefferson Caffery (A)
Bulgaria ..	Dimitri Naoumoff (E)	George H. Earle III (E)
Canada ..	Loring C. Christie (E) *	Jay Pierrepont Moffat (E)
Chile ..	Don Alberto Cabero (A)	Claude G. Bowers (A)
China ..	Hu Shih (A)	Nelson T. Johnson (A)
Colombia ..	Gabriel Turbay (A)	Spruille Braden (A)
Costa Rica ..	Don Luis Fernández (E)	William H. Hornbrook (E)
Cuba ..	Pedro Martínez Fraga (A)	George S. Messersmith (A)
Czechoslovakia ..	Vladimir Hurban (E)	
Denmark ..	Henrik de Kauffmann (E) .....	Ray Atherton (E)
Dominican Republic	Don Andrés Pastoriza (E)	Robert M. Scotten (E)
Ecuador ..	Capitán Colon Eloy Alfaro (E) *	Boaz Long (E)
Egypt ..	Mahmoud Hassan Bey (E)	Bert Fish (E) *
El Salvador ..	Don Hector David Castro (E)	Robert Frazer (E) †
Estonia ..	Johannes Kaiv (C) *	John C. Wiley (E) †
Finland ..	Hjalmar J. Procopé (E)	H. F. Arthur Schoenfeld (E)
France ..	Gaston Henry-Haye (A)	Admiral William D. Leahy (A)
Germany ..	Hans Heinrich Dieckhoff (A) *	— (A)
Great Britain ..	Marquess of Lothian (A) *	— (A) *
Greece ..	Cimon P. Diamantopoulos (E)	Lincoln MacVeagh (E)
Guatemala ..	Don Adrian Recinos (E) .....	Fay A. Des Portes (E)
Haiti ..	Elie Lescot (E) .....	Ferdinand L. Mayer (E)
Honduras ..	Don Julian R. Caceres (E) .....	John D. Erwin (E)
Hungary ..	Stephen de Rothkugel †	John Flournoy Montgomery (E)
Iran ..	Mohammed Schayesteh	Louis G. Dreyfus, Jr. (E) *
Iraq ..		Paul Knabenshue (C)
Ireland ..	Robert Brennan (E)	David Gray (E)
Italy ..	Ascanio dei principi Colonna (A)	William Phillips (A)
Japan ..	Morito Morishima †	Joseph C. Grew (A)
Latvia ..	Alfred Bilmanis (E)	John C. Wiley (E) †
Liberia ..		Lester A. Walton (E)
Lithuania ..	Povilas Zadelkis (E)	Owen J. C. Norem (E)
Mexico ..	Don Francisco Castillo Nájera (A)	Josephus Daniels (A)
Netherlands ..	A. Loudon (E)	George A. Gordon (E)
Nicaragua ..	Don Leon De Bayle (E)	Meredith Nicholson (E)
Norway ..	Wilhelm Munthe de Morgenstjerne (E)	Mrs. Florence Jaffray Harriman (E)
Panama ..	Don George E. Boyd (A)	William Dawson (A)
Paraguay ..	Don Juan José Soler (E)	Findley B. Howard (E)
Peru ..	Don Manuel de Freyre y Santander (A)	R. Henry Norweb (A)
Poland ..	Count Jerzy Potocki (A)	Anthony J. Drexel Biddle, Jr. (A)
Portugal ..	João Antonio de Bianchi (E)	Herbert Claiborne Pell (E)
Rumania ..	Brutus Coste †	Franklin Mott Gunther (E)
Saudi Arabia ..		Bert Fish (E) *
Spain ..	Don Juan Francisco de Cárdenas (A) ..	Alexander W. Weddell (A)
Sweden ..	W. Roström (E)	Frederick A. Sterling (E)
Switzerland ..	Charles Bruggmann (E)	Leland Harrison (E)
Thailand (Siam) ..	Mom Rajawongse Seni Pramoj (E) ..	Hugh Gladney Grant (E)
Turkey ..	Mehmet Münir Ertegun (A) .....	John Van A. MacMurray (A)
Union of South Africa	Ralph William Close (E)	Leo J. Keena (E)
U S S R ..	Constantine A. Oumansky (A)	Laurence A. Steinhart (A)
Uruguay ..	J. Richling (E)	Edwin C. Wilson (E)
Venezuela ..	Don Diogenes Escalante (A)	Frank P. Corrigan (A)
Yugoslavia ..	Constantin Fotitch (E)	Arthur Bliss Lane (E)

\* Accredited also to Iran \* Succeeded by Leighton McCarthy, announced on Feb. 25, 1941 \* Hold the rank of Ambassador for the duration of the Ecuador-Peru boundary dispute \* Accredited also to Saudi Arabia; resident at Cairo, Egypt \* Acting / Accredited also to Latvia \* Absent. \* Marquess of Lothian died Dec. 23, 1940; succeeded by Lord Halifax, appointed Dec. 23, 1940 \* John G. Winant, appointment confirmed on Feb. 10, 1941. † Chargé d'Affaires ad interim. \* Accredited also to Afghanistan \* Accredited also to Estonia \* Accredited also to Egypt; resident at Cairo, Egypt  
 NOTE. On Feb. 10, 1941, the United States Senate unanimously confirmed the following nominations; John G. Winant to be Ambassador to Great Britain; Anthony J. Drexel Biddle, Jr., Ambassador to Poland, to serve also as Ambassador to the governments of Belgium, Norway, and The Netherlands at London, England; Alexander C. Kirk to be Minister to Egypt; Jay Pierrepont Moffat, Minister to Canada, to serve also as Minister to the government of Luxembourg now established in Canada; Nelson T. Johnson, Ambassador to China, to be Minister to Australia; Bert Fish, Minister to Egypt, to be Minister to Portugal; Edwin C. Wilson, Minister to Uruguay, to be Minister to Panama; Clarence A. Gauss, Minister to Australia, to be Ambassador to China; William Dawson, Minister to Panama, to be Ambassador to Uruguay; Admiral Kichisaburo Nomura, the new Japanese Ambassador to the United States, presented his credentials to President Roosevelt on Feb. 14, 1941.



of Labor to the people of America. During those years the membership of the Federation grew from 50,000 to 4,247,443 (the figure presented to the 1940 convention, representing the tax-paying membership on Aug. 31, 1940); and working and living conditions for the vast millions of wage earners and their dependents have been improved to an extent that would have been considered beyond possible attainment at the beginning of the history of the organization. Work hours have been reduced, wages greatly increased, and opportunities for growth, recreation, and improvement culturally and economically achieved both for those organized in trade unions and others who benefited indirectly through the organized trade union movement.

In startling contrast with the almost complete destruction of the trade union movements of the Old World, the reports submitted to the 1940 convention of the Federation showed progress in every way. The treasury reflected the healthy condition of the movement by a report of receipts in excess of expenditures by \$169,476.46. During the year \$953,481.38 was expended for organizing expenses which included services to directly affiliated trade and Federal labor unions as well as the formation of and assistance to newly formed locals of national and international unions and on behalf of State federations of labor and city central bodies.

In the 12 month period ending Aug. 31, 1940, 327 charters were issued. Of these 2 were to new international unions (the United Cement, Lime and Gypsum Workers International Union, and Circus, Carnival, Fairs, Rodeo International Union); 23 to central bodies, 229 to local trade unions, and 73 to Federal labor unions. On Aug. 31, 1940, there were affiliated with the A.F.L. a total of 105 national and international unions comprising approximately 35,000 local unions, 49 State federations of labor, 816 central labor unions, 4 Departments, 1450 directly affiliated local trade and Federal labor unions. Total membership increased by 241,089. The organizing staff comprised 141 special paid organizers, 1822 volunteer organizers, and the officers of the 816 central bodies who are available on call to duty in assisting directly affiliated unions in case of strike or lockout.

There were two changes in the official family of the A.F.L. in 1940 occasioned by the death of John Coefield, and the resignation of Arthur O. Wharton. The Executive Council consists of the following: William Green, President; George Meany, Secretary-Treasurer; Vice-Presidents, William L. Hutcheson, T. A. Rickert, Matthew Woll, Joseph N. Weber, G. M. Bugmazet, George M. Harrison, Daniel J. Tobin, Harry C. Bates, Edward J. Gainer, W. D. Mahon, Felix H. Knight, George E. Browne, Edward Flore, Harvey W. Brown, and W. C. Birthright, in the order named. Elections are held at the annual conventions. All incumbent officers were re-elected for the year ending Dec. 31, 1941.

In accordance with the plan of organization whereby related unions are first formed into national councils under the guidance of the A.F.L. prior to being chartered as autonomous national or international unions, two additional councils were formed in 1940—the National Council of Chemical Workers Unions, and the American Editorial Association.

As a result of conferences between officers of the two organizations at interest, within the past year the International Ladies Garment Workers Union again resumed affiliation with the A.F.L. Confer-

ences looking toward a return of the International Typographical Union to affiliation with the American Federation of Labor, were being held at the end of the year.

As the need became greater for increased finances with which to engage in organization work, a temporary increase in the per capita tax was effected in 1937 by an assessment of one cent per member per month on all members of national and international unions. The success which has attended organizing efforts was convincing proof of the need for a continuation of this work through sustained increase in the established income of the Federation, and as a result the constitution was amended by the 1940 convention to fix the per capita tax from national and international unions at two cents per member per month. This was, in effect, a continuation of the amount which has been paid since 1937 but establishes the revenue of the Federation on a permanent and stable basis.

As the effectiveness of trade unions has increased and their power in the economic world has become accepted, there have been those who have sought to utilize offices within the labor movement for their own unscrupulous purposes. This has mitigated against the best interests of the labor movement as a whole. The danger from such misuse of trade union membership and office was recognized in the 1940 convention, and a report of the Federation's Executive Council was adopted calling upon all members of unions directly chartered by the A.F.L. to exercise all care and diligence in preventing exploiters and gangsters from securing official positions in their organizations and from exercising control over their administrative policies. The national and international unions chartered by the A.F.L. are autonomous and exercise full and complete authority over their own administrative policies so far as the Federation is concerned. However, the Executive Council urged that the membership of such unions select and elect men of known honesty and integrity to official positions, and to prevent those with criminal records from holding official positions or from representing them in any capacity whatsoever. This admonition of the Executive Council, adopted by the convention, clarifies the position of the A.F.L. with regard to undesirable persons within the labor movement.

During the year 1940 the A.F.L. continued its study of the facts showing the relation between productivity and hours of work in industry. This has been especially important in view of the increasing demand being made upon American industry for defense materials and the advancement of a short-sighted policy advocating abandonment of established standards governing hours of work without regard for the supply of labor available and not being utilized. The investigation reaffirmed the position of Labor that the shorter work week is imperative to sustained economic advance. The Federation took a positive stand against pressure exerted by certain manufacturers for at least a relaxation of the 40-hour week standard which became effective Oct. 24, 1940, under the Fair Labor Standards Act, and declared for even greater adjustment of work hours to increasing productivity.

Careful consideration has been given to the relation between increased productivity and earnings. Increasing productivity has made possible a steady decline in labor costs, and while average hourly earnings reached an all-time peak in 1940, manufacturers' labor cost is considerably below the level

of ten years ago. This brings out a very important economic factor, as pointed out by the Executive Council: while wages have risen steadily, the labor costs to manufacturers have steadily declined. It is, however, a fact that a large part of the saving from reduced labor costs have been passed on to the consumer. In its report to the 1940 convention the Executive Council further pointed out that by steadily increasing productivity American industry can pay an hourly wage 22 per cent above 1939, charge a price 15 per cent below 1929, and still reduce labor cost per \$100 of product by 5.7 per cent. This steady increase in productivity makes possible a continual rise in wages and shortening of hours.

During 1940 the Federation continued a full measure of co-operation in the administration of the Fair Labor Standards Law and in an effort to broaden its scope as well as improve standards under the law. Representatives of the A.F.L. have served on all industry committees appointed, presenting evidence and arguments at all hearings.

Efforts were also made during the year to secure amendments to the National Labor Relations Act so that it may more nearly approximate its original intent and purpose.

In connection with the defense program in which the Nation is engaged, the Federation has considered the problem of maintenance of social security rights earned by workers while engaged in covered industries and who may now or later be engaged in government work or military service. The A.F.L. convention went on record as favoring adequate protection for such workers by co-ordination of existing plans to provide for all workers engaged in the defense program.

In connection with relief agencies, the A.F.L. convention gave special consideration to WPA and housing projects. In connection with WPA and other Federal relief projects the Federation declared its belief that in the development and expansion of the defense program a clear-cut separation should be made between public works and work relief. The Federation further declared in favor of a long-range public works program designed to meet the immediate public works needs of the nation and provide the necessary means of expansion and curtailment of public works projects in harmony with general economic conditions. The 1940 convention recorded approval of the USHA program and authorized a continuation of efforts to secure legislation necessary for the continuation of the low-rent housing and slum clearance programs. The Federation went on record also as favoring an integrated and sound program of defense housing to provide adequate housing facilities for industrial workers and to assure the fullest possible utilization of these facilities to meet the needs of the workers following the emergency.

Serious thought and consideration was given during the year to efforts on the part of some government officials to attack organized labor through application of the Sherman Antitrust Law to trade union activities. A history of this procedure was presented to the 1940 convention, which in turn announced the purpose of the A.F.L. to challenge this trend toward government control over the collective bargaining process through the use of anti-trust litigation.

The activities of the Federation in the field of adult and vocational education have been continued. Through the Permanent Committee on Education of the A.F.L. which functions throughout the year,

study has been made of the trends in the vocational training field through the NYA, the CCC, and other branches of the government concerned with training of workers. Special consideration has been given to training of workers for defense production and the Federation went on record as favoring a program to be developed by management and labor jointly.

Formed principally for the organization of wage earners into trade unions, the A.F.L. placed particular emphasis on such work during the year. Regional conferences for the purpose of instituting organizing drives in their respective regions were held in Atlanta, Ga., for the 10 southern States, Dallas, Tex., covering the 5 southwestern States, and Hartford, Conn., for the 6 New England States. The regional conferences were highly successful and met a two-fold purpose—they stimulated interest in organization and promoted better understanding of the policies and principles of the Federation.

In reporting on legal activities engaged in during the year, special attention was called to successful efforts in securing the voidance of the Oregon Anti-Picketing Law, nullification of the Alabama Anti-Picketing Law, as well as other legal cases which are of special importance to workers generally.

Conforming to the precedent established during the last world emergency the A.F.L. recommends that the members of directly affiliated local trade and Federal labor unions who are drafted or otherwise enter into military service shall be exempt from the payment of all local dues and per capita tax to the A.F.L. while engaged in such military service. Provisions were recommended for the voluntary continuation of benefit rights in the union by the individual should he so desire.

The A.F.L. went on record as favoring economic boycotts against the aggressor nations of Germany and Japan. With the increasing importance of Pan-American relations the 1940 convention of the Federation authorized a study into the advisability of revitalizing the Pan-American Federation of Labor and planning next steps to increase its effectiveness.

In unmistakable terms the American Federation of Labor reiterated its opposition to all forms of communism, fascism, nazism, or any other form of totalitarianism and its strict adherence to democratic principles and practices.

See COMMUNISM; LABOR CONDITIONS.

WILLIAM GREEN.

**AMERICAN LABOR PARTY.** See COMMUNISM.

**AMERICAN LEGION, The.** An organization of World War veterans, chartered by Congress in 1919. Its 22nd national convention was held in Boston, Mass., Sept. 23 to 26, 1940. The climax of the convention was a 12-hour parade, Tuesday, September 24, by 100,000 marchers before 2,500,000 spectators. The next convention will be at Milwaukee, Wis., Sept. 15 to 18, 1941.

The Boston convention resolved on the war: "We believe that a sound national defense policy for this country requires that we should at this time give all practicable aid to Great Britain and those aligned with her in their fight for freedom."

The national executive committee in Indianapolis, Nov. 21 and 22, 1940, designated the major national legislative program for 1941 as (1) national defense; (2) government protection for

World War widows and orphans; (3) civil service, veterans' preference, and employment; (4) Americanism, including further restriction of immigration, continuation of the Dies committee, and increasing of the personnel of the FBI.

Major 1940 accomplishments included:

**National Defense.** The \$17,000,000 expenditures for national defense authorized by the 76th Congress put steps in motion to substantially complete the long-sought national defense objectives of the Legion. Its defense endeavor now, according to Warren H. Atherton, Stockton, Cal., chairman of the national defense committee, will be to strive for a continuing national defense by having the present emergency measures amended to provide permanent defense.

**Americanism.** In 1940 34 boys' states were conducted in which 15,000 boys were trained in civic government 400,000 boys under 17 again enrolled in junior baseball. 62,000 students in 40 states participated in the annual high school oratorical contest.

**Child Welfare.** 30,000 volunteer workers carried on this activity. Incomplete reports showed the known total of \$4,647,682.87 was expended in emergency financial aid to 454,495 needy children during the year, mostly for food, clothing, and medical treatments.

**Rehabilitation.** A total of \$3,255,498.96 in various contested government benefits was recovered without cost to the beneficiaries, by the Legion, through its national rehabilitation service, for World War veterans and their dependents during the fiscal year ending June 30, 1940.

**Legislation.** 1940 was a banner legislative year for the Legion. It saw the commencement of a program looking toward an adequate national defense; saw most of its long-championed universal service principle enacted into law piecemeal through various emergency defense measures; made further progress with its legislation for government protection for World War widows and orphans; and the Dies committee for the investigation of un-American activities, was continued for another year, with a \$75,000 appropriation, by a 345 to 21 vote of the House of Representatives, Jan 23, 1940.

**Membership.** During 1940 the Legion reached a new high in membership. Dec. 31, 1940, there were 1,078,119 members. The posts numbered 11,115, also a new high. The Auxiliary also enrolled its highest membership, 504,299 in 9147 units. The Sons of The American Legion closed the year with 66,840 members in 3450 squadrons. The Forty and Eight membership climbed to a new peak with 43,594 members in 700 voituers. The Eight and Forty pushed to a new high enrollment of 7258 members in 277 salons.

National officers elected for 1940-41 were: National Commander, Milo J. Warner, Toledo, Ohio; Vice Commanders, Erwin A. Froyd, Torrington, Wyo., James L. McCrory, Omaha, Neb., Harold P. Redden, Springfield, Mass., Edward R. Stirling, Greensburg, Pa., and Alcee S. Legendre, New Orleans, La.; National Chaplain, Brigadier William G. Gilks, The Salvation Army, Dallas, Texas; National Historian, Thomas M. Owen, Jr., Washington, D.C.; National Adjutant, Frank E. Samuel, Indianapolis, Ind.; National Treasurer, John R. Ruddick, Indianapolis, Ind.; National Judge Advocate, Ralph B. Gregg, Indianapolis, Ind. National headquarters are at 777 North Meridian St., Indianapolis, Ind. Legislative, rehabili-

tation, and employment director offices of The American Legion are maintained in the Legion-owned building at 1608 K Street, N. W., Washington, D.C. Editorial and advertising offices of *The American Legion Magazine* are at 15 West 48th Street, New York City.

MILO J. WARNER

**AMERICAN LITERATURE.** See LITERATURE, ENGLISH AND AMERICAN.

**AMERICAN NEGRO EXPOSITION.** See FAIRS, EXPOSITIONS, AND CELEBRATIONS.

**AMERICAN SAMOA.** See under SAMOA.

**AMERICAN SOCIALIST PARTY.** See ELECTIONS; SOCIALISM.

**ANDORRA.** A small republic in the Pyrénées between France and Spain, under the joint suzerainty of the French chief executive and the Spanish Bishop of Urgel. Area, 191 square miles; population, 5231. Capital town, Andorra. The language spoken is Catalan. Sheep rearing is the main occupation of the people. There is a governing body called the council-general consisting of 24 members (12 elected every 2 years) elected for 4 years by male citizens of 25 years of age or older. The council-general nominates the First Syndic (President) and Second Syndic (Vice-President). In a decree published Sept. 24, 1940, Marshal Henri Philippe Pétain, French Chief of State, assumed the title "co-prince of Andorra" formerly held by the President of the French Republic.

**ANGLICAN COMMUNION.** See ENGLAND, CHURCH OF.

**ANGLO-EGYPTIAN SUDAN.** A British-Egyptian condominium in northeast Africa. Area, 969,600 square miles; estimated population, 6,342,477 including 53,625 non-natives. Chief towns: Khartoum, the capital (46,676 inhabitants), Omdurman (110,959), Khartoum North and Rural District (107,720), Atbara (19,757), Port Sudan (18,554), and El Obeid (17,300).

**Production and Trade.** Cotton (ginned) and gum arabic (80 per cent of world's supply) are the principal export products. The chief grain crops are great millet (the staple food of the Sudanese) and bulrush millet. Other products: sesamum, cottonseed, groundnuts, dates, dom nuts, mahogany, ghee, shea nuts, salt, and gold. Livestock (1938): 2,700,000 cattle, 2,500,000 sheep, 2,000,000 goats, 420,000 camels, 75,000 asses, and 23,000 horses. Trade (1939): imports £E5,939,518 (cotton piece goods £E1,002,488, sugar £E803,607); exports (excluding re-exports of £E304,631) £E5,367,396 (cotton £3,410,080, gum arabic £E711,606). The £E(gyptian) averaged U.S. \$4.56 in 1939. Communications: 1991 route miles of railway; 2325 route miles of river transport; 5854 miles of telephone and telegraph routes. Shipping entered and cleared Port Sudan aggregated 746,591 tons in 1938.

**Government.** Budget (1939): revenue £E4,616,902; expenditure £E4,865,406. The governor-general is appointed by Egypt with the assent of Great Britain (Anglo-Egyptian Convention of 1899; reaffirmed by the Anglo-Egyptian Treaty of 1936). Ordinances, laws, and regulations are made by the governor-general in council. Governor-General, Lieut.-Gen. Sir Hubert Huddleston who succeeded Sir Stewart Symes during October, 1940.

**History.** Following Italy's entrance into the European War on June 10, 1940, the Anglo-

Egyptian Sudan became one of the minor fronts in the expanding conflict. The territory occupied a strategic position separating the large Italian armies in Libya from the Italian forces isolated in Italian East Africa (q.v.). Early in July Italian and native troops operating from Eritrea and northern Ethiopia captured the border town of Kassala (pop., about 10,000), terminus of a railway line from Port Sudan on the Red Sea and an important caravan center. Gallabat and Kurmuk, two Anglo-Egyptian posts south of Kassala on the Ethiopian frontier, were captured soon afterward. From July through October troops on both sides were largely immobilized by heavy rains and extreme heat. The British resumed the campaign on November 7 by recapturing Gallabat and indecisive fighting continued along the border for the remainder of the year.

The government of the Anglo-Egyptian Sudan early in 1940 agreed to Egypt's terms for repayment of sums advanced to the Sudan by the Egyptian Government since 1898. The total debt was fixed at £E5,414,000. Repayment was to start in 10 years at the rate of £E150,000 annually. Two high officials of the Northern Province of the Anglo-Egyptian Sudan were killed and one seriously injured on July 24 when caught by a train while crossing the Athara River bridge. They were M. A. B. Harrison, Chief Justice, and J. N. Richardson, District Commissioner (killed), and Gov. M. S. Lush (injured).

See EUROPEAN WAR under *Campaigns in Africa*; EGYPT and ITALIAN EAST AFRICA under *History*.

**ANGOLA.** A colony in west central Africa, belonging to Portugal. Area, 487,788 square miles; population (1936), 3,484,300 including 59,000 Europeans and 21,800 half castes. Chief towns: Nova Lisboa (Huambo), the capital; Loanda, Benguela, Mossamedes, Lobita, and Malange.

The chief crops (with outputs for 1937-38, in metric tons) are maize (260,500), sugar (32,500), coffee (14,300), wheat (10,600), palm oil (3000), palm kernels (2600) Cacao, sisal, cotton, and tobacco are other crops. Wax is an important product. There are rich deposits of diamonds. Copper and lignite exist but are not mined. Salt has been found. In 1938 (values in old U.S.A. gold dollars), imports totaled \$6,000,000 (textiles, foodstuffs, and coal were the chief items); exports, \$8,800,000 (diamonds, maize, and coffee were the main exports). The greater part of the ocean-carrying trade between Angola and Europe is in the hands of a Portuguese company.

Budget: (1940) 256,506,396 angolares; (1939) 255,990,232 angolares. The colony is divided into 5 provinces and 14 administrative districts (decree of May, 1934). Governor-General, Dr. Márquez Mano (appointed Feb. 10, 1939).

On Aug. 4, 1940, 1000 Portuguese troops sailed from Lisbon to reinforce local defense units in Angola. The troops were dispatched immediately following British charges that numerous German agents had assembled in Angola for the apparent purpose of seizing control of the Belgian Congo.

See CONGO, BELGIAN, and PORTUGAL under *History*.

**ANGUILLA.** See LEEWARD ISLANDS.

**ANHALT.** See GERMANY under *Area and Population*.

**ANHWEI.** See CHINA under *Area and Population*.

**ANIMALS AND ANIMAL INDUSTRY.** See LIVESTOCK; VETERINARY MEDICINE; ZOOLOGY.  
**ANNAM.** See FRENCH INDO-CHINA.

**ANTARCTIC EXPLORATION.** See POLAR RESEARCH.

**ANTHROPOLOGY.** Neandertal Man in Central Asia. One of the most outstanding and important discoveries in the field of Early Man was made in the latter part of 1938 in Uzbekistan by A. P. Okladnikov, a young Russian scientist, assisted by his wife. It consists of the find, in the Teshik-Tash cave in southwestern Uzbekistan, about 10 miles from the small town of Baisun near the Afghan border, of the remains of a Neandertal-type child, with mousterian-like implements and bones of various animals. The skeletal parts of the child, probably a male and about eight years old, had largely decayed, but the skull, though in fragments, was practically complete. These remains were brought to the Anthropological Museum at Moscow, and there completely reconstructed. The result is the most complete, characteristic, and in general the best skull of the Neandertal type thus far recovered. The specimen has been cast and the first replica of it, a faithful reproduction of the original, has been donated by the Soviet authorities to the U.S. National Museum. In 1939 a preliminary report on the find was published in the U.S.S.R., and in 1940 the essentials were published in this country.

The important points about the find, briefly stated, are: (1) It was made in an undisturbed cave; (2) it was recovered with due care by a scientific worker; (3) the find showed prolonged occupancy of the cave but was not complicated by intrusions subsequent to the burial; (4) the lay of the skeleton and the arrangement of the large wild goat horns about it indicated clearly a regular burial; (5) the skull, when ably reconstructed, is practically complete with nearly all the teeth and the lower jaw, undeformed, and typically Neandertaloid for its age; and (6) the find extends the realm of the Neandertal Man far to the eastward of his formerly known territory. As to chronology, it is probable that the find may be referred to the upper part of the Neandertal phase.

**References.** Okladnikov, A. P., 1939, *Viestnik Drevnei Historii*, Leningrad, no 7, pp 256-7; Hrdlička, A., 1939, *Science*, xc, September 29, 296-8; Okladnikov, A. P., 1940, *Asia*, July and August nos.

**The Pithecanthropus—New Remains.** In December, 1939, G. H. R. v. Koenigswald, a Dutch geologist, and Dr. F. Weidenreich, the well known anatomist and anthropologist, report briefly in *Nature* (Dec. 2, 1939, 926-9), on the latest finds attributed to the Pithecanthropus. The previous remains claimed to belong to this highly important form, aside of the original ones of Dubois, were a juvenile skull (*Homo modjokertensis*, 1936); portion of a lower jaw (Sangiran, 1936); and a defective skull, with a fragment of another (Sangiran, 1937). To this is now added, also from Sangiran, a large portion of an adult maxilla with teeth, and the posterior half, roughly, of a skull of seemingly the same individual. A detailed account of these latest discoveries is still wanting. But they have already given rise to much speculation. The two specimens, which, thanks to Dr. Weidenreich, could be examined by American anthropologists in the original, with good casts since available, are very striking. The upper jaw, evi-

dently that of a young adult male, surpasses both in size and primitiveness everything seen hitherto in early human remains. The teeth are large, there are definite symmetric diastemæ in front of the canines, the second molars are considerably the largest, and the lateral parts of the alveolar arch are straight and diverging backwards; but the canines are already of subdued prominence and the form of the crowns is close to human. The skull is striking by its internal smallness and lowness as well as other primitive characters. The ensemble of the two specimens represents a being partly already human, partly still simian, a veritable intermediary form, a precursor, a "paranthropus" (Montandon). Identification of this form with the *Sinanthropus* (Le Gros Clark, et al.), when the specimens themselves are seen, appears wholly impossible.

**References.** v. Koenigswald & Weidenreich, F., 1939, *Nature*, vol 144, 926-9; Le Gros Clark, *Nature*, 1940, vol 145, 70-1; Montandon, G., *Revue Scient.*, 1940, 29-32.

**Early Man in Italy.** In March of 1940 an outstanding find of further remains of early man was made in Italy. It was a remarkably well preserved adult skull, with its lower jaw and most of the teeth, recovered in a cave at Mount Circe, 50 miles south of Rome, facing the Mediterranean. The skull was found during excavations in the cave—one of a network—for new foundations of a small hotel and a wine depository. The specimen, reported to be the fourth from the Neandertal period and the second of the promontory, is very well preserved, though it shows a fracture of the right temporal region, which had probably been the cause of death of the individual. The cave yielded also numerous broken bones of prehistoric elephants, rhinoceroses, large horses, deer, bears, panthers, hyenas. The cave had been sealed in times far past by a landslide, so that its contents were not disturbed. The skull lay alone in a wide space within a crude circle of stones, indicating that it probably was either a trophy, or used for some ceremony. A credit is due to the owner of the hotel who, upon the discovery and before anything was moved, notified scientific authorities who recovered the specimens, which are now in Rome. The cave itself has been closed in reserve for further exploration.

**References.** Press notices, Mar 16, 1940; *Science News Letter*, 1939, August 12, p 108.

**Ritual Ablation of Teeth in Siberia and America.** Common in Africa, Australia, and some other parts of the world, ceremonial removal of the front teeth has hitherto almost failed to be noticed in America or Siberia; but a special study of the subject, on large materials, shows definitely that the practice of removing some of the front teeth was widely spread from prehistoric to fairly recent times over both Siberia and America. In pre-Columbian America, in fact, it appears to have been almost, if not quite, universal. In Siberia and Japan it existed from the neolithic period, if not earlier, and was in all probability brought by the migrants of that period to the American continent. The removal of the teeth, according to all indications, took place early in life, but not in childhood—the numerous skulls of children up to 10 years of age in the collection at the U.S. National Museum show no case of the ablation. As to the teeth removed, there was a wide variety. The ablations were done generally in both sexes, though mostly they are found in a more or less larger proportion

of the males. The practice differed in the various tribes, the removal of certain teeth having evidently been more favored in some groups than in others. The actual ways of removal of the teeth in all probability differed, including knocking out, prying, and especially pulling with sinews, or a combination of these efforts. The meaning of the ritual ablation could only have been sacrificial, with secondarily a test of endurance. The removals were undoubtedly practiced by other persons, relatives or shamans. The extraction, if of but one tooth, caused presumably but little inconvenience. The ablations, curiously, though differing considerably in frequency in different groups, were never universal. In most of the tribes or localities they were in fact rather rare, affecting but a few per cent of the individuals. There evidently was some selection, based perhaps on clan or other form of social organization. The similarity, and to a large extent contemporaneity, of this complex ritual practice forms one more link that connects the Asiatic and American native peoples.

**Reference.** Hrdlička, A., 1940, *Smithson. Misc. Coll.*, vol 99, no 3, 32 pp., 5 pl.

**The Irish: Physical Characters.** Recent anthropological survey of Ireland under the auspices of Harvard University, extending to over 10,000 individuals, has shown the following main results:

(1) *The Western Peninsula:* West Donegal, Mayo, and Kerry (including parts of Clare and Cork). This region finds the association of tall stature, sub-brachycephaly, dark hair, and mixed eyes. It is strongly Gaelic in speech and possibly includes the largest numbers of the Mesolithic stock which first settled Ireland from Scotland.

(2) *The Central East Coast:* The shortest and most dolichocephalic region with highest concentration of light eyes (especially blue eyes), but very dark hair. Perhaps this may be the area settled by the Megalithic people who sailed up the Irish Channel.

(3) *The Blond Crescent* (with its horns at Sligo and Galway Bays and its convexity at Longford and Westmeath): In its belly it is the blondest area in Ireland, in the southwest horn (West Galway and the Aran Islands) it is the tallest and almost the longest-headed area in Ireland. All of this area is notably characterized by grayish and light mixed eyes rather than pure blue eyes. It seems to be peopled by a majority of Predominantly Nordic and Nordic peoples.

**Reference.** Hooton, E. A., 1940 *Am. Jour. Phys. Anthropol.*, xxvi, pp. 229-49.

**The Criminal.** Crime is not physical. It is mental. It is not due to disorders or even abnormalities of the body, but partly to acquired antisocial habits, partly to brain, nervous system, and the internal glandular system disorders. The criminal "facies" of whatever sort is not inborn, but acquired through the criminality and the reactions of the criminal with other people. Except for brute violence and actions due to brain disorder, crime itself is no organic entity, but is a social phenomenon differing vastly individually in degree and shadings; and there is probably no living individual who has not at some time transgressed some human as well as a natural law, or who would not transgress such if confronted with sufficiently incitive conditions.

**Reference.** Hrdlička, A., 1939 (Oct.) *Jour. Crim. Psychopath.*, i, 87 et seq.

**Great Apes: Blood Groups.** The possession by the anthropoid apes of blood-group factors ap-

parently identical with those of man is a very significant indication of the close relationship between the two stocks. Of all the somatic and physiological characters common to both, only in the instance of the blood groups is the mechanism of inheritance completely understood. Further, since the blood groups have no intrinsic value, and are not linked to any known character, they can neither have affected, nor been affected by the evolutionary adaptations which resulted in man and the anthropoids. For this reason, the serology of the apes is of great interest in connection with the problem of the origin of man, and his subsequent spread.

Previously published results showed the chimpanzee to have the O and A factors, the orangutan and gibbon the A and B factors, while the four known gorillas were all group A. In spite of the small number of gorillas tested, some sweeping conclusions were drawn from the supposed absence of B in both African anthropoids.

By means of tests upon the urine the groups of 14 additional apes, including 7 gorillas have been determined. The B factor was demonstrated in the 5 lowland gorillas in the series, while the 2 mountain gorillas were found to be group A.

The results obtained from the urine have been confirmed in 6 of the 14 individuals by tests upon the blood, and in one case by tests upon the salivary glands.

**References.** Candela, P. B. *Amer Jour. Phys Anthropol.* 1940, xxvii, 209-21 *ibid*, 1940, xxvii, no. 3 (p. 479).

ALES HRDLIČKA.

**ANTIGUA.** A West Indian island (108 sq mi) which, with its dependent islands of Barbuda and Redonda (63 sq. mi.), is one of the presidencies of the British Leeward Islands. Total population (1938), 35,123. St. John, the capital (10,000 inhabitants), is the capital of the British Leeward Islands. Sugar and cotton are the chief products. Trade (1938). imports £253,669, exports £200,357. Finance (1938). revenue £102,501; expenditure £97,597; public debt £83,674. Antigua, in addition to representation in the federal legislative council of the Leeward Islands, has a local government consisting of an executive council (presided over by the governor) and a legislative council (3 official, 3 nominated, and 5 elected members) of which an administrator is president. Administrator, H. Boon (appointed Apr. 2, 1940).

**History.** Antigua was one of various British possessions in the Western Atlantic in which air and naval bases were leased for 99 years to the United States in exchange for the transfer of naval and military equipment to the British government (British-United States Pact of Sept. 2, 1940). The base sites agreed upon in Antigua were announced Nov. 18, 1940, as follows: (a) An area in Parham Sound, opposite Long Island, beginning about 2¼ miles north of Parham and measuring about 2¾ miles by 1 mile; (b) the narrow peninsula known as Crabs on the east side of Parham Harbor measuring about 1 mile long and ¼ mile wide. Preliminary work on the bases was begun soon afterward. On December 9 President Roosevelt personally inspected the base sites and conferred with the island's officials.

See BRITISH WEST INDIES.

**ANTIMONY.** The United States consumption of antimony is normally about 10,000 tons per

year, but this figure was substantially increased in 1940 in consequence of war demands. The price was stable at 14¢ a lb. throughout 1940, and a plentiful supply of metal was available. The United States continued to import ores from Mexico to supplement limited domestic production, all of which was smelted at Laredo, Texas. Although the Japanese war interfered somewhat with production from China, substantial shipments were received from that country, and the United States created a considerable stockpile. The United States advanced large loans to China, which will be liquidated in time by shipments of tungsten ore. The principal uses of this metal continued to be for hardening lead, and as oxide for enameling steel sheets for refrigerators, washing machines, and other pieces of equipment. No statistics are available on production, imports, and consumption.

H. C. PARMELEE

**ANTISEMITISM.** See FASCISM; JEWS.  
**ANTI-TRUST INVESTIGATIONS AND PROSECUTIONS.** See AMERICAN FEDERATION OF LABOR; MEDICINE AND SURGERY; UNITED STATES under *Prosecutions*. See MONOPOLIES.

**AQUEDUCTS.** Two general classes of aqueducts include (1) those for irrigation and power purposes, and (2) those for municipal or domestic water supply. Many aqueducts of the first class (canals, flumes, tunnels, and pipe lines) are included in the numerous projects of the U. S. Bureau of Reclamation (q. v.). An example is the 40-mile Provo River aqueduct from the Deer Creek dam to Salt Lake City, Utah, which was completed in 1940. With 36 miles of concrete and steel pipe and four miles of tunnels it is to serve both for irrigation and domestic supply.

In connection with its irrigation projects, the Bureau built 343 miles of canal aqueducts during the year ending June 30, 1940. Outstanding among these was the 80-mile All-American canal in California, which replaces the old canal lying partly in Mexico. It is by far the largest irrigation canal in this country and carries water from the Colorado River at the Imperial dam and reservoir to the rich Imperial Valley in southern California. Under construction are the 140-mile Coachella branch of the All-American canal, and five other aqueduct canals from 30 to 100 miles in length. The Bureau is also making surveys for a proposed aqueduct in Arizona, from the Parker Dam reservoir on the Colorado River to the neighborhood of Phoenix, to provide irrigation for some 700,000 acres on the central elevated plateau which has suffered from prolonged drought. The aqueduct, partly in tunnel, would be nearly 200 miles long and would require a pumping lift of about 1100 ft.

Of the greater aqueducts for municipal water supply, the Metropolitan Water District of Southern California completed its main aqueduct (from the Colorado River to Lake Matthews) in 1939, and by the middle of 1941 it will have completed the distribution system of 156 miles to serve some fifteen cities within the District. Of the 398-mile total, 28 per cent is in tunnel, 16 per cent in canal, and 56 per cent in pipe lines. On the main aqueduct, the pumping lift, in five stages, is 1617 feet. The Mono Basin extension of the Los Angeles water supply aqueduct, which was put in operation on Jan. 1, 1941, includes the 11.3-mile Mono Craters tunnel, three intake structures, a storage reservoir, three tunnels aggregating 1¼ miles, a mile of 86-in. steel pipe, and 9 miles of concrete conduit.

Foremost among aqueducts for individual cities is the 85-mile rock tunnel for pumping water from the Delaware River to New York City. It is to be completed in 1945, but in December, 1940, the excavation was finished for 92.8 per cent of the distance, the concrete floor or invert for 40.6 per cent, and the concrete sides and arch for 22.8 per cent. With the city extension, already in use, the tunnel length will be 105 miles, all in rock, and proposed extensions or branches to new watersheds may increase this to 137 miles. An underground river, encountered in the main tunnel, was presenting serious engineering difficulties at the close of the year.

A series of aqueducts in the water supply system of Boston, Mass., has been enlarged by the pressure aqueduct put in service on Oct. 23, 1940, which practically parallels three older aqueducts in which the flow is by gravity. Its 18-mile length from the Wachusett reservoir to the Norumbega reservoir is made up of three miles of tunnel 14 ft. in diameter and 15 miles of 11½-ft and 12½-ft. concrete pipe. The next step will be a pressure tunnel extension to the Chestnut Hill reservoir and ultimately (1942-45) a deep-level pressure tunnel looping around the city. At Baltimore, Md., the new Gunpowder Falls and Montebello tunnel aqueduct from the enlarged Loch Raven reservoir, was put in service Dec. 23, 1940. It is 12 feet in diameter, with lining of concrete for 66 per cent of the length and continuous welded-steel lining for the remainder.

Several cities of moderate size have found it necessary to build aqueducts for bringing additional water supply from new or distant sources. In 1940, Grand Rapids, Mich., completed its 31-mile pipe-line aqueduct from Lake Michigan for a supply of soft water instead of the hard Grand River water. An intake of 54-in. welded-steel pipe extending 6200 ft. from shore was floated into place in 120-ft. lengths to be sunk into a dredged trench and connected by divers. At the shore pumping station begins the 31-mile pumping main of 46-in. reinforced-concrete pipe. This project, costing \$4,100,000, includes two pumping stations and two reservoirs. A similar aqueduct put into service on Sept. 1, 1940, is a 30-mile line of 48-in. concrete-lined cast-iron pipe laid in trench across country to bring water from a group of new wells to the city of Wichita, Kan.

In the same class is a third project, to be put in service in 1941, bringing to Toledo, Ohio, a supply of good water from Lake Erie to replace the old and unsatisfactory supply from the Maumee River. An intake crib in the lake serves a line of 108-in. reinforced-concrete pipe extending 2¼ miles to the shore pumping station, from which a line of 78-in. steel pipe, with bituminous coating, extends nine miles to a purification plant. From the reservoir at this plant, a steel pipe line, decreasing from 72-in. to 48-in. in diameter, runs five miles to the city to connect with the distribution system. This project will cost about \$10,000,000.

E. E. RUSSELL TRATMAN.

**ARABIA.** A large peninsula in southwestern Asia. Area, 1,000,000 square miles; population, said to be 10,000,000. For the various divisions of Arabia see below. Arab countries outside the Arabian peninsula are presented in the separate articles on EGYPT, IRAQ, PALESTINE, SYRIA AND LEBANON, and TRANS-JORDAN.

**Aden.** A British crown colony at the south-

ern tip of Arabia, about 100 miles east of the Red Sea. Included in the colony is the island of Perim (5 sq. mi.; pop., 2346) in the southern entrance to the Red Sea. Total area, 80 square miles, total population (1931), 48,338 excluding the military forces. Aden has a fortified naval base, a free port, and is a fueling station for ships. Early in 1940, because of the war, the port was made a contraband control base for shipping. Salt, soap, cigarettes, cured fish, and dhows are produced. Trade (1938): imports Rs83,170,441; exports Rs42,991,994 (rupee averaged \$0.3659 for 1938). In 1938, 2079 ships aggregating 8,650,411 tons (net) entered the port. Finance (1938-39 estimates): revenue Rs1,890,000; expenditures Rs1,743,000. The colony is administered by a governor aided by an executive council of five members. Governor and Commander-in-Chief, John Hathorn Hall (appointed Oct. 23, 1940).

**Aden Protectorate.** The region in southern Arabia extending east, north, and west of Aden. It includes the island of Socotra (1400 sq. mi.; pop., 12,000). Area, 112,000 square miles; estimated population, 600,000. The chief products are dates, gums, tobacco, and butter. Cattle, goats, and sheep exist in large numbers. The mainland includes a large number of tribal areas, the chiefs of which have treaty relations with Great Britain. Control of the country rests with the governor of Aden who is aided by a number of political officers. The area known as the Hadhramaut owes allegiance to the Qa'aiti dynasty represented by the Sultan of Mukalla. British Resident Adviser to the Sultan of Mukalla, G. A. Joy.

**Bahrain Islands.** The chief islands of this group in the Persian Gulf are Bahrain, Muharraaq, Nebi Saleh, and Sitra. Area, 213 square miles, population, 120,000. Capital, Manama (on Bahrain). Pearls, crude oil (1,044,000 metric tons in 1939), boats, sailcloth, and reed mats are the chief products. Trade (1937-38): imports Rs20,920,260; exports (excluding oil) Rs12,042,910 (rupee averaged \$0.3659 for 1938; \$0.3733 for 1937). Ruling Sheik, Sir Hamid bin Isa al Khalifa who is in treaty relations with Great Britain.

**Kuwait.** An Arab state south of Iraq. Area, 1930 square miles; population, 50,000, exclusive of some Bedouins. Capital, Kuwait. Pearls, wool, dhows, and horses are exported. Trade (1937-38): imports Rs5,477,488; exports Rs2,320,075 (rupee averaged \$0.3659 for 1938, \$0.3733 for 1937). Oil was discovered during 1938. Kuwait is in treaty relations with Great Britain, which is represented by a political agent. Ruling Sheik, Sir Hamed ibn Jabir al Subah.

**Oman.** An independent state in southeastern Arabia. The port of Gwadar on the coast of Baluchistan is owned by the state of Oman. Area, 82,000 square miles; estimated population, 500,000, mostly Arabs, but there is a strong infusion of Negro blood along the coast. Muscat, the capital, had 4200 inhabitants; Matrah, 8500. Chief products: dates, pomegranates, limes, and dried fish. Trade (1937-38): imports Rs4,176,125; exports Rs3,299,015 (rupee averaged \$0.3659 for 1938; \$0.3733 for 1937). During 1938-39, shipping aggregating 242,782 tons entered and cleared Muscat, the only port of call for steamers. Sultan of Muscat and Oman, Sir Saiyid Said bin Taimur (succeeded Feb. 10, 1932).

**Oman, Trucial.** The Arab states (Abu Dhabi, Ajman, Debai, Shargah, Ras al Khaimah, and Umm ul Qawain) on the Persian Gulf. Area,



6023 square miles; population, 75,000 to 85,000. Chief capital, Abu Dhabi. Pearls are the chief export from the coast ports. The rulers of the six states are in treaty relations with Great Britain, which is represented by a resident agent who is under the control of the British political resident at Bushire, Persia.

**Qatar.** An Arabian sheikdom occupying a peninsula in the Persian Gulf. Area, 8500 square miles; population, 25,000. Capital, El Beda. Relations with Great Britain are regulated by the Treaty of Nov. 3, 1916. Sheik, Abdullah ibn Jasim eth Thani (acceded in 1913).

**Saudi Arabia.** An Arab state occupying the northern and central part of Arabia, formerly known as the Kingdom of Hejaz and Nejd. Pending the introduction of a single constitution for the whole country, there are two systems of government—one for Nejd and one for Hejaz. Ruler, King Abdul Aziz ibn Abdur Rahman al Faisal al Saud.

Nejd includes the Nafud and Dahna deserts and has an area of some 800,000 square miles. Population (estimated), 3,000,000. Chief towns: Riyadh (capital), Hufuf, Mubarraz, Shaqra, Anaiza, Buraida, Hail, Jauf, Sakaka, and Hauta. Chief products: dates, wheat, barley, fruit, hides, wool, clarified butter, Arab cloaks, and crude oil. Large numbers of camels, horses, donkeys, and sheep are raised. Trade imports include piece goods, sugar, coffee, tea, and rice; exports, except for crude oil, are very small. Nejd is governed in a patriarchal manner by the King whose eldest son (Emir Saud) acts as Viceroy.

Hejaz extends along the western coast from Trans-Jordan to Asir. Area, 150,000 square miles; population (estimated), 1,500,000. Chief towns: Mecca, the capital and holy city of Islam, 80,000 inhabitants; Jidda, the seaport for Mecca, 30,000; Medina, the site of Mohammed's tomb, 20,000; Yenbo, the seaport for Medina. Chief products: dates, butter, honey, fruit, wool, and hides. The annual pilgrimage of Moslems from abroad to Mecca and Medina is the chief source of income. Hejaz is governed under the constitution of Aug. 26, 1926, and later amendments. There is a council of ministers presided over by the King's second son, Emir Faisal, who is minister of foreign affairs, and Viceroy during the King's absence.

Asir, a province south of the Hejaz, was incorporated in the kingdom of Saudi Arabia during 1933. Area, 14,000. Capital, Sabiya, 20,000 inhabitants.

**Yemen.** An independent Arab kingdom in southwestern Arabia. Area, 75,000 square miles; population, 3,500,000. Chief towns: San'a (capital), 25,000 inhabitants, Hodeida, 40,000, Taizz, Ibb, Yerim, Dhamar, Mocha, Loheiya. Chief products: coffee, barley, wheat, millet, and hides. Ruler, King Yahya Muhammed Hamid ed Din.

**History.** Italy's entrance into the European War (q.v.) on June 10, 1940, drew the Arabian peninsula toward the vortex of the conflagration. The Italians conquered British Somaliland fronting Arabia's southern coast on the opposite shore of the Gulf of Aden, waged air and sea warfare in the Gulf of Aden and the Red Sea, made repeated air raids upon the British base at Aden, and attacked the Arab countries of Egypt and Palestine. On October 19 Italian planes made a long-distance raid on American-owned oil refineries of the Bahrein Islands but reportedly did little damage.

King Ibn Saud of Saudi Arabia and the Imam Yahya of Yemen maintained the neutrality policies proclaimed at the outbreak of the war, despite efforts of German and Italian agents on the one hand and British agents on the other to obtain their support and collaboration. The pro-British sympathies with which most of Arabia viewed the war were strengthened by the successful defense of the British Isles and Egypt and by the Italian air attacks upon Arab populations in Egypt, Palestine, Aden, and the Bahrein Islands. Early in the year two leading British authorities on Arabia, W. H. Ingrams and Freya Stark, were sent to Aden to direct political work in Italian East Africa, French Somaliland, and among the tribes of Southern Arabia. They opened a new broadcasting station at Aden.

King Ibn Saud strengthened his army and air force during 1940 with funds obtained from United States oil interests in 1939 (see 1939 YEAR BOOK). A new air base was established at Riyadh early in January. He also tightened his kingdom's bonds with Iraq and Egypt and took a prominent part in the negotiations for the establishment of an Arab federation that were carried forward in the various Arab capitals during the year. Gen. Nuri Pasha es-Said, Foreign Minister of Iraq, flew to Saudi Arabia early in April for a four-day conference with Ibn Saud. They issued a communiqué stating that the two countries had agreed on a policy of mutual collaboration in promoting Arab interests. The Egyptian Government, in another agreement with Ibn Saud, undertook to meet the major part of the cost of the modern highway under construction from the Red Sea port of Jidda to Mecca, designed primarily to facilitate Moslem pilgrimages to Mecca.

The United States showed increased interest in Saudi Arabia as a result of the rapid development of the oil industry and the influx of American technicians and other oil-field workers. Diplomatic relations between Saudi Arabia and the United States were established for the first time on Feb. 4, 1940, when the American Minister to Egypt presented his credentials as Minister to Saudi Arabia. There were estimated to be 500 United States citizens in the Arabian peninsula (273 in Saudi Arabia).

**ARBITRATION, Labor.** See LABOR CONDITIONS; NATIONAL LABOR RELATIONS BOARD; AUSTRALIA, CANADA, CHILE, DENMARK, GREAT BRITAIN, and NEW ZEALAND under *History*.

**ARCHAEOLOGY.** The European war has had a very depressing effect upon archaeological exploration, since the normal fields for this work are those in which the war is actually being carried on—Egypt, Asia Minor, Mesopotamia, and the Mediterranean world. However, enough happened prior to the outbreak of hostilities to make it worth while to record it.

**Egypt.** Without doubt the most noteworthy discovery to be recorded in Egypt is the finding of the tomb of Psousennes I, the father of King Amenemhet. This took place at San el-Hagar in the delta of the Nile, near the city of ancient Tanis. The removal of a large block of pink granite set in the west wall of King Sheshonk's tomb brought to light an opening that led into a corridor that gave entrance to the funerary chamber of Psousennes I, the second king of the 21st dynasty. At the end of this room, which measured about 10 by 23 feet, was found a great granite sarcophagus with funerary material scattered on



the floor in front of it. The sarcophagus itself was covered with reliefs, and on the cover was a reclining figure of the king represented as Osiris. At his head knelt a goddess with outstretched protecting arms. The sarcophagus enclosed another mummiform sarcophagus, also of granite, which carried the likeness of the king.

Within the second sarcophagus was a third, in excellent condition, seven feet in length and beautifully wrought in the likeness of the king. This silver coffin in turn contained a silver-gilt body-cover carrying long inscriptions. Besides this there was a mask of gold. Underneath the mummy, which, on account of the dampness was badly preserved, a considerable amount of fine jewelry was found, which taken together with other treasure makes this find one of the most important yet made. Perhaps the most interesting piece of jewelry found was a necklace made up of two heavy bars of gold supporting a massive golden lotus as a centerpiece. Not the least interesting was another necklace composed of lapis lazuli with clasps of gold which bore an inscription boasting that the king had had a necklace created that would never be equaled. This necklace weighed the astonishing amount of 72 pounds.

There is reason for thinking that this king was the father of the wife of King Solomon (I Kings III, 1). The king's mother was Queen Mutnejem and his uncles Pyander and Pynojem.

In a chapel of King Psousennes' tomb was discovered the mummy of King Amenemhet, his son and successor. It is probable that the body had been brought here from some other place. The entrance to this chapel had been sealed with a great block of granite 6½ feet in height. On it appears a figure of Amenemhet pouring a libation of holy water to Isis and Osiris. On the king's sarcophagus was an inscription giving his name. Some previous name had been erased suggesting that the coffin had originally been created for someone else. Near the sarcophagus was discovered an alabaster jar filled with earth—probably sacred earth from Thebes. This is the second time such a find has been made at Tanis.

The body of Amenemhet reposed in a wooden coffin to which had been nailed a gold cover. At the head of the coffin was a gold mask of the king. Within the coffin in the debris were found another gold mask, and bracelets as well as other ornaments. On the breast of the mummy was a gold pectoral set with semi-precious stones and showing Isis and Nephthys in the act of worshipping a scarab sun. In the coffin also was discovered a monkey's head carved from chalcedony and mounted upon a heart. Two interesting gold bracelets found on the upper arm displayed flying scarabs between cartouches bearing the name of King Psousennes, suggesting that they were a gift from that king.

**Mesopotamia.** In the royal palace at Mari in Mesopotamia some 20,000 clay tablets have furnished the names of a number of petty kings who ruled in northwest Syria and Mesopotamia. Six Hurrian tablets reveal that they are 500 years earlier than the material found at Boghazköi or Ras Shamra.

**Cyprus.** At Lefka on the island of Cyprus on the hill of Apliki, which rises from the right bank of the Marathasa river, the Cyprus Mines Corporation has uncovered evidence of Bronze Age occupation. The digging of trenches in the hill brought to light Roman galleries and shafts and a

heap of slag at the foot of the hill. At the southern end of the hill were discovered ancient shafts and dumps. Here appeared traces of several houses dating in the Bronze Age. From these were recovered many sherds and tools of stone.

The most interesting part of the find were the houses which covered the slopes of the hill. At one place was found a house built on two levels. In the lower was a large storeroom. As originally planned this house had three rooms which had been hewn out of the rock of the hill. In front was a veranda. The walls of the structure had been built of mud brick covered with a thick coat of plaster. The floors were of lime cement. The roof was flat and supported by upright posts. The roof itself was made of a layer of brushwood covered with a thick coating of red earth taken from nearby dumps. The storeroom referred to was underneath the veranda and contained large jars placed side by side. They were about the height of a man. Back of the house a passageway had been cut from the native rock to give access to a neighboring dwelling. From beneath the floors of the house were recovered sherds of white slipware II (so-called milk bowls) and some Mycenaean ware which prove that the house was built at the height of the Mycenaean period in Cyprus—that is, near the close of the Late Cypriote II Period (c. 1350–1300 B.C.).

One of the most important finds on this site, inasmuch as it reveals complete familiarity with the craft of smelting, consisted of nearly a sackful of slag, which was uncovered near the hearth. The house appears to have been abandoned as the result of a fire, perhaps occasioned by the overturning of a lamp which set fire to baskets of grain standing on the floor. The objects found in this debris date in the Late Cypriote IIb (c. 1225–1100 B.C.).

**Greece.** In Athens the chief interest still centered in the American School's excavations on the site of the ancient agora. Because of the uncertainty of the political situation the campaign was only of five weeks' duration and, at that, late in starting. The short period of time devoted to this work was the result of the necessity of evacuating the staff before the Mediterranean was closed by the war to American shipping. Most of the excavators' efforts were concentrated on a further clearing of the Museum site. The clearing of a 6th century B.C. cemetery which had been partially uncovered in 1939 was completed. From three untouched burials were recovered considerable material of the second half of the 6th century in the form of black-figured vases of various shapes. The clearance of the great drain and other water channels in this area brought to light an additional number of ostraka. The most interesting of the lot was one bearing the name of the great Pericles. It appears to have been cast in the balloting of the year 443 when his rival Thucydides, son of Melesias, was exiled. Another ostrakon bearing the famous name Alcibiades was also recovered, but in this instance it appears to be the name of Alcibiades the younger and refers to the balloting of the year 417 when Hyperbolos was ostracized.

From such material much important information has been recovered. Thus, this year the excavators found an ostrakon bearing the name of Kallixenos, the son of Aristonymos. The inscription of this ballot was scratched on the inside of a red-figured vase, and since the 90 ostraka bear-

ing this man's name have usually been found in connection with those of Aristides and Themistocles and probably cast in the balloting of the year 482, it must be clear that the style of this vase, which had been broken to bits at this time, must belong to this period.

Still another important discovery of this year's campaign is that of a large disk of white poros showing a relief carved in the style of the late 5th or early 4th century. The disk is something over  $\frac{1}{4}$  meter in diameter. The relief shows two figures. At the left is a woman seated upon an elaborate throne, the legs of which are turned and the arm supported by a winged beast. The woman is clad in an ample garment draped around her in graceful folds. One end of the garment she holds above her left shoulder with her left hand while her right, resting in her lap, holds a cornucopia. Undoubtedly this figure is the goddess Demeter. Opposite to her stands Poseidon with his right foot resting upon a rock. He supports a large trident in his right hand. Between the two deities is visible the gnarled trunk of a tree. The scene represents Demeter presenting the fig tree to Poseidon, memorialized in the shrine of the sacred fig tree situated near the bridge over the river Cephisos on the way to Eleusis.

From a well of the Hellenistic period came a marble statuette of a woman, especially interesting because it preserves considerable traces of color. The figure wears a chiton of olive green and a heavy mantle of lilac with bands of bluish green. The base of the column on which the figure rests its right hand is painted red with red and black bands on the top and bottom of the shaft.

Another Hellenistic deposit produced a hoard of 113 coins all but two of which are of bronze and issued by Athens, Aegina, Chalcis, Eleusis, Larissa, Megara, and Phocis. They all fall within the period 350-250 B.C. One of the two silver coins was struck by Lysimachus of Thrace after 306 B.C., the other was issued by Demetrius Poliorcetes between 306 and 283 B.C. This find is of especial interest because the coins of Athens and Eleusis establish a chronology previously lacking.

Besides working on the Museum site the excavators devoted close attention to the north slope of the Acropolis to the west of the Mycenaean tomb discovered in 1939. Here were found late Mycenaean remains including a complete hydria found in a rectangular cutting in the bedrock under the floor of the forecourt of the Klepsydra.

Italy. In Italy several discoveries have been made. At Fiume an incineration burial gave up a fine bracelet with silver pendants. At Epizephyrian Locris was found a rich hoard of votive terra cottas belonging to the 4th and 3d centuries B.C. They represent nymphs, Nereids, Pan enthroned, and a small shrine in the form of a grotto. The campaign this year on the site of the Heraion in Lucania was devoted to an area about 400 meters southeast of the larger of the two temples. Digging has revealed that three architectural periods can be distinguished. This site lies outside the sacred enclosure and the principal and central feature is a building measuring 8.50 by 6.64 meters, with a platform to the west which can be dated in the 4th century B.C. The walls of the structure are preserved to a height of about 1.33 meters. In the construction of this building material from older structures was taken. In it were found many cornice blocks showing two different types of mouldings, 18 metopes with figures in relief which

once belonged to the Doric frieze of the archaic treasury, and two sculptured metopes from an older structure which was erected about 500 B.C. The sculptures are mostly well-preserved and of high quality. The metopes preserved constitute a group without precedent and give us an unexpected documentation of the systems of archaic sculptors in treating the most ancient repertory of myths, such as the Trojan cycle, the Labors of Hercules, and the Centauromachy. In this work we have before us the work of a school of sculpture which began in the first half of the 6th century B.C. and flourished for about half a century.

At Milan excavations for a new building near the church of San Carlo uncovered at a depth of about 13 feet an important group of some 10 Roman wells built of brick. They were about 10 feet apart and 3 feet in diameter. The lowest layer of bricks rested upon a base of walnut wood.

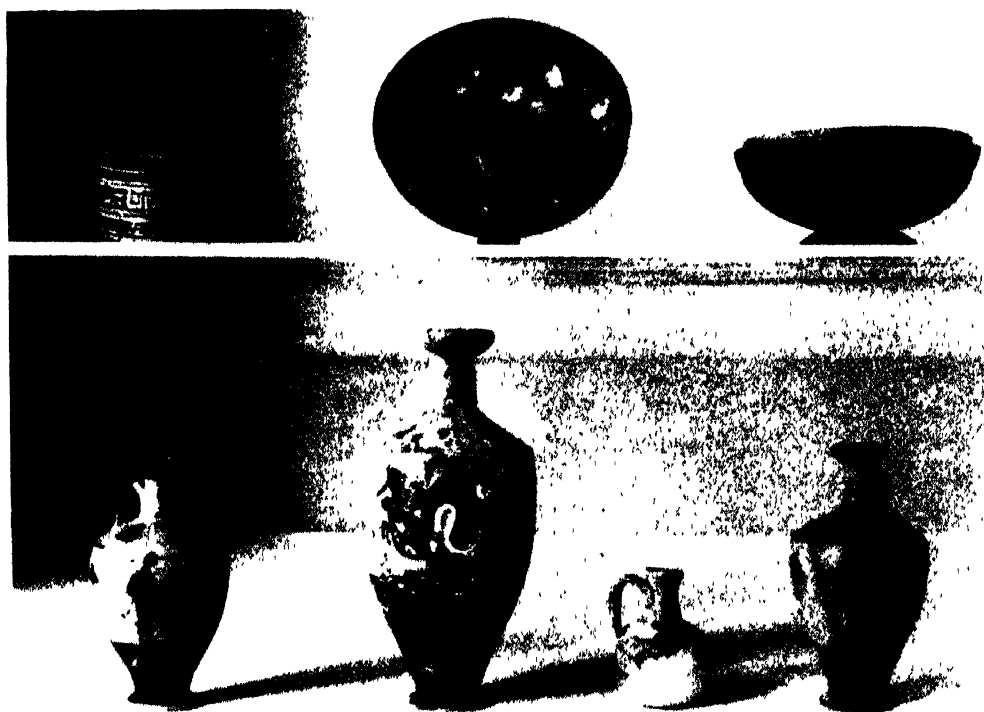
Near the church of San Vincenzo in Prato, also in Milan, digging revealed that here was a suburb just outside the city. Abundant remains of buildings were uncovered. Particularly noteworthy was a long stretch of excellently constructed wall which rested upon a foundation of piles. Still in Milan excavations near the church of San Giovanni in Conca uncovered a deep well which contained a system of lead pipes inserted in a large block from the trunk of an oak tree. Between two pipes which were about 10 centimeters in diameter a square hole had been cut in the block probably to house the key with which the water could be shut off. Owing to the moisture of the ground this water main was almost uninjured.

At the important site of ancient Ostia has been found a herm of Themistocles which has been identified by its inscription. Also found were two fine portrait heads, one of which wears a veil. At Pola work on the site of the Roman theater of the Capitolium has revealed part of the hyposkenion and some interesting details of the *frons scaena*, while nearby was found the beginning of an inclined paved street which gave access to the theater zone.

At Pompeii, Mauori has examined several parts of the southwest edge of the city, especially the precinct believed related to Venus Pompeiana. Excavations have revealed that it rests upon a completely artificial terrace. During the work of clearing away the deposit of previous dumping was found a beautiful veiled head which may represent Marcellus, the nephew of Augustus.

At Rome excavations on the Capitoline hill have brought to light further details of the Tabularium, as well as the underground passages, podium, and the colossal cult statue of the temple of Veniovis. Also a massive early Doric capital turned up; it may have come from one of the great temples of the Capitoline. In addition to this were found remains of pavements and walls which antedate the time of the Tabularium.

Central America. In America this past year considerable has been done in the way of exploration in Central America. For the Carnegie Institution Gustav Stromsvik continued his excavations on the acropolis at Copan. On this site work on the two temples which stand on each side of the ball court has supplied information which is of assistance in making a partial restoration of the place. In the peninsula of Yucatan, Pollock and Shook were busy for about four months in the area lying to the south and east of the so-called



*Courtesy, T. Leslie Shear, Princeton University*

#### FROM EXCAVATIONS IN THE AGORA OF ATHENS

*Upper Left* Demeter and Poseidon on a poros disk *Upper Right* Marble statuette. *Below* Pyxis, phiale, bowl, and vases from a grave of the Sixth century, B.C.



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#### MONOLITHS FROM THE MEXICAN JUNGLES

Three of the great stone figures excavated in the coastal region near La Venta, southern Vera Cruz, by the National Geographic-Smithsonian Institute Expedition of 1940, led by Matthew W. Stirling. *Upper Left* Stone head, 8½ feet high, 22 feet in circumference. *Upper Right* A giant stela, 14 feet high, braced upright by mahogany logs. At the lower part of the photograph two carved figures are visible, each about seven feet tall, the face of one destroyed, the other with aquiline nose and flowing beard. *Below* Stone altar. The life-size figure in the arched niche holds a rope that passes around the bottom of the altar.

Puuc district. Here the ruins included types which on the one hand resembled that of the southern Mayan and on the other the typical Puuc. Smith and Shook also worked for several weeks on the mounds at San Agustín Acasaguastlan where two vaulted tombs were opened and found to contain much beautiful pottery. In Guatemala the expedition of the University of Pennsylvania worked for the second season on the continuation of the archaeological survey of the Alta Verapaz which had been initiated in 1939.

Most dramatic of the year however is the work of the joint expedition sent out by the National Geographic Society and the Smithsonian Institute to carry on its second season's campaign at Tres Zapatas in southern Vera Cruz. Since Tres Zapatas is one of the oldest occupied sites in Vera Cruz much was expected from work on the site. As a matter of fact after the close of this second season's campaign enough material has been accumulated to supply a complete record of habitation of the place from a point several centuries before Christ to a time shortly before the arrival of the Spaniards. Not the least interesting is the fact that some of the relics were found below a deposit of sedimentary rock some 20 feet below the surface of the ground. This rock was sandstone and about 2 feet thick. Under it was a deposit of earth 4 feet thick filled with fragments of pottery and figurines. At other places on the site and at different levels appeared artifacts entirely different in character, which made it possible to distinguish the cultural material of these periods. In one of the smaller mounds was made one of the most exciting finds of the season. Here at a depth of 6 feet was found a group of clay vessels together with a human skull, complete except for the lower jaw. In all there were 35 elaborate figurines and 12 painted clay disks over which were inverted 15 finely made clay vessels. This pottery proved to be valuable for tying in similar ware elsewhere.

Besides the work at Tres Zapatas two days were spent at Cerro de Mesa, near Vera Cruz, where the mounds are very large, and in the chief group with the high ones near together. Most of them were conical or pyramidal and built on great platforms rectangular in plan. On this site 12 stelae and eight other sculptured stones were brought to light. The most interesting of these stelae is one (no. 6) which shows an early Initial Series date in the Mayan calendar that can be read as 206 or 466 A.D. according to the authority followed. This is the farthest north an Initial Series has been discovered.

The next work was carried on at La Venta in northern Tabasco. Here on a sand island set in the midst of a swamp were made some of the most interesting finds of the season. The central feature of the place is a huge earth pyramid measuring about 100 yards along the base and about 100 feet in height. Just to the north of this was a rectangular enclosure 75 yards long and 50 in width, with an additional extension 10 yards wide in the direction of the pyramid. This rectangle was enclosed by a row of columns a foot thick and 10 in height set close together. Two altars were excavated. One proved to be a huge monolith rectangular in section with a thick table top projecting on the four sides. On the front is carved an arched niche in which is a seated figure, cross-legged and wearing a headdress in the form of a jaguar's head. Each hand of the figure holds the

end of a large rope that passes around the bottom of the monument. The second altar, which proved to be artistically the most important object discovered, showed on the four faces a figure holding an infant in its arms, suggesting the rite of infant sacrifice. Within the enclosure already referred to a great stele was uncovered, 14 feet tall, 7 in width, and 34 inches thick. On it in low relief were two standing figures face to face and wearing tall headdresses. Unlike those at Tres Zapatas these do not use feathers. Nearby, in the jungle, the explorers found a huge altar in the form of a human head. Particularly noteworthy was the hole which passed from the left ear to the mouth suggesting that perhaps this was used by the priests to issue fake oracles. In a neighboring thicket was also uncovered the colossal head referred to some years ago by the explorer Blom. It proved to be 2 feet higher than the colossal head found at Tres Zapatas. Besides this colossal head three other heads were found bringing the total of sculptured monuments up to 20. Several proved to be the finest yet found in America. They were cut from an igneous rock which is not found within 50 miles of this site. The moving of these huge masses of stone tells of considerable engineering skill on the part of these people. See CHEMISTRY. OLIVER S. TONKS.

**ARCHERY.** In a year when mechanized warfare screamed its story everywhere, the medieval bow and arrow continued to hold people breathless as old and modern records were shattered at random throughout 1940. Russ Hoogerhyde of Northbrook, Ill., in a remarkable display of muscular and visual co-ordination, outclassed Marvin T. Schmidt of Chicago to carry off the men's national championship at Amherst, Mass. He thereupon became the United States male champion for the sixth time, though not consecutively. The defending title-holder, Pat Chambers of Portland, Ore., invincible at other times, fought valiantly to no avail.

Miss Anne Weber, 18-year-old student at Montclair, N.J., State Teachers College, annihilated all the major records in the women's national tournament. In dethroning Miss Jean Tenney of Clear Spring, Md., she set a high mark for herself of 1180 points to Miss Tenney's record of 1088 in a similar double round in 1938. In retaining her Eastern Archery Championship at Storrs, Conn., Miss Weber scored 143 hits out of a miraculously possible 144 and missed only once in 468 shots over a period of three days.

Fred Folbert of Cleveland, whose stance was not unlike that of the late William Tell, was the undisputed national boy's champion; and Miss Mary C. Thompson of Phoenix, Ariz., succeeded to the corresponding title among the girls of America.

**ARCHITECTURE.** The year 1940 was a turbulent one for architecture, with threats of worse to come. The virtual levelling of downtown Rotterdam, defenseless and undefended, in a few minutes' work, set a new record in the destruction of peaceful building by war. Despite regular bombing, London's building losses were put as low as 2 per cent of the total by some estimators at the end of the year; yet the historic Guildhall, parts of Temple Court, and a score of churches by Wren were destroyed along with less famous buildings. Coventry's 14th-century cathedral was a loss less frightful than the razing of the town.

In the United States, the defense program com-

ing on top of rising activity stirred up a construction fever; awards of \$238,793,000 in one week set a new record. Independent architects, however, received a disappointingly small share of the work, as they also had in England; it was largely assigned to Government bureaus. Remarkable developments might be expected in the building arts if peace could somehow be maintained. See also BUILDING.

**Residential.** A high total of 525,000 dwelling units produced throughout the year exceeded the previous year's output by some 40,000 units, but still resulted in an increasing rather than decreasing residential deficit, for Defense Housing Co-ordinator C. F. Palmer estimated the annual need at 800,000 new units and the total deficit at 4,000,000. (See NATIONAL DEFENSE ADVISORY COMMISSION.) The year's work attested the rapidly widening spread, not only in standards of quality, but in kinds of houses built and in architectural approach.

Through natural lag there was a growing disparity between houses and other buildings in terms of technical progress and style. The favorite stylism in the great bulk of residential building was a very modified "Colonial," especially predominant in work insured by the Federal Housing Administration (q.v.). The FHA role was in fact ambiguous. The Rental Housing Division was without doubt enormously improving the standards of amenity, especially in site planning, in large-scale work. In small homes, on the contrary, FHA tended to play Jekyll and Hyde, raising standards at the bottom but freezing them at the top. Complaints arose of an increasing tendency among local appraisers to veto the plans of precisely those architects whose study was most thorough and results consequently out of the average. An extreme case was the derisive valuation of \$500 set by a local FHA appraiser on a house plan which, later on, built by the architect under private financing for \$6000 and submitted to a well regarded annual magazine competition, received the nation-wide first prize against a strong field. In any one case, however, bureaucratic prejudice was extremely difficult to prove because the architectural decision was wrapped up with so many others by nature confidential.

In the most progressive design trends, differentiation seemed to be setting in among regions. In the Pacific northwest, such houses as the Watsek house (by A. E. Doyle and associate; John Yeom, collaborator) had a special flavor of the surrounding forest, not only in materials but in the elevated character of the high open gable supported on simple posts to form the porch. New San Francisco work was characteristically quiet with a simple reticent breadth. The city was unique in the fact that large town houses were being erected on its central streets. One side street on Telegraph Hill, all taken by a row of Gardner Dailey houses recently built or building, formed a remarkably collected and suave urban view. Among notable examples outside the town were the small Taylor house by Dinwiddie (A. H. Hill, assoc.) and a harmonious group by Frederick L. Confer, for officers at Hamilton Field. The brilliant new designs in Texas bore a family resemblance to those of the San Francisco region, but with wholly different planning for a hot climate. (San Jose ranch, Hersch house, Boaland house, by O'Neil Ford and A. B. Swank.) Southern California continued its more dramatic, personal, and sometimes exaggerated forms. Numbers of houses by Neutra displayed the strong polished cubism expected of this

designer. Harwell Harris produced a number of houses, especially the Blair house outside Los Angeles, of a personal, charming, and cleverly planned variety, besides the spectacular Havens house, widely cantilevered, at Berkeley. A beautifully detailed remodelling job was the Dr. Maitland house in Bel Air, re-done by J. R. Davidson; as the work of a practitioner trained abroad it found an echo in such houses as the one at Lincoln, Mass., by Walter F. Bogner, very similar in spirit to work by Gropius and Breuer. More cross-play with single slabs or planes was found in the advanced work of the East than that of the West, also more contrasts in textures. The East also clung more to "traditional" or eclectic types, such as a house in Puntney, Vt., by Van der Gracht & Kilham, or a new house in Norwood, Mass., of "early American derivation," by David J. Abrahams. Midwestern designers, such as Alden Dow (George Green residence, Midland, Mich.), looked to the Wright tradition for dramatic contrasts. In Chicago a boldly experimental house, the "Solar House," was designed by George Fred Keck to test the value of sunlight, properly controlled, as an auxiliary furnace. Panel heating as a new development was extensively developed near Chicago, e.g. in houses by Schweikher, Lamb & Elting. A parallel expedient was the house at Redding, Conn., by Henry N. Wright, with Hornbostle & Bennett as associates. The Thorp house at Sudbury, Mass., by Derby, Barnes & Champney, was "early American" in expression with an efficient modern plan. A large, formal house, eclectic in its elements and studied in its modified forms, was the large Rosenwald house-museum near Jenkintown, Penna., by Ernest A. Grunsfeld, Jr., Wallace F. Yerkes, assoc.

**Housing and Large-Scale Developments.** One of the most distinguished among all projects of the U.S. Housing Authority (q.v.) was Valleyview homes at Cleveland, by Hayes, Huntziger & Simpson, with its fine domestic scale, studied proportions, careful balancing of factors, and especially the care taken with cheap brick to achieve interesting texture and color. Other USHA projects: the carefully studied high-density project, "East River Houses," in New York (Voorhees, Walker, Foley & Smith; Alfred Easton Poore, C. W. Schlusing; Perry Coke Smith, ch. arch.); Holly Courts project in San Francisco, by Arthur Brown—architecturally uninteresting; Cuney Homes, Houston, Texas, (Nunn & McGinty). FHA projects included Parklane Apartments, Houston (Talbot Wilson and Irwin Morris); Front Royal Gardens, Va., by A. R. Clas. A good privately financed development was Dundalk, Maryland, by Gustave W. Iser.

So far as "defense housing" is concerned, little of architectural interest had yet developed. A great spur was being given to prefabrication. The Navy Department of Docks and Yards, under Rear Admiral Ben Morrell, started 100 twelve-family two-story apartments at Newport News through Tennessee Coal, Iron, and R.R. Co., and a 1042-unit apartment project in Norfolk, Va. through "Stran-Steel." The clearing of 69 defense projects through Public Buildings Administration (q.v.), a bureau experienced only in monumental work and post offices, rather than through USHA with its developed housing technique and contact with outside architects in the field, was criticised in the profession. Meanwhile The Farm Security Administration (q.v.) won the applause of an influential part of the architectural press. Under the brilliant

leadership of Vernon De Mar, architect, FSA had worked out novel, effective, and useful migrant labor camps and farm settlements.

**Industrial Buildings.** An enormous amount of new industrial construction was contracted for. Planning advances in the interest of dispersion were however not made. Experimentation was going on with screening as well as complete enclosure in the interest of blackouts. Defense factories may not be identified for description. A factory such as the Church & Dwight plant, by Austin C., at Syracuse, N.Y., shows the somewhat heavy pseudo-streamlined monumentalism in which many factories are now bedecked.

**Commercial Buildings.** Office buildings were erected less frequently in the interest of generalized speculation, more often for specific occupancy. The Banker's Life Co. building at Minneapolis was a most thoroughly studied example (Tinsley, McBroom & Higgins). The CBS broadcasting studios in New York, by Fellheimer & Wagner, were another such specialized assignment.

Transportation was yielding not only the strings of brightly colored streamlined trains but new terminals and hotels. One of the phenomena of the year was the great boom at Miami Beach which resulted in the erection at almost regular intervals of some 41 new hotels, all in strikingly "modern" manners, reputedly financed with capital that had "fled" Europe. A less conspicuous but neatly designed middle-sized hotel in Columbia, S.C., was the Wade Hampton by Holabird & Root. Tourist courts were rapidly coming up and employing architects. Jack Tar Court at Galveston, and the Rancheria "Motel" near Santa Barbara, showed better than average planning and amenities.

The Washington, D.C., national airport, designed by Howard L. Cheney as consulting architect, was on clean lines not unlike those used in France. The Coast Guard Station at Cleveland, by J. Milton Dyer, was an unusually clean-cut solution.

Stores and commercial establishments continued to burgeon. The May Co. department store on Wilshire Blvd. at Los Angeles (Albert C. Martin, Samuel A. Marx) and the Saks Wilshire by Myron T. Hunt were two very diverse expressions, the first one dashing and the second dignified. Small specialty stores continued to be remodelled so as to throw their front arcades into a deep scheme permitting easy visual penetration of the interior, as an invitation to enter. The front partition was often wholly of glass. (Candy shop for Altman & Kuhne, New York, by Gruenbaum and Krummeck; dress shop in Berkeley by Dinwiddie; Tourneur make-up salon, New York, by Morris Sanders.) See CO-OPERATIVE MOVEMENT.

**Institutional. Churches.** Mostly conventional, churches departed occasionally from their Romanesque and Gothic garb. Of this eclectic garb itself, Henry D. Dagit & Sons gave samples in the Slovak Girls Academy, Danville, Pa., and the Gothic Co-Cathedral in Atlanta. So, too, did Cram & Fergusson in the Conventional Church of St. Mary and St. John at Cambridge, Mass. A vivacious though reverent departure was the very small chapel of the St. Peter Claver Mission, Montclair, N.J. (Albert Hoffmann, des.; George Kratina, sculp., Vincent Pacelli, painter; Paul C. Reilly, architect.) Others: the "Little Chapel in the Woods" for Texas State College for Women—designed under the National Youth Administration auspices by O'Neil Ford & A. B. Swank; Church of the

Epiphany in New York by Wyeth & King, and Eugene W. Mason—a handsomely massive 'Norman Gothic' tower to York Avenue.

**Schools.** College buildings broke with eclecticism more often and more decisively than heretofore. Harvard and Yale still stood by. Coolidge, Shepley, Bulfinch & Abbott supplied Harvard with two of their refined buildings of generally Grecian character, and Eggers & Higgins did the Silliman College building at Yale in fairly vigorous Colonial. On the other hand, Hornbostel and Bennett did a studied contemporary alumnae building for Wheaton College at Norton, Mass.; the University of Wisconsin received a highly functional theater and art center from Michael Hare and Corbett & MacMurray (Lee Simonson, theater consultant). Shreve, Lamb & Harmon did a strictly contemporaneous design for Hunter College, New York; their auditorium for Connecticut College at New London was more decoratively "modernistic."

Public school buildings continued to move forward rapidly, with large and highly articulated plants the prevailing mode. Marsh, Smith & Powell's El Monte (Cal.) high school was one such elaborate campus grouping. Burnham Hoyt and Edward L. Bunts did a well composed school at Colorado Springs. The Bossier High School, Bossier, La., was a single building likewise made up of five linked elements. Lyndon, Smith & Winn added a fine auditorium to their excellent Farmington, Mich., high school. A school for crippled children at Denver, also by Hoyt, was one of the recent school masterpieces, with its vigorous and reassuring front, its convenient ramps, and its plan with classrooms in pairs alternating with courts. A happy modern nursery school design was achieved by Oscar Stonotov within the walls of an old church at Charlestown twp., Pennsylvania. Private schools played into the same wide range. A rather exceptionally attractive group, despite utter simplicity, was Lincoln Hall at Lincolnale, N.Y., for the "Christian Brothers," by Van der Gracht & Kilham.

Among auditoriums, the Berkshire Music Shed by Joseph Franz, engineer, was remarkable in the combined sense it gave of protection and openness. A. E. Doyle and Associate did a more than competent addition to the Portland Museum of Art.

**Hospitals and Health Centers.** These continued one of the most vigorous groups of buildings. Almost unquestionably the most interesting among them was the Lake County Tuberculosis Sanatorium at Waukegan, Ill., by Wm. A. Ganster and the offices of W. L. Pereira, associated architects. The continuous balconies for patients were made the main feature of the design with all its agreeableness. The larger Triboro Hospital for Tuberculosis at Jamaica, New York, by Eggers & Higgins, was necessarily more institutional in effect because larger in size. A third notable large hospital was the additional wing at the Massachusetts General Hospital at Boston (Coolidge, Shepley, Bulfinch, and Abbott), representing a cleanup and further development in the Cornell Medical Center scheme by the same firm.

DOUGLAS HASKELL.

**ARCTIC EXPLORATION.** See POLAR RESEARCH.

**ARGENTINA.** A federal republic of South America, consisting of 14 provinces, 10 territories, and the federal district, which includes the capital, Buenos Aires.

**Area and Population.** Land area, 1,079,965 square miles. Estimated population on Dec. 31, 1939, 13,129,723 (7,885,237 at 1914 census). Estimated population of Buenos Aires, 2,364,263 on Dec. 31, 1939; of the other chief cities on Jan. 1, 1938: Rosario, 511,007; Córdoba, 288,916; Avelaneda, 230,775; La Plata, 190,577; Santa Fé, 143,327; Tucumán, 140,000; Bahía Blanca, 108,310.

**Education and Religion.** About 16 per cent of the adult population was estimated to be illiterate in 1939 (less than 2 per cent in the federal district). School statistics for 1937 were: Primary, 13,036 schools, 1,543,317 pupils; secondary, normal and special, 605 schools, 98,302 pupils; universities, 6 institutions, 27,885 students, exclusive of the University of Cuyo founded at Mendoza in 1939. The Roman Catholic Church is supported by the state; all other faiths enjoy freedom of conscience.

**Defense.** As of Nov. 1, 1939, Argentina had 49,705 men in active military service, including conscripts; an additional 2023 in the military and naval air forces, with about 200 planes; a trained army reserve of 282,503 men; and a naval force of 2 old battle ships (recently modernized), 3 cruisers, 4 old coast defense vessels, 16 destroyers, 3 submarines, 15 patrol vessels, and various auxiliary craft.

**Production.** Agriculture, stock raising and manufacturing are the main occupations. Agricultural products accounted for 48.8 per cent of the value of all 1939 exports; livestock products, 43.7 per cent. Yields of the chief crops in 1939-40 were (provisional, in metric tons): Wheat, 3,212,000; corn, 11,028,000; linseed, 1,127,000; cotton, 70,891 in 1938-39; oats, 750,000 in 1938-39; cane sugar, 521,594 in 1938-39; tobacco, 7812 in 1938-39. Rice, fruit, wine grapes, potatoes, etc., are other crops. Livestock slaughtered at "frigoríficos" in 1939 included 4,424,172 cattle, 5,563,275 sheep, and 869,435 swine. The chief mineral product is petroleum (about 2,628,000 metric tons in 1939). Important new wells were brought in near Mendoza late in 1939. Tungsten, lead, zinc, copper, gold, silver, and coal are mined in relatively small quantities. The industrial census of Dec. 31, 1937, showed 49,333 establishments with 62,634 employees and 579,752 workmen who received wages and salaries aggregating 947,870,000 pesos during 1937. The value of finished goods produced was 4,708,379,000 pesos.

**Foreign Trade.** Exclusive of specie, imports in 1939 totaled 1,338,332,000 pesos (1,460,888,000 in 1938) and exports 1,570,226,000 pesos (1,400,453,000 in 1938), on the basis of real values. Leading 1939 imports were (in millions of pesos): Fuels and lubricants, 231.3; textiles and manufactures, 219.9; machinery and vehicles, 131.7; iron and manufactures, 121.8. Leading exports were (in millions of pesos): Cattle and products, 686.0; agricultural, 766.7; forest, 48.0; mining, 18.8. The United Kingdom supplied 19.9 per cent of the 1939 imports by value (18.3 in 1938); United States, 17.2 (17.7); Germany, 9.2 (10.1). Of the 1939 exports, the United Kingdom took 32.9 per cent (32.8 in 1938); United States, 11.9 (8.5); Germany, 5.7 (11.7). See TRADE, FOREIGN.

**Finance.** The 1940 budget estimates of the Central Government, as readjusted on June 20, placed receipts for the calendar year at 915,000,000 pesos and expenditures at 1,077,700,000. Actual budgetary revenues amounted to 907,410,000 pesos for 1939 and the deficit for the year was

60,500,000 pesos. The national public debt (3,896,600,000 pesos on Dec. 31, 1938) increased by 461,300,000 pesos during 1939.

The official exchange rate of the paper peso averaged \$0.2703 from Jan. 1 to Aug. 21, 1939, and \$0.2315 from Aug. 22 to Dec. 31, 1939 (\$0.3021 in 1938); free market rate, \$0.2309 in 1939 (\$0.2551 in 1938).

**Transportation, etc.** In June, 1939, Argentine railways had 26,564 miles of line, of which 7826 miles were state-owned. Highways in 1939 extended 253,115 miles. To speed road construction new taxes on gasoline, lubricating oils and other motor combustibles were imposed Apr. 15, 1940. Reconstruction of the Transandine railway tunnel to permit the passage of automobiles was completed in February, 1940. Automobiles in operation in Argentina declined from 435,822 in 1930 to 405,743 in 1939. European air services to Argentina were interrupted by the spread of the war during 1940. Pan American Airways inaugurated a tri-weekly three and one-half-day schedule on its Miami-Buenos Aires east-coast route in September. New air services linking Buenos Aires with Colonia, Uruguay, and with Esquel (Chubut Territory) were opened. During 1939 a total of 2619 sea-going ships of 9,452,316 net registered tons entered Argentine ports.

**Government.** The Constitution of 1853 vests executive power in a president chosen for a six-year term by 376 electors representing the provinces and the federal district. The National Congress consists of a Senate of 30 members elected for nine years by the provincial legislatures and a Chamber of Deputies of 158 members elected for four years by universal male suffrage. One-third of the Senate retires every three years and one-half of the Chamber every two years. The governors of the provinces, elected by local suffrage, exercise extensive powers independently of the federal government. President in 1940, Dr. Roberto M. Ortiz, who assumed office Feb. 20, 1938.

## HISTORY

**Internal Politics.** A series of elections during 1940 gave the pro-democratic Radical party control of the Chamber of Deputies and of the important province of Buenos Aires, thus restoring the forces of liberalism to the dominant position lost through the conservative revolt of 1930. The Radicals, who favored co-operation with the United States and were sympathetic to the Allied cause in Europe, won a favorable strategic position for the 1943 presidential election. The Radical party's comeback was greatly facilitated by President Ortiz's courageous efforts to restore representative government in Argentina by curbing fraudulent electoral practices adopted by the conservative National Democratic party in its struggle to retain power.

President Ortiz had been elected by the *Concordancia*, a coalition of the National Democrats with his own dissident *Antipersonalista* wing of the Radical party. Nevertheless on Feb. 19, 1940, he supplanted the National Democratic governor of the province of Catamarca, whose election was attributed to wholesale frauds. A federal "interventor" was installed with instructions to hold new elections. Two National Democratic members of the Ortiz Cabinet (José Padilla, Agriculture, and Manuel Alvarado, Public Works) resigned in protest against the President's intervention. Dr. Ortiz took similar action following innumerable charges



of fraud in the gubernatorial election in the province of Buenos Aires on February 25. On March 7 he supplanted Gov. Manuel Fresco, a National Democrat, and voided the election. Octavio R. Amadeo, Ambassador to Brazil and a confirmed democrat, was named "interventor."

Meanwhile elections to the Chamber of Deputies were held March 3 in 9 of the 14 provinces, including the province of Buenos Aires, and on March 31 in the federal district (city of Buenos Aires). Due to the President's attitude there were fewer electoral irregularities and the Radicals were able to register their full voting strength. The standing of the parties in the Chamber of Deputies as a result of these elections follows (former standing in parentheses): Radicals, 79 (62); National Democrats, 49 (57); *Antipersonalistas*, 24 (23); independent Radicals, 5 (5); Socialists, 5 (5). The Radicals thus outnumbered the combined National Democratic and *Antipersonalista* delegations, forming the government bloc in the Chamber.

President Ortiz's policies appeared to be leading him into an alliance with the opposition Radical party, to which he formerly belonged. His intervention in Buenos Aires Province had brought his relations with the National Democrats near the breaking point. This situation was modified by the announcement on July 3 that the President's ill health had forced him to turn over his office temporarily to Vice-President Ramón S. Castillo, a National Democrat who had publicly opposed President Ortiz's intervention in the Catamarca electoral squabble.

In August anti-democratic elements within and without the government seized upon a land-purchase scandal in an effort to discredit the Ortiz regime and the democratic system. A Senate investigating committee on August 8 reported that land purchased for a new army air base at El Palomar near Buenos Aires had been sold to the government at a 1,000,000-peso profit by two speculators, who distributed half the profits as bribes to Deputies, former Deputies, and members of the War, Finance, and Justice Ministries. The Senate approved the report August 21, voting to submit the case to the Chamber of Deputies and the law courts. The revelations produced recriminations and threats of force within the government and the army high command. On August 20 the former chief of the army's engineering section was arrested and military and police precautions were taken to avert a threatened Rightist coup.

In the midst of an acute crisis, President Ortiz forced a showdown by submitting his resignation, charging that "there is a greedy but hidden political purpose in the investigation of this affair." Public opinion rallied strongly to the President's support and on August 24 Congress voted 170 to 1 to reject his resignation. The Argentine press and numerous speakers during the Congressional debate declared the basic issue to be between the pro-democratic Ortiz and his pro-Fascist enemies. The vote in a joint session of the Senate and Chamber was declared a historic victory for democracy. On August 27 the cabinet resigned to give President Ortiz a free hand in terminating the political crisis. Apparently at the insistence of Acting President Castillo, he turned over to the latter responsibility for selecting the new ministry.

The officials sworn in September 3 were mostly conservatives of moderate views, acceptable to both Ortiz and Castillo. The Acting President and cab-

inet were pledged to maintain Argentina's democratic institutions and to carry forward the policies of the Ortiz Government. The new cabinet line-up was: Foreign Affairs, Julio Roca; Interior, Miguel Culaciatti; Finance, Federico Pinedo; Agriculture, Daniel Amadeo Videla; War, Gen. Juan M. Tonassi; Marine, Rear Admiral Mario Fincatti; Public Works, Salvador Oria; Justice and Public Instruction, Guillermo Rothe. On September 6 the Chamber of Deputies, 79 to 27, absolved the former War Minister, Gen. Carlos D. Marquez, of blame for the land-purchase scandal.

Another controversy between the Radicals and the National Democrats broke out in connection with the provincial election of December 15 in Santa Fé Province. The Radicals, who formed the Opposition party in the province, charged that National Democratic officials fraudulently manipulated the electoral returns to perpetuate their control. President Ortiz was again requested to intervene to insure an honest election.

**War Repercussions.** The European War continued to exercise an unfavorable political and economic effect upon the republic. There was a marked reduction of trade with Europe, which was offset only in part by increased trade with the United States and other American republics. Divisions between Argentine political and racial groups were widened by their divergent sympathies for the European belligerents. In January ex-President Marcelo T. de Alvear, leader of the Radical party, and a number of other public figures formed a pro-Ally committee to combat totalitarian and anti-Ally propaganda. Later he alienated some members of his party by reiterating publicly his support of Britain. The Socialist national congress on August 5 formally endorsed Great Britain as the defender of democracy. An anti-totalitarian organization, *Acción Argentina*, recruited 300,000 members from many different political parties within six months of its inauguration. The pro-Ally groups were vigorously opposed by pro-German, pro-Italian and pro-Soviet elements.

Meanwhile German military successes and the subjugation of European neutrals led to the strengthening of Argentine defenses. The compulsory military service law was amended to permit the training of technicians and other specialists for new mechanized branches of the army. In June and July the government submitted to Congress a series of bills providing for a greatly enlarged army, navy, and air force, the expansion of defense industries, and the establishment of new air bases. The cost was estimated at about \$330,000,000. To complete action on these measures, and on an expanded program of public works, the construction of national tourist hotels, and the 1941 budget, Acting President Castillo on October 1 issued a call for a special session of Congress.

The war's restriction of European export markets caused a sharp decline in Argentina's customary excess of exports over imports. To deal with the growing surpluses of grain and wool, Congress on August 14 authorized the Executive to purchase the 1940 corn crop at 475 pesos per 100 kilograms and the Bank of the Nation granted wool growers low-interest loans up to 75 per cent of the value of their clips.

On November 11 the government submitted to Congress a plan drawn up by Finance Minister Pinedo, designed to carry Argentina through the economic crisis resulting from the war. As approved by the Senate on December 18, the plan

called for the establishment of an agency within the Central Bank, having an initial capital of 25,000,000 pesos, to stimulate manufacturing industries, inaugurate a nation-wide low-cost housing program, and finance government purchases of unmarketable agricultural surpluses. Purchases of surplus wheat and linseed in accordance with this plan were begun December 2. Financial backing for the program was obtained in the United States through a Treasury loan of \$50,000,000 for currency stabilization, approved December 5, and a \$60,000,000 loan from the Export-Import Bank, authorized December 11.

**Nazi Activities.** Argentine alarm at European developments was enhanced by further revelations of Nazi activities within the republic (see preceding YEAR BOOKS) and in neighboring countries (see BOLIVIA, CHILE, and URUGUAY under *History*). In April interned officers and seamen from the German warship *Graf Spee* were imprisoned when a number of them took advantage of the freedom permitted them to attempt to escape. On May 22 the Buenos Aires press indignantly charged that the German Embassy had notified Danes and Norwegians in that city to contribute 20 per cent of their salaries to a Nazi war fund. The sinking of the Argentine ship *Uruguay* by a German submarine off the Spanish coast late in May provoked anti-German demonstrations in the capital. The Ortiz Government sent a formal protest to Berlin.

Revelation of the Nazi revolt plot in Uruguay (q.v.) was followed by the passage by the Chamber on June 8 of a Public Order Bill to curb "fifth column" activities and propaganda on behalf of foreign governments. The wrecking of a British freighter at a Buenos Aires dock on June 12 by time bombs was attributed to Nazi sympathizers. Arrests were made among Nationalist, Nazi, and Fascist adherents. A press law signed by President Ortiz June 11 restricted publication of "opinionated articles" and banned foreign subsidization of newspapers or magazines without government permission. The Buenos Aires police department was reorganized after the Ministers of War and Marine charged the police with failure to co-operate in efforts to investigate Nazi activities.

The investigation, pursued throughout the remainder of the year, turned up extensive evidence of Nazi plotting and preparations for political and military action to bring Argentina into line with Hitler's National Socialist policies and principles. Nazi cells and hidden stores of arms and propaganda materials were discovered in the capital and in widely scattered points in the provinces, particularly in the territory of Misiones, adjoining the southern Brazilian states with their large German populations. In August the government deported an agent of the German secret police and arrested 25 other Nazi leaders as well as several pro-Nazi Argentine citizens accused of "fifth column" activities.

The German military mission attached to the Army Technical College was discharged on July 3. To the annoyance of the Argentine Government, Berlin named two of these officers as military attachés in the Chilean and Brazilian capitals. When Minister of Interior Culaciatti assumed office, he eliminated all government advertising from anti-democratic publications and forced the retirement or dismissal of police and defense officials who had failed to suppress Nazi and Fascist activities. A number of German-language schools in the Province of Misiones were closed.

**Foreign Relations.** Argentine foreign relations in 1940 were marked by a trend toward closer relations with the United States in inter-American political and military affairs. At the Havana Conference in July (see PAN AMERICANISM), the Argentine delegation after some hesitation approved Washington's program for strengthening inter-American security through joint political, military, and economic measures. In mid-October Gen. Guillermo José Mohr, Inspector General and highest ranking officer of the Argentine army, joined other Latin American military officials in a tour of United States defense centers and in staff talks covering military co-operation in the event of an attack upon the Western Hemisphere from overseas.

An agreement on closer Argentine-United States economic collaboration proved more difficult to reach. Negotiations for a reciprocal trade treaty, begun in 1939, collapsed on Jan. 5, 1940, when the two governments failed to reach a compromise on their divergent commercial policies. Soon afterward Argentina concluded a trade pact and a complementary exchange arrangement with Japan that gave the Japanese a preferred position over the United States in many items of trade. At Havana the Argentine delegation successfully opposed President Roosevelt's proposal for an inter-American cartel to control the sale of New World raw materials.

On June 26 the Export-Import Bank of Washington extended the Central Bank of Argentina a three-year \$20,000,000 credit. However differences arose over the use of this credit that were not adjusted until October. Meanwhile Argentina's unfavorable balance of trade with the United States became steadily greater as a result of the shift in Argentine imports from Europe to North America. At the same time the decline in the Argentine export trade made the country's economic future look increasingly dark.

In an effort to conserve dollar exchange, and possibly to obtain a better bargaining position, the Argentine Foreign Exchange Control Board on September 19 suspended issuance of all import licenses for United States goods. This caused the closing of automobile assembly and other plants in Argentina dependent upon imports from the United States, and aroused criticism of the government's trade policies in the Argentine press. In a new effort to find a solution for its mounting trade, foreign exchange, and financial difficulties, the government sent an economic and financial mission led by Dr. Paul Prebisch, head of the Central Bank, to Washington in November. After the mission obtained U.S. government loans totaling \$110,000,000 (see above), Argentine curbs on imports from the United States were relaxed.

The Argentine Government also sought to find markets in other American countries to replace those lost in Europe. A conference held in Valparaíso, Chile, in February launched a movement for closer economic relations between the provinces of Western Argentina and Chile. In October a large Argentine financial-economic mission visited Chile to arrange for an expansion of mutual trade. On April 2 a provisional Argentine-Bolivian accord was signed in Buenos Aires whereby the Argentine Government agreed to finance construction of the projected Yacuiba-Santa Cruz de la Sierra railway, tapping the Eastern Bolivian oil zone (see BOLIVIA under *History*).

An Argentine-Brazilian trade accord was signed January 23. On October 6 the Argentine and Bra-

zilian Finance Ministers, meeting in Rio de Janeiro, recommended that their governments expand trade on a balanced basis, especially in new and non-competitive products. On October 11 the Argentine Government announced the conclusion of an important deal with Great Britain under which the British agreed to increase their purchases of meat and other foodstuffs in Argentina beyond any previous figure for the ensuing year. Argentina undertook to advance Britain a credit of £40,000,000 to finance these purchases, the credit to be repaid partly in cash and partly in Argentine bonds held in Great Britain. Late in November Spain was allowed to purchase 150,000 tons of Argentine corn on credit.

The Foreign Ministers of Argentina and Uruguay, at the end of a conference at Colonia, Uruguay, on December 13-14, signed an accord for mutual co-operation in defending the River Plate region against non-American aggression. They invited neighboring republics to join Argentina and Uruguay in strengthening defense facilities in that part of South America. The conference took place at Argentina's request following conclusion of an agreement for United States financial and technical aid in establishing Uruguayan defense bases. The question of an Argentine-Uruguayan trade treaty was referred to a mixed commission.

A National Antarctic Commission was established in the Ministry of Foreign Affairs to press Argentina's claims to part of the Antarctic continent (see YEAR BOOK, 1939).

See BOLIVIA, BRAZIL, CHILE, and URUGUAY under *History*; FASCISM; LEATHER; NAVAL PROGRESS; PAN AMERICANISM; PAN AMERICAN UNION

**ARIZONA.** Area, 113,956 square miles, including (1930) water, 146 square miles. Population, Apr. 1, 1940 (census), 499,261; 1930, 435,573. Phoenix, the capital, had (1940) 65,414 inhabitants.

**Agriculture.** Arizona harvested about 665,000 acres, in 1940, of principal crops. This total, while small in relation to the number of the inhabitants, surpassed by about one-eighth the corresponding average for the previous decade. Cotton, covering 221,000 acres, or one-third of the harvested total, gave 195,000 bales, of which the estimated value to the growers approximated \$11,310,000; tame hay, on 218,000 acres, 445,000 tons (\$4,005,000 by estimate); wheat, 39,000 acres, 819,000 bu. (\$663,000) was the foremost of the remaining field crops. Grapefruit, an orchard crop of rising importance, yielded about 2,570,000 boxes (\$797,000). Part of the new "winter flaxseed belt," Arizona produced, on 13,000 acres, 240,000 bu. of flaxseed (\$408,000), a remarkable yield of 18½ bu. (\$31) to the acre, as against 9.6 bu. (\$13.40) an acre for the Union's whole crop.

**Mineral Production.** The 1940 (definite 1939 figures in parentheses) approximate value of Nevada's five principal minerals—copper, gold, silver, zinc, and lead—was \$81,509,300 (\$72,616,408) of which copper, 558,000,000 lb. (524,224,000 lb.), represented \$63,054,000 (\$54,519,296); gold, 292,500 oz. (316,453 oz.), \$10,237,500 (\$11,075,855); silver, 6,948,000 oz. (7,824,004 oz.), \$4,940,800 (\$5,310,839); zinc, 30,800,000 lb. (13,422,000 lb.), \$2,002,000 (\$697,944); lead, 25,500,000 lb. (21,542,000 lb.), \$1,275,000 (\$1,012,474). Native minerals produced in Arizona during 1938 amounted in value to \$60,756,253 (according to the *Minerals Yearbook* of 1940) of which copper, gold, silver, zinc, and lead accounted for 95 per cent of the total.

**History.** The development of works for irrigation and for generating electrical current from the Salt River made progress; the Salt River District issued for this work its bonds, in June, to the amount of \$1,000,000. As part of the year's plans for military armament the U.S. War Department chose Tucson as a new air-corps station. See RECLAMATION, BUREAU OF.

The Arizona Secretary of State, rejecting the petition of 436 supporters of communism, excluded the Communist ticket from the official ballot for the primary election of September 10. Attorney General Conway gave warrant for this action in an opinion holding that no Communist could qualify for office in the State, since the party's principles sought "to overthrow the Constitution of the United States by force." Governor Jones expressed his support of the exclusion.

The strong pro-Roosevelt majority of the Democratic party voted out of office, in the State primaries, U.S. Senator Henry F. Ashurst, who had sat in the Senate continuously from Arizona's acquisition of Statehood in 1912. Ashurst had opposed the draft (q.v.). Ernest W. McFarland won the Democratic nomination for the next term as Senator. At the general election (November 5) a strong Democratic majority carried the State for Roosevelt as President, while McFarland (Dem.) defeated Irving A. Jennings (Rep.) for U.S. Senator, and Sidney P. Osborn (Dem.) prevailed over Jerrie W. Lee (Rep.) for Governor. The vote for Roosevelt (Dem.) was 95,267; for Willkie (Rep.), 54,030.

**Officers.** Arizona's chief officers, serving in 1940, were: Governor, Robert T. Jones (Dem.); Secretary of State, Harry M. Moore; Treasurer, William Petersen; Auditor, Ana Frohmiller; Attorney General, Joe Conway; Superintendent of Public Instruction, H. E. Hendrix.

**ARKANSAS.** Area, 53,335 square miles, including (1930) water, 810 square miles. Population, Apr. 1, 1940 (census), 1,949,387; 1930, 1,854,482. Little Rock, the capital, had (1940) 88,039 inhabitants. The percentage of urban dwellers—those in communities of 2500 or more—rose to 22.2 (1940), from 20.6 (1930).

**Agriculture.** Farmers harvested, in 1940, 6,146,000 acres of the principal crops. Cotton took up over one-third, occupying 2,104,000 acres, and made 1,540,000 bales (estimated value to growers, about \$72,380,000). Success in getting more cotton to the acre appeared in the figure for 1940, 350 lb., as against 319 for 1939 and 224, the previous ten years' average. Corn, on 2,043,000 acres, gave 42,903,000 bu. (about \$25,313,000); tame hay, on 1,050,000 acres, 1,193,000 tons (\$9,902,000); rice, 191,000 acres, 9,741,000 bu. (\$6,819,000); potatoes, 41,000 acres, 3,895,000 bu. (\$2,532,000); sweet potatoes, 36,000 acres, 3,240,000 bu. (\$2,430,000); oats, 139,000 acres, 3,058,000 bu. (\$1,101,000).

**Mineral Production.** The total yearly value of native minerals produced in Arkansas, according to the *Minerals Year Book* of 1940, attained \$29,395,086 for 1938. Petroleum supplied more than half of this figure; coal, less than one-seventh; natural gas and bauxite, much of the remainder. The production of petroleum rose to 21,143,000 bbl., approximately, for 1939, from 18,180,000 for 1938 (value, \$16,900,000). Somewhat over 1,100,000 net tons of coal were mined in 1939, as against 1,197,000 (value, \$4,013,000) in 1938. The production of natural gas declined by about 9 per cent, to some 18,770 millions of cu. ft. for 1939. Of the

yield of natural gas in 1938, 11,301 million cu. ft., delivered to consumers, had a value of \$2,168,000, at points of delivery; while gasoline obtained from natural gas in 1938 was valued at \$905,000. Bauxite (a clay, the most suitable source of aluminum) was actively produced; the yearly total shipments rose to 427,000 long tons (value, \$2,494,000) from 361,690 tons (\$2,074,954) for 1939. Saline and Pulaski counties (the Arkansan bauxite field) furnished in 1939 some 96 per cent of the bauxite produced in the Union.

A new regulative body, the Arkansas Oil and Gas Commission, replaced the Arkansas Conservation Board in 1939; it gave much attention to applying proration of the output of petroleum and natural gas in new fields. Nevertheless, most of the increase in production of petroleum for 1939, noted above, came from the Magnolia field, which yielded about 3,600,000 bbl. in 1939, as against its initial production of 68,000 in 1938.

The Arkansas Diamond Corporation optioned in July, 1940, to a party intending to renew operations, the peridotite field near Murfreesboro, the Union's only known diamond-bearing site.

**Education.** Persons of school age in Arkansas were reckoned, for the academic year 1939-40, at 624,811 from 6 years to 21. Enrollments of pupils in public schools numbered 472,914. They included 399,000 in the elementary group (291,356 whites and 107,644 Negroes) and 73,884 in high schools (66,542 whites and 7342 Negroes). The year's expenditure for public-school education totaled \$13,832,729. Teachers numbered 10,574 whites and 2599 Negroes. Teachers', principals', and supervisors' combined salaries averaged \$584; those of whites alone, \$636; of Negroes, \$375.

**History.** Arkansas was one of several States to deny to candidates of the Communist party a place on the ballot of the general election of 1940. Their exclusion was carried before the State Supreme Court; it ruled (October 14) that the Communists of the United States and in particular, of Arkansas, advocated the overthrow of established government and could hence be excluded from candidacy.

In the Democratic primary election (August 13) Homer M. Adkins, former Collector of Internal Revenue in Arkansas, gained the nomination for Governor. He defeated, by about 4 to 3, Gov. Carl E. Bailey, who sought a third term. At the general election the voters gave an overwhelming but usual Democratic majority, for Roosevelt as President; for a delegation of seven Democrats, all incumbents save one, as the State's U.S. Representatives; and for Homer M. Adkins, as Governor. The vote for Roosevelt (Dem.) was 158,622; for Willkie (Rep.), 42,121. For Governor, Adkins (Dem.), 184,578; Harley C. Stump (Rep.), 16,600. Voters ratified (136,858 to 34,092) the Legislature's act of 1939 creating a system of workmen's compensation. They rejected a proposed constitutional amendment to pledge the State to keep up yearly revenue from gasoline taxes and the registration of motor vehicles at fully \$8,500,000, for maintaining highways and meeting principal and interest on the refunding bonds of January, 1939.

**Officers.** The chief officers of Arkansas, serving in 1940, were: Governor, Carl E. Bailey (Dem.); Lieutenant Governor, Bob Bailey; Secretary of State, C. G. Hall; Treasurer, Earl Page; Attorney General, Jack Holt; Land Commissioner, Otis Page; Auditor, J. Oscar Humphrey. Except Governor Bailey, all these were re-elected in November.

**ARMAMENTS.** See the topics listed under DEFENSE.

**ARMENIAN SOVIET SOCIALIST REPUBLIC.** See UNION OF SOVIET SOCIALIST REPUBLICS under *Area and Population*.

**ARMISTICES.** See EUROPEAN WAR; FRANCE under *History*.

**ARMY, U.S.** See MILITARY PROGRESS; also, DRAFT, MILITARY; ENGINEERS, CORPS OF; NATIONAL DEFENSE ADVISORY COMMISSION; NEGROES.

**ART. Art and the War.** No review of art for the year 1940 could leave out of account the havoc that the war in Europe has wrought and the changed conditions that it has brought about. In the conquered nations art has virtually come to a standstill. Word has come from Rome that the Villa Medici, long the French Academy, has been confiscated by the Italian Government. It became necessary practically to close the American Academy at Rome and send those holding fellowships back to this country to continue their studies here or in Central or South America. To students winning Roman scholarships in 1940 this same choice was given. Obviously the American Schools of Art and Music at Fontainebleau had to be closed. Both were temporarily set up in this country under French visiting masters, the former, during the summer, on Cape Cod. The many scholarships commonly awarded for travel in Europe to students in professional schools, colleges, and universities had to be withheld or otherwise applied. The great stream of persons visiting Europe in search of recreation was cut off, and with it contacts of incalculable cultural value. The blackout in this field has been complete almost beyond belief.

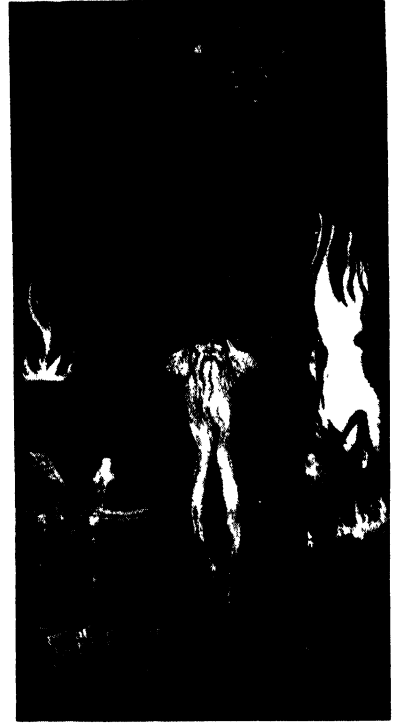
Before war was declared, because of the ominous gathering clouds, precautions were taken to safeguard the most precious works of art in museums from injury or loss, but the force and effectiveness of the storm brewing was by no means foreseen. In September, after the German occupation of Paris, a part of the Louvre was reopened to the public, but not all, and report has it that many of the safeguarded works have been removed to German soil. What has become of the van-loads of paintings by Rubens, van Dyck, and other great masters which left Brussels during the great exodus as the invading army moved in, has not been told; nor is the fate of the Dutch galleries and their collections known.

The damage in Great Britain has been more devastating, but with unconquerable spirit art activities have been surprisingly continued. After the National Gallery of Art was cleared of its permanent exhibits, which were taken to a place or places of supposed safety, Sir Kenneth Clark, the director, arranged and carried out a series of temporary exhibitions to assist in keeping up the general morale, chief among which was one of paintings produced "since Whistler" lent by private collectors. This was visited by over 32,000 persons despite the fact that its date coincided with that of the invasion of Holland. Noonday concerts for working people were also held in the National Gallery, and were well patronized. The Royal Academy held its annual exhibition in May as usual; although there were many things therein to remind of war there were, it was said, "no signs of gloom, bitterness, or satire."

British artists were mobilized by their government to record the war. Muirhead Bone was made artist to the Admiralty, others were sent to the front, which—after the retreat from Dunkerque—



BENFREISA IAJOYA  
By Kenneth M. Adams



ALCHEMY AND ASTRONOMY  
By Thornton Oakley



THE FUNERAL

A painting by Antonio Belloho of Ecuador, included in the exhibition of Pan-American painting at the Corcoran Gallery of Art



THE FEAST OF THE GODS

By Giovanni Bellini From the Widener Collection, deeded to the National Gallery of Art



*Courtesy, John Mueller, The Washington Star*

THE NATIONAL GALLERY OF ART

proved to be in London. With bombs dropping indiscriminately from the skies, the Royal Society of Arts kept up its regular fortnightly meetings, at each of which a scholarly paper was presented in accordance with custom.

But all was by no means well. The Tate Gallery, the British Museum, the building wherein the Wallace Collection is housed, and Burlington House, the home of the Royal Academy, have all suffered by bombing, and even more serious damage was done to such irreplaceable works of art as Westminster Abbey, St. Margaret's Church, St. Martin's-in-the-fields, Parliament House, St. Paul's Cathedral, and Guildhouse, to say nothing of the glorious cathedral at Coventry, all of which have been sources of delight and inspiration to countless persons. These are losses which cannot be reckoned by commercial valuation.

The direct effect of all this has been to throw us here in the United States on our own resources. Instead of its usual International Exhibition, the Carnegie Institute, Pittsburgh, substituted in 1940 a Survey of American Art for Three Hundred Years and announced for 1941 another All American show. Numerous exhibitions and sales were held for war relief, and certain very valuable works of art by great masters which were on loan in this country when war was declared are remaining indefinitely in the custody of our Museums as war refugees.

The fact is that at the end of 1940 our continent was practically cut off from the sources from which we derived our standards as well as our inspiration in the past, and we found ourselves faced with the necessity of solving our own problems independently and also charged with the responsibility of maintaining inherited ideals. Economically as well as culturally this is significant. The closing of European ports curtailed imports of industrial art products, and an effort was being made to expand the American art market.

These are some of the shadows which war cast across the American field of Art as the year 1940 closed.

**Art Sales.** War in Europe had little effect upon art sales in this country up to midsummer 1940. In fact even when commodity prices fluctuated art prices remained stable and in some instances went above normal. The leading art auction house in New York (The Parke-Bernet Galleries) reported total receipts for the season, October, 1939-July, 1940, to be \$2,329,330.50. At the time of the invasion of Holland, when there was a marked decline on the Stock Exchange, the Untermyer collection, dispersed by these Galleries, realized \$12,000 more than the advance estimate.

High prices were reported at the Clendenin J. Ryan sale, in January, as follows: "Portrait of a Young Lady," by Andred Solario, \$16,000; a small portrait of Michelle, wife of Philip the Good of Burgundy, by a Master of the 15th century school, \$14,000; "The Crucifixion," by Tiepolo, \$10,000; King George IV, by Lawrence, \$9900; Miss Catherine Chichester, by Romney, \$9200; Alexander Lindsay of Pinkieburn, by Raeburn, \$7500; Lady Frances Windham, by Hoppner, \$7200; and "Portrait of an Italian Nobleman," by Pontormo, \$4800. "Holy Family with St. John and St. Elizabeth," by Andrea del Sarto, brought \$12,000, and "Portrait of Boy in Red," by Lawrence, \$10,400, at the sale of the Aldred collection in December. At the Untermyer sale a painting by Rubens, entitled "Feast of the River Gods," brought \$18,000, a

bronze Jupiter by Cellini, \$11,500, and a painting by Whistler, "Nocturne in Black and Gold—Falling Rocket," \$7000. Especially interesting were prices paid for works by French modernists. At the sale of Mrs. Cornelius J. Sullivan's collection, in New York, a portrait by Cezanne of his wife brought \$27,500; a portrait by Van Gogh \$19,000, and water colors by these artists and by Picasso approximately \$1500 each. At the Stonborough sale a still life by Matisse brought \$10,400; a nude by Toulouse Lautrec \$5200; "Le Violoncelle," by Gauguin, \$4100, and "Le Chien," by Picasso, \$3800. At this same sale a portrait drawing by Ingres went for \$1050.

The most important sale in England was that of the George Eumorfopoulos collection, May 28-31 and June 5-6, at which a total of £35,873 was realized. This collection was especially rich in Chinese bronzes and porcelains. Some of the pieces sold and bringing record prices were shown in 1939 as loans in the Golden Gate Exposition, California. The modern paintings and other works of art in this collection were sold separately on June 12-14 and realized £1949. The top price, £530, was paid for a portrait by Modigliani of his wife in black dress.

The print section of the Ryan collection brought a total of \$156,205, and its dispersal was accompanied by several unusual occurrences. There was an unusually large and distinguished audience in attendance, including bidders from Europe as well as this country, and many of the items were sharply contested for. An offer of \$28,000 was made for a set of 20 etched portraits by Van Dyck and refused. When sold separately the series brought a total of \$40,000—one single print, a brilliant impression of a self portrait, brought \$6500. Other high prices at this sale were: \$6700, paid by a Brussels dealer for "The Three Trees" by Rembrandt; \$4500 for his famous "Hundred Guilder" print; \$4300 for his "Christ Crucified between Two Thieves," and \$4600 for Martin Schongauer's engraving, "Saint Sebastian."

At the Holden sale the following prices were paid for etchings by later day masters: Whistler, "Nocturne" \$575, "The Steps" and "The Balcony," \$375 each; Seymour Haden, "The Early Riser," \$450; Zorn, "St. Ives," \$550, and Meryon, "Le Petit Point," \$300. Two lithographs by Bellows—"Stag at Sharkey's" and "Dempsey and Firpo"—at the Pulitzer sale realized \$550 and \$450 respectively. A portrait of Lincoln painted at the time of his nomination as a presidential candidate by Thomas Hicks, and long thought lost, appeared at the Edson Bradley sale and brought \$11,100.

**Museums.** A momentous event chronicled in 1940 in connection with American Art Museums was the announcement in October of the gift of the Widener Collection to the National Gallery of Art. This collection, formed by the late Peter A. B. Widener of Lynnewood Hall, Elkins Park, Pennsylvania, has been enriched and upheld to a very high standard by Joseph E. Widener, his son, from whom it will pass to the Nation. It comprises approximately one hundred paintings by great masters as well as fine examples of Renaissance sculpture, the celebrated Mazarin tapestry, rare porcelains, crystals, and jewels. Outstanding among the paintings are the little "Cowper Madonna," by Raphael; "The Mill," by Rembrandt, and two famous portraits by this master from the Yousoupov Collection; "The Feast of the Gods," by Bellini, and "Woman Weighing Gold," by Vermeer, be-

sides others scarcely less famous. Two important modern works are included—"Dead Toreador," by Manet, and "La Danseuse," by Renoir.

Earlier in the year, the National Gallery of Art received from the Mellon Educational and Charitable Trust the gift of eleven early American portraits which had been acquired by Mr. Andrew W. Mellon and held in reserve. Five of these were by Gilbert Stuart, in addition to which were single examples by Copley, West, Trumbull, Savage, Mather Brown, and Chester Harding.

The National Gallery of Art, given by Mr. Mellon, and erected on the north side of the Mall, between 5th and 7th streets, Washington, D.C., was begun in March, 1938 and practically finished in December, 1940, at which time it was turned over to the trustees and promptly occupied by the director, Mr. David E. Finley, and his staff. The expectation was at that time to open it to the public in March or April, 1941. This building, classical in design, is of rose-white Tennessee marble, 785 feet in length, and affords space for 100 separate exhibition rooms on its main floor. In the center is a rotunda 100 feet in diameter beneath a dome supported by 24 Ionic columns of dark green marble. Directly beneath the dome is a fountain surmounted by a bronze statue of Mercury by Giovanni da Bologna. Two interior courts ornamented by fountains with sculptural adornment are also special features. The building is, of course, air-conditioned and up-to-date in every particular.

Also of national importance was the opening, on November 1st, of the Dumbarton Oaks Research Library and Collection of Byzantine and Medieval Art on Georgetown Heights, Washington, at which time it was announced that conveyance was to be made immediately to Harvard University by Mr. and Mrs. Robert Woods Bliss, through whom, during a considerable number of years, it had been assembled. (The transfer has since taken place.) Included with the gift was the Bliss home (adjacent to which the new buildings have been erected), henceforth to be used as a residence for visiting research scholars. Source material of the periods covered is still, even among our art museums, extremely rare.

In April the Philadelphia Museum of Art opened three new sections: a wing of Oriental art, a hall incorporating features from the Sasanian Palace at Damghan, and a Ming Palace Hall from Chao Kung Fu, Peiping.

The Worcester Art Museum, Worcester, Mass., added several new galleries in 1940 by raising its roof and side walls. The Yale Art Gallery, previously governed by the School of Fine Arts of Yale University, was separated and made a university unit with a director and governing board of its own, thus broadening its scope.

Financed by a grant from the General Education Board, five Art Museums—The Art Institute of Chicago, Albright Art Gallery of Buffalo, Cleveland Museum of Art, Milwaukee Art Institute, and Museum of Modern Art of New York—each developing its own program but profiting by the experience of the others, endeavored to find ways of working more effectively with secondary schools in an effort to increase knowledge and appreciation of art among boys and girls during their formative years.

The Art Institute of Chicago in co-operation with the University of Chicago offered a special course for those desiring to qualify as curators and docents. The Worcester Art Museum, in like man-

ner co-operating with Clark University, offered in the fall of 1940 special courses for university students in drawing and painting as well as the history of art.

Several of the art museums throughout the country tried the experiment of introducing individual artists to the public through the medium of a broadcast sponsored by the National Art Society over the N.B.C. network entitled "Art for Your Sake." Each museum showed at the time color reproductions of paintings by the artist discussed and impersonated.

The Chicago Art Institute received from Mary Morley Sellers of San Francisco a \$100,000 bequest to found a chair of painting or decorative arts in connection with its school. Through an anonymous donation of \$10,000 the Virginia Museum of Art, Richmond, was enabled in 1940 to set up a series of art fellowships or grants-in-aid to students of art under the age of 38—each for a five-year period of study.

There were fewer large bequests or gifts to art museums in 1940 than in previous years—but some that were notable. Edgar P. McBurney left \$1,000,000 to establish an art center in Atlanta, Georgia, subject to a life interest to his widow. Duke University, Durham, N.C., received, by bequest from William Hayes Ackland, \$300,000 to build an Art Gallery on the campus, his own private collection of sculpture, and an additional fund for acquisitions. The Dudley Peter Allen Memorial Museum at Oberlin College received a gift of \$25,000 from Mrs. R. T. Miller, Jr., for the purchase of works of art. The University of Southern California was enriched by an art gallery and 29 works by the old masters, the gift of Mrs. Walter Harrison Fisher. The California Palace of the Legion of Honor received 72 paintings from Mr. H. K. S. Williams (in memory of his wife) and the Baltimore Museum a very handsome Jacobean room with complete furnishings, the gift of Mrs. Sadie A. May.

The State of Nevada purchased from the Federal Government the old Mint building at Carson City, at a cost, as it is no longer in use, of only \$5000. The Legislature authorized conversion of the building into quarters for the Nevada Museum and Art Institute.

The fireproof building in which "The Masterpieces of Art" were displayed at the New York World's Fair was given at the conclusion of the Fair to the City of New York as a permanent Art Gallery by Art Associates, Inc.

An award for distinguished services rendered to the cause of Museum administration was established in 1940 by Mr. Henry W. Kent, for many years secretary of the Metropolitan Museum of Art. A first award was made to Laurence Vail Coleman, director of the American Association of Museums.

The Metropolitan Museum of Art announced in midsummer 1940 that, beginning in the autumn, 500 paintings from the Museum's permanent collection would be made available to other museums and art associations throughout the country for exhibition as loans on very liberal terms.

There was a great shifting about of art museum directors in 1940 but comparatively few new recruits. Francis H. Taylor, for some time director of the Worcester Art Museum, became director of the Metropolitan Museum of Art and Horace H. F. Jayne of the Museum of the University of Pennsylvania, assistant director. Charles H. Sawyer of the Addison Gallery, Andover, took the place left



vacant by Mr. Taylor at Worcester and his assistant, Bartlett H. Hayes, succeeded him at Andover.

Important acquisitions to permanent collections were made through purchase by the Museum of Fine Arts, Boston, the Metropolitan Museum of Art, New York, Detroit Art Institute, St. Louis City Museum, John Herron Art Institute, San Diego Museum, Frick Collection, Phillips Memorial Gallery, and others. In most instances these were works by European masters of long established reputation from funds given and invested for such purpose. The John Herron Art Institute, however, bought a Gilbert Stuart and an Eakin, and the Frick Collection's acquisition was a "Portrait of Uncle Dominic as a Monk" by Cezanne.

**Exhibitions.** Exhibitions of works of art continued to increase in number as well as note during 1940, the peak being reached when 1000 special sales exhibitions were put on throughout the country during National Art Week (see below).

Throughout the year art museums vied with one another in setting forth exhibitions of masterpieces of art. These in some instances were assembled independently but more often through collaboration. An instance of the latter was the exhibition of Italian Masterpieces, 21 paintings and 7 works in sculpture, shown in the Golden Gate Exposition of 1939, which in 1940, were shown first in the Art Institute of Chicago and then in the Museum of Modern Art, New York. The attendance in Chicago was 265,679 and in New York, for a slightly longer period, 290,888.

Likewise a group of art museums—those of Cleveland, Pittsburgh, St. Louis, Minneapolis, Los Angeles, and Newark—co-operated in circulating an exhibition composed of 46 paintings by great European masters selected from the Masterpieces of Art exhibitions held the previous year in the east and west coast expositions. These were loans from France, Holland, Belgium, and other countries involved in the War, which could not safely be returned, hence remained in the United States under special protectorate.

The art museums took active part in assembling the "Masterpieces of Art" exhibitions for the 1940 World's Fairs, the work being largely delegated to museum directors and staff experts, and loans made by the institutions and their patrons. The amazing wealth of such available material in the United States was thus again tangibly manifested.

The Contemporary exhibitions at both Fairs were better in 1940 than in the preceding year, and in both demonstrations of art-in-the-making were well used to enhance interest and increase educational value.

Among the exhibitions independently organized by various museums the outstanding were the following: "Seven Centuries of Art from Bellini to Luigi Lucioni"—250 works lent chiefly by museums and valued at over \$6,000,000—shown in the Palace of the Legion of Honor and the M. H. de Young Museum, San Francisco; "Medieval Art from 1000 to 1400 A.D."—320 objects lent by the Morgan Library, N.Y., the Walter's Gallery, Baltimore, and 50 other institutions, as well as drawn from the exhibiting museum's collection—set forth in the Museum of Fine Arts, Boston; "Four Centuries of Venetian Art"—70 paintings and 30 drawings from American collections assembled by Hans Tietze for the Toledo Museum of Art; "Chinese Ceramics"—328 pieces dating from 2000 B.C. to the 18th Century A.D.—displayed in the Cleveland Mu-

seum of Art; also notable exhibitions of Pre-Columbian Art in Los Angeles and in the Fogg and Peabody Museums, Cambridge, Mass.

There were also important loan exhibitions of masterpieces held in dealers' galleries in New York for war relief and other charitable purposes.

Two memorable exhibitions of art from other countries were held in New York City in the summer of 1940. These were a magnificent exhibition of Persian Art, comprising over 3000 items lent by 30 museums and 60 private collectors, valued at \$10,000,000, which was assembled by Arthur Upham Pope and shown under the auspices of the American Institute for Iranian Art and Archaeology; and "Mexican Art of Twenty Centuries," which also included 3000 items and was displayed in the Museum of Modern Art.

Especial emphasis was placed in 1940 on the art of South and Central America, partly because of our isolation from Europe and not a little as the result of efforts put forth by the Committee on Cultural Relations with these countries, appointed by and functioning under the Department of State.

In the Virginia Museum, Richmond, an important exhibition of 236 paintings and 76 works in sculpture by artists of Argentina was shown in January, a section of which was later circulated by The American Federation of Arts. In the autumn, a collection of paintings—two each—from the republics making up the Pan American Union, assembled by the International Business Machines Corporation for display in the two World's Fairs in 1939, was shown in the Corcoran Gallery of Art, Washington, D.C., in celebration of the fiftieth anniversary of the founding of the Union. Also under the auspices of the Federal Government a noteworthy collection of portrait drawings of Indians of the two Americas by Eben F. Comins was shown in the Art Gallery of the Department of the Interior.

There were several interesting one-man exhibitions in this same category. Candida Portinari of Brazil exhibited in the Detroit Art Institute and the Museum of Modern Art, N.Y.; Gomez Campuzano of Colombia displayed his paintings in a dealer's gallery, New York, and Antonio Ortiz Echague, a Spanish artist now residing in Argentina, was honored by a one-man show in the Carnegie Institute, Pittsburgh.

Mention should also be made of exhibitions of prints by Contemporary American Printmakers, assembled by the National Society of Engraving, which were sent by special invitation to Uruguay and, under the auspices of the Pan American Union, on a circuit of South American cities.

It should not be thought that the majority of the exhibitions held in 1940 were either foreign or retrospective. An exhibition of the works of leading Impressionists held in the Los Angeles Museum attracted 136,000 visitors in three weeks. The Detroit Art Institute put on an important exhibition entitled "The Age of Impressionism—Objective Realism" which had direct bearing on the art of today. One-man exhibitions of paintings by Picasso, Braque, and Rouault, high lights in the galaxy of Post-Impressionists, were widely circulated.

Outstanding among exhibitions of American art was the "Survey" from 1670 to the present time, substituted by the Carnegie Institute in 1940 for its usual International exhibition. There were 270 paintings in the retrospective section and 121 in the contemporary section. No prizes were given, but \$5000 was spent for purchases from the latter.

An elaborately illustrated and annotated catalogue was issued.

The Museum at Yale University showed in 1940 an exhibition of "Eighteenth Century Landscape Painting" and the Hartford Museum one of "Industrial Scenes for Five Hundred Years." The Gibbes Memorial Museum, Charleston, S.C. illustrated pictorially the "History of the City (Charleston) in Art."

One-man exhibitions honoring the following deceased American artists were held: John H. Jarvis, portrait painter, 100 works, assembled and shown by the New York Historical Society; Eastman Johnson, genre painter, the Brooklyn Museum; George Bellows, painter and lithographer, the Columbus Gallery of Art.

Exhibitions purposed to make visitors think, as well as to attract attendance, were held under rather startling titles such as "Taste is not Spinach" (Virginia Museum); "Modern Isms and How They Grew" (Baltimore Museum) and "The Art the People Live With" (San Francisco Museum).

An experiment which seemed to bring forth good results was tried by the Art Alliance of Philadelphia in connection with an exhibition, "American Taste in Art," for which the pictures were selected and awards made by a specially invited jury of prominent Philadelphia business men and executives thought to be "completely non-art-conscious," but whose judgement met with almost universal public approval.

Important exhibitions of sculpture were held in New York and Philadelphia; the former a "Sculpture Festival" staged by the National Sculpture Society in the Whitney Museum; the latter an International show held in the Philadelphia Museum and adjacent thereto, under the auspices of the Fairmount Park Art Association.

An exhibition of American Industrial Art was held at the Metropolitan Museum of Art during the summer of 1940, and in the Art Museum at Syracuse, N.Y., a notable exhibition of ceramics by contemporary workers was put on in the autumn.

The National Society of Mural Painters held an extensive exhibition in the Whitney Museum toward the last of the year.

An exhibition of the "Art of the Negro," for the past 90 years, was shown in the Tanner Galleries, Chicago, from July to September in connection with the American Negro Exposition.

And still nothing has been said of the exhibitions held as usual annually by the leading professional organizations, such as the National Academy, the Pennsylvania Academy, Water Color Societies, and Print Clubs, which most fully represented trends of the day and the state of art among us—nor for that matter of the innumerable one-man exhibitions in dealers' galleries which likewise betokened vitality and continuity of effort.

**National Art Week.** National Art Week—November 25 to December 1—was instituted in 1940 by the President of the United States to improve economic conditions in this field. According to statistics gathered by governmental agents the attendance at art exhibitions during the year had increased to about one third of the entire population, but sales had so fallen off that the majority of the artists had been unable to support themselves through their art and the books of but a few of the art dealers showed a profit. Whereas, when the Governmental Art Projects were set up early in President Roosevelt's first administration it was said that because of reduction in surplus income due to

increased taxation it was the duty of the Government to assume patronage, it was stated in connection with National Art Week that it was the public to whom the artists must look for the stabilization of an art market. The result of the one thousand sales exhibitions held throughout the country under this impetus was reported to total approximately one hundred thousand dollars.

**Other Developments.** Notwithstanding the discouraging economic outlook the art schools of the country were crowded to overflowing and the summer art schools were more than full in 1940.

A brighter side of the picture was found in the accomplishment of certain artists, well trained and equipped, and in patronage which originated in the business world. For instance: for display in their own concessions at the two World's Fairs of 1940, the International Business Machines Corporation assembled through direct purchase two exhibitions, consisting of one painting each by an outstanding artist, in every one of the forty-eight States, District of Columbia, Alaska, Hawaii, Puerto Rico, and the Virgin Islands, selection being made by local expert juries. In addition, \$3000 was distributed in cash prizes for the finest works in each group, and at the close of the Fairs both groups were sent out on circuit to art museums at the expense of the owners and shown with great distinction.

An alliance was also affected between the motion picture industry and the painters' art through the co-operation of a well known producer—Walter Wanger—and the Associated American Artists. Nine members of the latter were invited to go to Hollywood, witness the filming of Eugene O'Neill's "Long Voyage Home," and place their interpretations of characters and scenes on canvas for the tidy sum of something like \$10,000 each, including traveling expenses. This group of paintings was also sent out on circuit and was shown in art museums in various large cities while the film was running in a local theater; the result was to establish contact in the public mind between the art of film making and that of painting.

Disputes which threaten to disrupt the organization arose among members of the American Artists Congress concerning beliefs in or definition of fascism and communism. Also effort on the part of the director of the WPA Art Projects in New York to raise the standard of production by appointing a jury of experts to pass upon all work sent in, met with violent opposition on the part of those employed, particularly C.I.O. Artists Union members who claimed that this was actually a means of shifting responsibility for dismissals. A delegation went to Washington and picketed the White House; threatening letters were sent to members of the jury some of whom resigned, but General Somerville, in charge, refused to make concessions.

See the separate articles on PAINTING; PRINTS; SCULPTURE; also, ACADEMY OF ARTS AND LETTERS; ACADEMY OF DESIGN; ARCHAEOLOGY.

LEILA MECHLIN.

**ARTHRITIS.** See BIOLOGICAL CHEMISTRY.

**ARTISTS.** See ACADEMY OF ARTS AND LETTERS; ACADEMY OF DESIGN; MUSIC; PAINTING; PRINTS; SCULPTURE.

**ARUBA.** See CURAÇAO.

**ASBESTOS.** The Province of Quebec, which is the principal source of Canadian asbestos, produced 345,581 tons of all grades in 1940, compared

with 364,454 tons in 1939. The 1940 production was classified as follows: Crude 2076 tons; fibers, 181,890; shorts, 161,615. Despite the loss of European markets, the volume of Canadian business was about the same as in 1939, and all producers were operating at capacity. Prices were substantially unchanged, except for an increase of 10 per cent in short fiber. At the close of 1940 the following prices prevailed per ton for No. 1 crude: Quebec, f.o.b. mines, \$700 @ \$750; Rhodesian, c.i.f., New York \$300; Russian, c.i.f., New York \$275. The U.S. Government made some small purchases for a stockpile of this material. No technical developments were noted, but new competition in heat insulation was offered by glass wool, mineral wool, and slag wool.

The 1939 census of manufactures in the United States shows that the domestic asbestos industry produced 15,300 short tons of asbestos of various grades, with a value of \$484,000. Although the 1939 value was 22 per cent higher than that of 1929, and the production over 300 per cent greater, the United States continues to be dependent on imports. In 1939 only about 6 per cent of crude asbestos consumption came from domestic mines. Canada supplied 92 per cent of our imports.

The 1939 census shows employment of 151 wage earners receiving \$146,000 in wages, or about 44¢ per man-hour.

Production of asbestos in 1939 was reported from Vermont, Arizona, Georgia, and Maryland.

H. C. PARMELEE

**ASCENSION ISLAND.** See **BRITISH EMPIRE.**

**ASHANTI.** See **GOLD COAST.**

**ASHMORE AND CARTIER ISLANDS.** See **AUSTRALIA.**

**ASIA.** Excluding the Asiatic part of the Soviet Union, the continent has an area of about 10,345,000 square miles and a population estimated at 1,134,500,000 on Dec. 31, 1938. See the separate articles on **ARABIA**, **CHINA**, **INDIA**, **JAPAN**, **MANCHOUKUO**, and the other Asiatic States and territories; also **ANTHROPOLOGY**, **ARCHAEOLOGY**, **EXPLORATION**, ETC.

**ASIR.** See **ARABIA** under *Saudi Arabia*

**ASSEMBLIES OF GOD, General Council of the.** A religious organization incorporated in Arkansas in 1914 by a group of independent pastors interested in a distinctively evangelistic type of mission work. Headquarters, 336 W. Pacific Street, Springfield, Mo. For statistics, see **RELIGIOUS ORGANIZATIONS.**

**ASSOCIATIONS.** See **SOCIETIES AND ASSOCIATIONS**

**ASTRONOMY.** Several contributions of note were made during the year on meteors and their origin. Meteors are small fragmentary particles of iron or stone which on entering the earth's atmosphere at high velocity become visible and in general are completely vaporized. These flashing meteors, which are the smallest of astronomical bodies, ranging in size from a grain of sand to boulders weighing many tons, constantly bombard our earth. It has been estimated that over one hundred million meteors strike the earth's atmosphere each twenty-four hours. Meteors travel at the very high speeds of from twenty to fifty miles a second; were it not for the earth's atmosphere acting as a protecting blanket living conditions would be chaotic, a rain of meteoric missiles would bombard us with deadly effect and the very exist-

ence of life on this planet would disappear. As a result of the fact that most meteors are completely vaporized thousands of tons are being added to the earth's mass each year through the meteoric dust thus formed. However this should not cause undue alarm for it would require many millions of years for a layer of meteoric dust to spread evenly an inch thick over the entire surface of the earth. Authorities are not in agreement on the precise rate of settlement and spread of meteoric dust so that no exact value can be given.

Not all meteors are completely vaporized while passing through the earth's atmosphere; some pass out into space again, though of reduced size, others upon rare occasions fall to the earth. Meteors which fall to the earth are called meteorites. Authorities have estimated that approximately 90 per cent of the original mass of a meteorite is fused away during its flight through our atmosphere and that only 10 per cent of the original body reaches the earth in compact form. Some meteors explode while passing through the air, these are called bolides or fireballs. Some thirty of the chemical elements have been identified in meteorites, these are called siderites. Silicon in the form of silicates predominates in other meteorites and these are called aerolites. The chemical elements identified in meteorites tell us something of the physical constitution of other heavenly bodies and lead us to the conclusion that matter contained in the earth, the other planets, the stars, and in all bodies throughout the universe, is identical to that known to man, though not necessarily in the same form. No meteorite has ever been found which consisted of the sedimentary or metamorphic rocks common to the earth such as limestone, sandstone, and the like.

The largest stony meteorite seen to fall in modern times weighed about 800 lb and fell through our atmosphere on Feb. 17, 1930, burying itself to a depth of nine feet in the ground on a farm at Paragould, Ark., from which it received the name "The Paragould Aerolite." It is now on display in the Field Museum of Natural History. Larger meteorites have been found which were not observed to fall; the largest one on display is the Greenland Meteorite in the American Museum of Natural History.

From times when meteors were objects of worship by superstitious peoples, right thinking men have attempted to solve the problem of where meteors come from. Theories have been advanced that meteors are the fragments which were left over when our solar system was formed; that meteors are the congealed remains of gigantic solar eruptions; that meteors have been attracted to our solar system by gravitational influence which harnessed them during the flight of our solar system through space; and still another theory (though this seems least plausible) is that meteors are the result of the eruption of lunar volcanoes many ages ago. Possibly there is some truth in all these hypotheses. It is now well known that in addition to the sun, the planets and their satellites, the solar system is also composed of comets and meteors, and that regardless of the origin of meteors, there are many well marked groups of meteors, which travel in elliptical orbits around the sun and appear at definitely known periods. Such groups of meteors move along more or less parallel paths and when their path and that of the earth intersect the meteors seem to radiate from a point in the sky known as the radiant, the shower being generally

identified with and named after the constellation in which the radiant is located. In addition to these well marked groups of meteors, meteor trails may be seen almost every clear night and when such a meteor trail cannot be identified as coming from one of the group it is termed a sporadic meteor. It is now commonly accepted that there is a very close relationship between comets and the meteors observed in meteor showers. In the year 1826, Biela, a German astronomer, made a special observation of a comet which now bears his name, and which had been observed by others in 1772 and 1805. Its period was computed as being approximately 6.75 years. It was observed at each return until November, 1845, when what was regarded as one of the most remarkable phenomena in the history of astronomy was actually observed to take place; on Dec. 19, 1845, two American astronomers, Herrick of Yale University and Bailey of New Haven, noticed that Biela's comet had assumed a pear shape. Lt. M. F. Maury of the U.S. Naval Observatory, was the first astronomer to notice that ten days later it had divided into two separate but unequal parts; two English astronomers, Challis and Hind had also noticed this phenomenon. The two parts, separated by a distance of 165,000 miles continued on the comet's regular orbit until lost to sight. Astronomers watched carefully for the reappearance of the comet and, at their return in August, 1852, it is recorded that the two parts had separated to a distance of some 1,500,000 miles and that although the larger of the two divisions preceded the smaller by three weeks, both appeared equally bright. As comet bodies they are forever lost, for the next time the comet was due they failed to appear. However, on the night of Nov. 27, 1872, as the earth crossed the orbit of Biela's comet, a dazzling display of meteors was observed. This meteor shower was again observed in 1885 and in 1892 at the time when Biela's comet would normally have been seen. Biela's comet has not been observed since 1852 and it is now assumed that comets are only temporary bodies which sooner or later break up into smaller bodies or disintegrate into showers of meteors which may be seen only when their orbit and that of the earth intersect.

Great showers of meteors always seem to occur when the earth intersects and crosses the orbits of comets. Schiaparelli of Milan became interested in this field of astronomical knowledge and in 1866 investigated the well known August shower of meteors, the Perseids. He pointed out the marked resemblance between the parabolic elements of this meteor group with the elliptical elements of Swift's comet and arrived at the conclusion that the general resemblance was too great to permit any doubt that the comet and meteors were moving in orbits of identical form. He therefore reasoned the Perseid shower of meteors should be identified with Swift's comet. He found a similar resemblance between the Leonid shower of meteors and Tempel's comet. Weiss found the Andromede shower of meteors to be connected with Biela's comet and also that the Lyrid shower could be identified with Thatcher's comet. Since the work of Schiaparelli and Weiss other astronomers have found the orbits of the Aquarid shower and Halley's comet in agreement, and in 1916, Olivier and Denning independently found a connection between the meteors from a radiant in Ursa Major and the Pons-Winnecke comet. Astronomers have also found that the Draconid meteor shower moves in the path of Giacobini's comet. It appears con-

clusive that comets which are now pursuing their orderly way through our solar system throw off and leave in their wake streams of meteors which continue to follow the same orbit as that of their parent comet.

Whipple, of Harvard University, has just pointed out that there is a connection between the Taurid shower of meteors and Encke's comet. From observations of the Taurid meteors, made with special cameras, Whipple found that their speed was about 23.5 miles a second and that they were moving in a closed path; the paths of the meteors and Encke's comet are similar except that the planes of the two orbits are at an angle of about 12 degrees. Whipple has worked out a new mathematical theory for Jupiter's gravitational effect on the comet. From his theory he concludes that the plane of Encke's comet changes over a long period of time; ages ago the orbits of the comet and meteor shower were in the same plane and have since separated. Whipple believes that the Taurid meteors did not arise from Encke's comet but rather that the two have a common ancestor, some large comet which broke up into several smaller ones; one of the smaller descendants can still be seen alive as Encke's comet, while only the skeletal remains of others occasionally collide with the earth to produce showers of meteors. Whipple estimates that the disintegration of the parent comet took place between five and fifteen thousand years ago, a very short time indeed when compared with the age of the solar system itself.

Whipple's contribution to the connection between comets and showers of meteors is an important one and sheds new light on a subject which has had a long and interesting history. However, while it is now well established that showers of meteors originate from and are associated with comets, the next question is how, or where, do comets originate? The problem of the origin of sporadic meteors and of comets, like the problem of the origin of the solar system, is not yet settled with complete satisfaction.

Herbig, of the University of California, has made new calculations on the diameters of some of the large stars and found Ras Algethi, in the constellation of Hercules to be the largest. Heretofore, Antares, had been regarded as the largest star. Herbig, using distance determinations furnished by van Maanen, determined the diameter of Ras Algethi as nearly four times that of the earth's orbit.

Strand, of Swarthmore College, has just made a study of the famous double star, Zeta Aquarii. From very accurate photographic measurements Strand finds that there is a regular fluctuation from the expected motion and concludes that there is a third invisible member of the system. The invisible companion has a mass about one fourth that of the sun, while the mass of the entire system is four times the sun's. The two bright stars which belong to Zeta Aquarii can be seen in a telescope and are separated by a distance eighty-five times that from the sun to the earth, the invisible companion revolves around the brighter of the other two.

Wildt has made an interesting contribution to our ideas of the atmosphere of the planet Venus. The existence of a dense atmosphere on this planet has long been recognized by astronomers, but until 1932 there was no information as to its composition. In that year Adams and Dunham, at Mount Wilson, secured high dispersion spectra of Venus

in a search for oxygen and water vapor. They found no trace of these gases. However, three bands of unknown origin were discovered at wavelengths 7820, 7883, and 8689 Angstroms in the infra-red part of the spectrum; they tentatively assigned these bands to carbon dioxide. In 1934 Adel and Slipher were able to produce these bands in the laboratory and they finally concluded that carbon dioxide was a common constituent of the atmosphere of Venus. Wildt has made a theoretical investigation and believes that formaldehyde is present in the atmosphere of Venus.

**Phenomena.** At February's end and early in March there was a most unusual distribution of planets in the evening sky. The six brightest major planets were all well placed for observation in the western evening sky and lay along the ecliptic in a zone roughly fifty degrees in length. Mercury was near the western horizon followed in order by Jupiter, Venus, Saturn, Mars, and Uranus. The five naked eye planets were within forty degrees of each other.

During 1940 two conjunctions of Jupiter and Saturn occurred on August 15 and October 11 respectively. These two conjunctions were part of a so-called "triple conjunction"; the third conjunction of this series will take place on Feb. 20, 1941. Triple conjunctions of Jupiter and Saturn are known to be rare though there is some disagreement as to exactly how often they take place.

On November 11 and 12 a transit of Mercury over the sun's disc took place and was successfully observed.

There were two eclipses of the sun in 1940, one annular and one total. For the total one the path of totality was visible from South Africa and the northern part of South America. The war reduced the number of scientific expeditions sent to observe this eclipse; two expeditions were sent from the United States, one to South Africa and one to South America.

There were five or six comets observed in 1940. Comet 1940a (Kulin) first reported as Asteroid 1940AB. The high eccentricity of this object made its discoverer in Budapest believe it a comet. Its discovery was not confirmed by any astronomers in America; if accepted this is a new comet. There is no doubt about the other five comets which were observed. Comet 1940b, a return, was Comet Schwassman-Wachmann I (1925II). The return of this comet was first observed by Hirose of Tokyo on July 4; this comet has very striking changes in brightness and appearance. Comet 1940c, a return was comet 1933f (Whipple). The return of Whipple's comet was first observed on September 1 by Cunningham; it was discovered Oct. 21, 1933, and observed till Jan. 31, 1935; the orbit and computed position from those observations were found, on the comet's present return to be only six minutes in error, a very small error. The period of this comet is 7.5 years. Comet 1940d was a new comet, Cunningham. This new comet received much publicity because it was the brightest comet since Halley's comet in 1910. Cunningham's comet was discovered on September 5 at the Oak Ridge station of the Harvard Observatory. After its discovery it was located on photographic plates taken on August 25. At the time of its discovery its brightness was estimated as magnitude 12.9. It was soon evident that this comet would be visible to the unaided eye; however at the time the comet was bright enough to be visible without a telescope, it was very close to the sun and could

be seen for only a short time after sunset. Comet 1940e was a new comet, Whipple; it was discovered on September 30 although it was subsequently located on photographic plates taken as early as July 29. Comet 1940f was a new comet discovered by Okabayasi at Tokyo on October 4.

See CHEMISTRY; METEOROLOGY.

**Bibliography.** H. N. Russell and Charlotte E. Moore, *The Masses of the Stars* (Chicago); Karl Stumpff, *Die Erde als Planet* (Berlin); G. E. Frost, *Planets, Stars, and Atoms* (Caldwell, Idaho); A. N. Spitz, *The Pinpoint Planetarium* (New York); Clyde Fisher and Marion Lockwood, *Astronomy* (New York); C. A. Chant, *Our Wonderful Universe*, 2d ed. (London); O. R. Walkley and H. S. Aiyar, *Concise General Astronomy* (Trivandrum). RICHMOND T. ZOCH.

**ATHLETICS.** Track and Field. See TRACK AND FIELD.

**ATOMIC ENERGY.** See CHEMISTRY; PHYSICS.

**AUCTIONS.** See ART under *Art Sales*.

**AUDIO-VISUAL MATERIALS.** See LIBRARY PROGRESS.

**AUSTRALIA.** A self-governing dominion of the British Commonwealth of Nations. Capital, Canberra.

**Area and Population.** The area of the six States and two Territories, the census population of June 30, 1933, and the estimated population on Mar. 31, 1940, exclusive of aborigines, are shown in the accompanying table.

AREA AND POPULATION OF AUSTRALIA

States and Territories	Area in sq miles	Population	
		June 30, 1933	Mar 31, 1940
New South Wales	309,433	2,600,847	2,775,871
Victoria	87,884	1,820,261	1,896,934
Queensland	670,500	947,534	1,018,362
South Australia	380,070	580,949	597,387
Western Australia	975,920	438,852	466,686
Tasmania	26,215	227,599	239,574
Northern Territory	523,620	4,850	7,258
Australian Capital Territory	939	8,947	12,843
Total	2,974,581	6,629,839	7,014,915

The estimated population increase for the year 1939 was 67,635, of which 13,891 represented net immigration and 53,744 the excess of births over deaths. Estimated populations of the chief cities, all of them State capitals, on Dec. 31, 1939, were: Sydney, N.S.W., 1,302,890; Melbourne, Victoria, 1,046,750; Brisbane, Queensland, 326,000; Adelaide, South Australia, 322,990; Perth, Western Australia, 224,800; Hobart, Tasmania, 65,450. Canberra, the Federal Capital, had 10,420 inhabitants. Newcastle, N.S.W., had 104,485 inhabitants at the 1933 census.

**Overseas Territories.** The overseas territories under the Commonwealth's political control are shown in the table on page 48.

**Education and Religion.** Elementary education is free and compulsory. About 15 per cent of the adult population is illiterate. In 1938 there were 10,029 State schools with an enrollment of 934,990. Private schools in 1937 numbered 1880 with an enrollment of 235,815; free kindergartens, 72 with an average attendance of 3202. The six State Universities had 11,098 students in 1937. Religious affiliations at the 1933 census were: Church of England, 2,565,118; Roman Catholic, 1,161,455; Presbyterian, 713,229; Methodist, 684,022; Catholic (undefined), 127,542.

**Production.** The estimated gross value of production, by chief industries, for the fiscal years

AUSTRALIAN OVERSEAS TERRITORIES<sup>1</sup>

<i>Territory (Capital)</i>	<i>Area, sq. mi.</i>	<i>Population</i>
Australian Antarctic Territory <sup>2</sup>		
New Guinea, Territory of <sup>3</sup> (Salamaua)	93,000	560,935 <sup>4</sup>
North East New Guinea	69,700	499,741 <sup>4</sup>
Bismarck Archipelago	19,200	15,284 <sup>4</sup>
Solomon Islands	4,100	45,910 <sup>4</sup>
Papua, Territory of <sup>5</sup> (Port Moresby)	90,540	338,608 <sup>4</sup>
Nauru <sup>7</sup>	8	3,383 <sup>4</sup>
Norfolk Island	13	1,059 <sup>4</sup>

<sup>1</sup> The Territory of Ashmore and Cartier Islands off the northwest coast of Australia was placed under the authority of the Commonwealth of Australia by Imperial Order in Council of July 23, 1938. <sup>2</sup> The Australian Antarctic Territory includes all the islands and territory, except Adelaide Land, situated south of 60° S latitude, and between 160° E longitude and 45° E longitude. <sup>3</sup> Mandated to Australia by the League of Nations in 1920. <sup>4</sup> Includes Europeans, Asiatics, and natives enumerated on June 30, 1938, but does not include those natives living in areas not yet under government influence. <sup>5</sup> Enumerated natives in 1938. <sup>6</sup> Formerly known as British New Guinea. <sup>7</sup> Mandated to the British Empire by the League of Nations and administered under an agreement among Australia, Great Britain, and New Zealand. <sup>8</sup> 1939 estimate. <sup>9</sup> June 30, 1938.

ended June 30, is shown in the accompanying table from the *Quarterly Summary of Australian Statistics*.

VALUE OF AUSTRALIAN PRODUCTION

[In thousands of pounds sterling]

<i>Item</i>	<i>1937</i>	<i>1938</i>	<i>1939</i>
Agricultural	£ 91,403	£ 93,229	£ 76,851
Pastoral	105,499	100,794	84,895
Dairy, poultry, bee-farming	49,886	57,641	60,404
Forestry and fisheries	11,765	14,755	14,634
Mining	27,381	32,434	32,463
Manufacturing <sup>a</sup>	170,811	188,061	195,746
Total	£456,745	£486,914	£464,993

<sup>a</sup> Value added in process of manufacture

The total area under crops for 1938-39 was 23,497,780 acres and production was: Wheat, 155,368,621 bu (210,160,318 in 1939-40); oats, 15,554,735 bu; corn, 7,056,642 bu; hay, 3,321,161 tons; cane sugar, about 838,000 tons (for calendar year 1939). Livestock in 1938 included 111,057,832 sheep, 12,861,781 cattle, 1,741,056 horses, and 1,154,052 swine. The 1939-40 wool clip, as in the grease, totaled 1,109,035,000 lb. Production of butter in 1938-39 was 455,834,329 lb.; cheese, 65,645,989 lb.; bacon and ham, 74,453,963 lb. Gold output in 1939 was 1,645,697 fine oz.; black coal, 13,535,206 tons; pig iron, 1,104,605 tons (in 1938-39). In 1938 copper output was 20,326 tons; lead, 239,590 tons; silver, 13,895,541 oz.; tin, 3331 tons; zinc, 163,381 tons. Exploitation of shale oil deposits began in 1940 (see *History*). Manufacturing statistics for 1938-39 were: Establishments, 26,941; employees, 565,106; salaries and wages, £106,743,062; value of output, £500,419,977; value added during production, £203,416,610.

**Foreign Trade.** For the fiscal year ended June 30, 1940, merchandise imports were £115,705,084 (£102,156,352 in 1938-39) in British currency values; direct overseas exports, £145,589,334 (£140,496,312) in Australian currency values. The chief 1939-40 exports were: Wool, £52,952,843; butter, £15,484,540; meats, £15,109,148; gold, £12,694,786 in 1938-39; wheat, £7,530,490; flour, £5,258,365; silver and lead, £6,533,176; skins and hides, £4,157,709. For distribution of trade, see *YEAR BOOK*, 1939. Also see *TRADE, FOREIGN*.

**Finance.** Receipts of the Consolidated Revenue Fund for the 1939-40 fiscal year totaled £111,913,784 (£95,064,790 in 1938-39); expenditures, £108,-

985,409 (£94,437,481). Defense expenditures for 1939-40 amounted to £55,200,000, of which £28,814,046 came from the General Loan Fund and the balance from revenue. The preliminary budget estimate for 1940-41 placed revenues at £150,000,000, of which £A85,000,000 was required for normal services, and expenditures at £A276,000,000 (£A186,000,000 for defense). Of the war expenditure, £A65,000,000 was to come from tax income and £A121,000,000 from loans, etc. The Commonwealth debt on June 30, 1940, was £435,327,180 (£397,250,931 on June 30, 1939); total debt of States, £905,727,064 (£897,772,042). The Australian pound (£A) averaged \$3.5338 for 1939 and \$3.0516 for 1940.

**Transportation.** Federal and State railways in operation June 30, 1939, totaled 27,234 miles; private (general traffic) lines, 765 miles. Gross earnings of government lines, 1938-39, £44,780,000; operating expenditures, £35,958,000. Highways extended over 486,000 miles. The Commonwealth's second largest bridge was opened across the Brisbane River at Brisbane July 6, 1940. There were 30,245 route miles of civil air lines on Jan. 1, 1939. During 1938-39 a total of 3814 ships of 13,545,712 tons entered and cleared Australian ports. A £3,500,000 port improvement project was under way at Melbourne in 1940.

**Government.** Executive power is vested in the King, who acts through a governor-general and a ministry responsible to the Federal Parliament. There is a Senate of 36 members (6 from each State), elected for 6 years and renewed by half every 3 years, and a House of Representatives of 74 members apportioned among the States on a population basis and elected for 3 years. Governor-General, Brig. Gen. Alexander Gore Arkwright, Baron Gowrie, who assumed office Jan. 22, 1936. Robert Gordon Menzies (United Australia party) became Prime Minister Apr. 26, 1939. For developments in 1940, see *History*.

HISTORY

Like the other British Dominions, Australia received a profound shock when the German *blitzkrieg* in May and June overwhelmed the Low Countries and France and threatened Britain with imminent invasion and destruction. The entry of Italy into the conflict and Japan's subsequent alliance with Germany and Italy added to the Commonwealth's alarm and fear as to its future security. Without wavering in its loyalty to the mother country, Australia hurriedly prepared to increase its contribution to the defense of the Empire while at the same time intensifying preparations for home defense. The Commonwealth also sought closer relations with the United States as a precaution against possible collapse of British resistance and Japanese aggression.

**Political Developments.** The weak position of the Menzies Government (see 1939 *YEAR BOOK*, pp. 54-55) became worse as a result of a Labor victory over the United Australia party's candidate in the by-election of Mar. 3, 1940, to fill the Corio seat vacated by R. G. Casey, Minister to the United States. Labor party spokesmen during the campaign opposed the dispatch of further infantry divisions overseas or conscription for service either at home or abroad, while pledging full support of the Allied cause. Local issues also played an important part in the election.

**Coalition Government Formed.** Following similar Labor gains during 1939, the outcome in-

duced the United Australia party under Prime Minister Menzies and the Country party led by A. G. Cameron to sink their differences and form a coalition government (March 14). The new cabinet, consisting of three Country party and nine United Australia party members, consisted of: Prime Minister, Defense Co-ordination, Information, Robert G. Menzies; Commerce and Navy, A. G. Cameron; Attorney-General, Industry, W. M. Hughes; Army and Repatriation, G. A. Street; Vice-President of the Executive Council, Sir Henry Gullett; Supply and Development, Social Services, Sir Frederick Stewart; Postmaster-General, Health, H. V. C. Thorby; Treasurer, P. C. Spender; Trade and Customs, Sen. G. McLeay; External Affairs, J. McEwen; Interior, Sen. H. S. Foll; Air, Civil Aviation, J. V. Fairbairn

Further Labor gains were recorded in the State election held in Victoria on March 17. The composition of the new State Legislative Assembly was: Labor, 23; United Country party, 22; United Australia party, 15. Independents, 5. Premier A. A. Dunstan (Country party) continued in office with the support of Labor.

**Labor and the War.** The strength of Communist and other extreme radical sentiment in the New South Wales section of the Labor party was indicated by a resolution adopted March 24 opposing Australian participation in any overseas war or extension of the European conflict into a war against Soviet Russia. This was voted by the State Labor Conference, 195 to 88, against the protests of State Labor leaders, after radical speakers had attributed the European war to "British imperialistic capitalists." This viewpoint was repudiated by the leaders of both the State and Federal Labor parties. However, John Curtin, leader of the Federal Labor party, in a radio broadcast on April 8 proposed that Germany and Russia withdraw their armed forces from occupied territories of Poland and Finland and join in a peace conference "based on a renunciation of war and hatred."

Early the next morning the Germans invaded Denmark and Norway. This and the subsequent great German victory on the Western Front had profound repercussions within the Australian Labor movement and the country as a whole. At the opening session of the Federal Parliament on April 17 the government announced its decision to censor Communist publications and prosecute persons charged with subversive activities designed to defeat the country's war effort. On April 19 a split occurred in the New South Wales Labor party. A minority faction led by former State Premier J. T. Lang seceded because of the alleged failure of the Federal executive committee to oust Communists from the party ranks.

As the German drive on the Western Front gained momentum, Prime Minister Menzies on June 7 established a new Ministry of Munitions with himself as Minister and appointed Keith Murdoch, managing director of *The Melbourne Herald*, as Director General of Information. Italy's entrance into the European conflict was followed immediately by the internment of all Italian nationals who were active Fascists or military reservists. At 9 a.m. on June 11 the government announced that a state of war existed between Italy and Australia. Italians formed the Commonwealth's largest group of aliens. Troops and police were concentrated in northern Queensland, where

some 7000 Italians had settled, but there were no disorders.

**Emergency Parliamentary Session.** On June 16 Prime Minister Menzies, declaring Australia must mobilize all her resources of manpower and materials, called a special session of Parliament for June 20. New regulations issued under the National Security Act dissolved the Communist party, the Australian League for Peace and Democracy and seven Fascist organizations. Police raids were made on Communist headquarters in various cities and on homes of party members. On June 19 a special conference of the Australian Labor party junked long-cherished planks of the party platform. It not only approved compulsory military training but also advocated reinforcement of Australian divisions previously sent abroad and full participation in the Empire air training scheme. It proclaimed Australia's indissoluble unity with the Allies, urged that the nation's entire resources be controlled and mobilized for war by the government on a planned basis aiming at maximum use, and called for a 100 per cent war profits tax.

When Parliament assembled the next day, an amendment to the National Security Act authorizing the government to conscript all persons, their services and properties whenever needed in the nation's war effort was passed by the House of Representatives 61 to 9 and by the Senate 27 to 3. In accordance with the Prime Minister's long-standing pledge, compulsory military service was restricted to Australia and its territories. He warned the country that the government would raise the largest military force it was able to equip, impose taxes to the limit of capacity, control prices, punish profiteers, and ask all classes to share the war burden equally.

**The General Election.** While the government proceeded energetically to develop Australia's war strength, it was handicapped by the lack of a solid party backing in Parliament. The Labor party refused Prime Minister Menzies repeated invitations to enter a national all-party coalition for the duration of the war. It likewise opposed his proposal that the life of the existing Parliament be extended to avoid the scheduled fall election, in which one-half of the House and one-third of the Senate were to be replaced. In the latter stand, Labor was supported by Minister of the Navy Cameron, leader of the Country party.

On August 13 a military plane carrying leading cabinet and military officials from Melbourne to Canberra for a cabinet meeting crashed, killing Army Minister Street, Air Minister Fairbairn, Vice-President of the Executive Council Sir Henry Gullett, Lieut. Gen. Sir Brudenell White, Chief of the Australian General Staff; Mr. Fairbairn's secretary, and four members of the crew. Sen. Philip McBride and Rep. Arthur Fadden were appointed acting Defense and Air Ministers, respectively.

The tragic air accident forced the Prime Minister's hand and on August 21 he dissolved Parliament and called a general election for September 21. On the same day the Country party agreed to form a united front with the United Australia party. The coalition fought the electoral battle on a platform calling for the subordination of all issues to the prosecution of war and the continuation of efforts to include the Labor party in a national government. The platform of the Opposition Labor party, as stated by John Curtin, called for inflexible support of the British cause, sub-



ordination of profit-making and self-interest to national security, increased pay for the militia and Australian Imperial (overseas) Force, reorganization of the Department of Information and other Menzies-appointed commissions, increased old-age and invalid pensions, pensions for widows and orphans, and allowances to families having more than two children under the age of 16.

Two minority Labor factions, however, rejected Curtin's leadership. The so-called non-Communist group, with 5 Representatives and 2 Senators, was primarily interested in restoring J. T. Lang to leadership of the party in New South Wales, from which he was ousted in 1939. The third faction, comprising extremist adherents of the New South Wales "anti-war" bloc and controlling the Labor party's executive committee in that State, opposed the emergency powers conferred on the government by Parliament on June 20.

As a result of the election, Labor gained 4 seats in the House of Representatives, giving it 36 seats to 38 seats held by the government coalition (United Australia party, 24; Country party, 14). In the Senate, Labor gained 1 seat. It held 17 out of 36 seats in the new Senate, due to take office in July, 1941. The Labor gains made the government's parliamentary position weaker than before. A Labor government was equally impractical, since the Lang faction, with four members in the House, insisted upon remaining a separate party and demanded a high price for its co-operation with Curtin's majority group. As a result of conferences among all political parties, it was decided on October 22 that the Menzies Government would continue in office. Labor again refused to participate in either a national government or national executive war council. But it agreed to the establishment of an advisory national war council composed of 4 members of the cabinet, 3 Laborites and 1 Langite. Besides Curtin, the Labor appointees to the new council were F. M. Ford, deputy leader, and N. J. Makin, secretary of the party. H. J. Beasley represented the Lang Labor faction.

**Cabinet Reorganized.** Prime Minister Menzies on October 27 reshuffled his cabinet as follows: Treasurer, Arthur W. Fadden; Attorney-General and Minister for the Navy, William M. Hughes; Army, Percy C. Spender; Postmaster-General, Repatriation and Vice-President of the Executive Council, Sen. George McLeay; Air and Civil Aviation, John McEwen; Interior, Sen. H. S. Foll; Commerce, Sir Earle Page, who had replaced A. G. Cameron as leader of the Country party; External Affairs, Social Services and Health, Sir Frederick Stewart; Supply, Development and Munitions, Sen. Phillip A. McBride; Customs, Eric John Harrison; Labor and National Service, Harold E. Holt. Messrs. Hughes, Fadden, Spender, McEwen, and Foll were named members of the Prime Minister's new War Cabinet. Parliament reconvened on November 20 to consider the budget for the next fiscal year.

**War Contribution.** The first division of the volunteer Australian Imperial Force, raised in 1939, arrived in Egypt along with a smaller contingent from New Zealand on February 12. Other large contingents landed in Egypt on May 17 and in Britain about June 20. The first Australian contingents reaching the Near East were quartered in Palestine, but with the Italian invasion of Egypt toward the end of the summer these divisions and new infantry, air, and artillery units from Australia were concentrated for the most

part on the Egyptian front, where they participated in the December offensive. Other Australian air force and military units were stationed at Singapore.

Meanwhile the training program in Australia was steadily expanded and speeded up. In April, Royal Air Force officers and men began to arrive in Australia to assist in training airmen under the Empire air scheme. At the end of May enlistment of another overseas division began, while the militia force was rapidly expanding. In June, World War veterans of the Returned Soldiers League were authorized to organize an official army reserve for home defense. On July 17 the government announced plans to increase armed forces in Australia to 300,000 by the end of March, 1941, including a home defense force of 210,000 conscripts and volunteers and 90,000 troops training for overseas service.

By the end of September, Australia had sent about 23,000 soldiers, sailors, and airmen overseas and 100,000 more volunteers for overseas service were in training. By December approximately one out of every six males in the country were in uniform. The unit strength of the A.I.F. was already equal to that of 1914-18. Major attention was being concentrated upon the air force. The Empire air scheme called for an Australian air personnel of 16,000 and a ground staff of 26,000 by March, 1943. By mid-September, 1940, 9476 airmen and 18,144 members of ground crews were enlisted, and a large proportion of them were in training in 14 training schools. Seven more schools were due to open before the end of the year.

To provide planes for training purposes, the government stepped up local production of aircraft factories and placed large orders in Britain and the United States. By the end of August production of Australian factories averaged 600 planes a year. Australian shipyards were busy with orders for destroyers, sloops, and other smaller war vessels for the British navy. The domestic munitions industry was rapidly expanded with the aim of making the Commonwealth independent of overseas arms factories. Tanks and anti-aircraft guns were produced as well as rifles, small arms and other essential munitions and equipment. About 450,000 men were engaged in war industries of one kind or another.

**War Financing.** The cost of this program was indicated by Prime Minister Menzies on July 24 when he said that Australia had already undertaken a defense expenditure of £453,000,000 over three years. This was equal to the Commonwealth's total expenditure on the World War. War expenditures rose from £6,900,000 for July, 1940, to £11,000,000 for October. All forms of taxation were heavily increased, but loans were resorted to to meet the major share of the war's cost. A series of successful internal war loans were issued during 1940 and the British Government advanced a loan to meet Australia's overseas expenditures for war purposes up to the end of December. Also see above under *Finance*.

**Control Measures.** The government ran into serious difficulties in its efforts to speed up war production, reduce dependence upon overseas sources of supply, and curb subversive and other obstructive influences. A government measure granting Australian Consolidated Industries a monopoly for the manufacture of automobiles in Australia was modified by Parliament and adverse public opinion. The monopoly feature was elimi-



nated from the law passed May 31, 1940, advancing government aid in the establishment of an automobile factory. Gasoline rationing, imposed to curtail the drain on dollar exchange, proved highly unpopular. Some measure of relief was provided beginning August 26 when the Commonwealth's first gasoline producing plant commenced operation at oil shale deposits in New South Wales. Output was about 10,000,000 gallons annually, and it was planned to triple this.

The co-operation of 38 Federal trade unions in maintaining and increasing wartime industrial production was obtained on July 5. They agreed to Prime Minister Menzies' proposal that trade union panels be established to advise the government and to serve as a link between it and the unions controlling workers in war industries. Regulations were issued barring specified craftsmen from changing jobs except with the consent of the employer and the munitions authorities. The labor-government accord followed the settlement in May of the coal strike against an award of the Commonwealth Arbitration Court. The government had threatened to open the mines with volunteers unless a settlement was reached, and had brought pressure upon the unions to oust Communist and other subversive officials who had played a prominent part in calling and conducting the strike.

With the approval of the Advisory War Council, the government on December 21 assumed power to deal with intrastate as well as interstate industrial disputes for the duration of the war. The jurisdiction of the Commonwealth Arbitration Court was thus extended to all industrial labor controversies, and the Constitutional restriction confining the Commonwealth's conciliation and arbitration powers to interstate disputes was temporarily set aside. The Commonwealth Government on December 7 also assumed control of coastal shipping and a system of priorities for cargoes was established. A long-range government program for stabilizing the wheat industry by guaranteeing a price of 3 shillings 6 pence a bu on production not exceeding 140,000,000 bu annually was announced November 9. The Commonwealth at the same time agreed to advance £A2,770,000 to the States for drought relief.

**Censorship Controversy.** A storm of protest arose when the Prime Minister on July 18 authorized the new Director General of Information, Sir Keith Murdoch, to compel any newspaper, broadcasting station, or film organization to disseminate any matter designed to assure effective prosecution of the war in the form prescribed by the Information Ministry. The vigorous opposition of both the press and public forced the government on September 2 to modify these regulations. The director general retained power to compel newspapers to correct inaccurate statements concerning prosecution of the war in prescribed form, giving them the same prominence as the original statements. The time that might be requisitioned from a broadcasting station was limited to 30 minutes in each 12 hours, and from a moving picture organization to 10 minutes in each program. The Communist press was suppressed on May 24 and the distribution of Communist propaganda was declared illegal.

**Empire and Foreign Relations.** British setbacks in Europe and the spread of the war both in the Near and Far East revealed more clearly than before the extent of Australia's dependence upon the protection of the British fleet and strength-

ened its loyalty to the mother country. At the same time Australia's growing military contribution to Empire defense promoted a demand for greater participation in the direction of Empire affairs. The Australian press joined in the demand for Prime Minister Chamberlain's resignation after the Allied defeat in Norway and the German invasion of the Low Countries. In June and July representatives of the New Zealand Government visited Australia and the two Dominions undertook to co-ordinate their war efforts and defense preparations in the industrial, military, and naval spheres. Toward the end of September, the Australian press and some political leaders began to urge the creation of an empire war cabinet on which the Dominions would be directly represented. An Australian delegation participated in the Delhi Conference of the Middle and Far Eastern units of the British Empire, beginning October 26 (see INDIA under *History*).

Japan's southward expansion caused rising alarm in Australia and was largely responsible for the shift in emphasis from the overseas to the home defense forces that became evident in mid-July. On May 20 the Minister of External Affairs and the Japanese Consul General exchanged assurances at Canberra that neither government would take action affecting the status quo in the Netherlands East Indies. In July the mandated territory of New Guinea and Papua were included in the new defense setup; their defenses were strengthened and white residents subjected to compulsory military service. On August 18 the Prime Minister named Sir John G. Latham, chief justice of the Commonwealth High Court, as the first Minister to Japan.

This appointment was not cancelled as a result of Japan's adherence to the Rome-Berlin alliance. But the Australian Government and press placed growing emphasis upon the necessity for diplomatic, military, and economic co-operation with the United States in Pacific affairs. On March 5 Richard G. Casey presented his letters of credence as the first Australian Minister to the United States and on July 17 Clarence E. Gauss, the first American Minister to Australia, took up his duties at Canberra. An Australian-American conciliation treaty was signed Sept. 6, 1940. It was reported from London on November 7 that Australia, Britain, and the United States had agreed in principle upon the joint use of bases and other defense co-operation in the Pacific.

Prime Minister Menzies announced on December 27 that a sea raider, apparently a German vessel flying Japanese colors, had shelled and severely damaged buildings and docks of the settlement on the mandated island of Nauru.

See BRITISH MALAYA, GREAT BRITAIN, NEW ZEALAND, and PALESTINE under *History*; BIRTH CONTROL; BRIDGES; EUROPEAN WAR; INDUSTRIAL CHEMISTRY; LABOR CONDITIONS; NAVAL PROGRESS. **AUSTRALIAN ANTARCTIC TERRITORY.** See AUSTRALIA.

**AUSTRALIAN CAPITAL TERRITORY.** See AUSTRALIA under *Area and Population*.

**AUSTRIA.** A former independent state of central Europe, annexed by Germany on Mar 13, 1938, and transformed into an administrative division of the Third Reich. Capital, Vienna. Area, 32,369 square miles; population, 7,009,014 (1939). Population of Vienna (1939 census), 1,918,462; Graz (1934), 152,841; Linz (1934), 108,970.

Roman Catholics comprised 90.57 per cent of

the population at the 1934 census; Protestants, 4.38 per cent; Jews, 2.83 per cent (191,481). The 1939 census showed 94,270 racial Jews. There were 4721 public schools with 657,000 pupils in 1940. Agriculture, manufacturing, mining, and lumbering are the main occupations. Formerly a favorite haunt of tourists, Austria has suffered since 1938 through the virtual exclusion of non-German tourists. In 1939 there were 3685 miles of railway line and 42,120 miles of automobile roads.

**Government.** Upon the annexation of Austria, Chancellor Hitler appointed Josef Buerckel as Procurator for the Liquidation of Austria and Reich Commissar for the Reunion of Austria with Germany. Austria was subdivided into seven districts (Gaus), each under a National Socialist responsible to Herr Buerckel in Vienna, who in turn was directly responsible to Chancellor Hitler. Effective Apr. 1, 1940, this system was reorganized. The Nazi leader in each district was given the title Gauleiter (district leader) and Procurator, combining party and state functions, and became directly responsible to Hitler. Herr Buerckel's powers were restricted to those of Gauleiter and Procurator for Vienna. On August 7 Buerckel was transferred to the post of Civil Administrator of Lorraine and was succeeded in Vienna by Baldur von Schirach, former head of the Hitler Youth.

**History.** During the first quarter of 1940 Austrian political exiles made considerable progress in uniting their forces and in securing Allied backing for the restoration of Austria as an independent state. In response to the efforts of Archduke Otto of Hapsburg, pretender to the thrones of Austria and Hungary, and other Austrian exiles the French government and press declared the restoration of Austrian independence to be one of France's war aims. The British Government made no formal commitment, but the British Labor party on February 8 called for a postwar plebiscite to determine Austria's future. The Liberal party took a somewhat similar stand. On March 11 an Austria Office was opened in London to unite Austrian Social Democrats and Monarchists in the struggle against Nazi domination. The exiles declared that reports from Austria indicated growing discontent with German rule. During March and April Archduke Otto visited the United States to seek support for his cause.

This campaign for Austrian independence received a major setback when the German armies overran the Low Countries and forced France to capitulate. Archduke Otto, his mother, the former Empress Zita, and the other members of her family were at Castle Steenockerzeel near Brussels when the German *blitzkrieg* against the Low Countries was launched on May 10. They fled by automobile after German bombing planes had attacked the castle for six hours, and on June 22 succeeded in reaching Lisbon, whence they traveled by air to the United States. Archduke Otto reported that while in Bordeaux preceding the German occupation, he obtained French collaboration in helping 1000 of the 25,000 Austrian refugees in France to escape into Spain and Portugal. The remainder were obliged to remain.

During this period the controlled press in Austria was reported to have assured the public that the war would be over in three weeks and that a golden age would ensue for all Germans. Toward the end of October patriotic rallies were held in Vienna and other Austrian cities for one week,

with Propaganda Minister Goebbels as the chief speaker. He assured the Austrian people once more that Britain would soon collapse.

At the same time German sources reported that Vienna was regaining "its historic position as chief middleman between the industrial countries of Western and Central Europe and the agrarian countries of the Southeastern Continent." The Vienna Fall Fair attracted 300,000 visitors and most of the non-belligerent European countries participated. In May delegations from Bulgaria, Greece, Hungary, Rumania, and Slovakia met with a German delegation in Vienna for a conference designed to emphasize Vienna's role in the "new order" that Germany was establishing in Southeastern Europe. In line with this program, the Berlin-Munich-Salzburg superhighway was extended to Vienna during 1940 and work was begun on another similar project linking Vienna with Danzig by a direct north-and-south route touching Breslau and Poznan in conquered Poland.

In June it was announced that the birth rate in Vienna had risen so rapidly that hospitals and sanitariums were unable to accommodate all the expectant mothers. The Austrian population was further increased by the influx of some 80,000 German-speaking inhabitants of the Italian South Tirol, transferred under the German-Italian accord of Oct. 21, 1939 (see 1939 YEAR BOOK, p. 388). They were resettled in the Vorarlberg district on the Austrian side of the border.

German accounts of contentment and plenty in Austria under Nazi rule were denied by Austrian workmen who escaped to Yugoslavia and Turkey late in the year. They declared that Austria was on short rations and that unrest was widespread among the civil population. Anti-Nazi demonstrations by factory workers, housewives, and others were reported. Two hundred workmen were said to have been arrested following anti-German demonstrations in Vienna on November 17.

See GERMANY; JEWS.

**AUTOMOBILE RACING.** Motorcar competitions proved something of a disappointment throughout the past year. Wilbur Shaw won the 500-mile Indianapolis classic on Decoration Day, but under circumstances bereft of that excitement that lures the racing fans to stadiums. After vying for the lead with Rex Mays and Mauri Rose for 375 miles, a sudden visitation of rain compelled all competitors to refrain from passing one another—in accordance with an official regulation that sometimes makes a race into a mere parade. So for 125 miles Shaw handled his car with all the methodical élan of a Sunday driver heading for the country. Before the rain dropped, Shaw had set new records for 300 and 350 miles, averaging almost 119 miles an hour. For the entire route he averaged 114.277 m.p.h.

A new record for a one-lap mile was chalked at the Wisconsin State Fair when Mays covered the course in 95.29.

**AUTOMOBILES.** National defense was the topic of the year, the automobile industry being destined to perform a key role. Its plants were potentially most capable to take on the manufacture of parts for airplanes, tanks, and other combat equipment. Recognition of that was the early selection of one of the industry's outstanding personalities, William S. Knudsen, president of General Motors, to administer the production phase of the United States "defense program." More-

over, some felt, car and truck factories could most safely curtail normal-time output since, through the years, they had established for the country a vast fleet of vehicles and stimulated road building, giving this country that other vital element to defense, an adequate highway transportation system, one indeed unapproached by any other nation. In time of national emergency, by drafting civilian equipment to augment the military, there would be every facility for rapidly moving troops and supplies.

Naturally a leading subject of conjecture was what effect defense work would have on automobile business. Would more or less of its volume have to be sacrificed on the altar of patriotic duty? Would further improvement of existing models have to be postponed until the national emergency were over? Whatever may yet eventuate, so far, from the record of 1940, the answer to both questions was in the negative.

As to volume, automobile production came close to the predicted 4,500,000 vehicles, being now estimated at 4,476,000 or 25 per cent above 1939. That it was not higher was not because car factories were engaged in defense work. All such orders for equipment or parts placed with them were handled either in new plant extensions or in spare capacity of existing plants as a rule, so automobile production suffered no overall curtailment, and throughout the past year there was no shortage in supply of new cars. The market might well have outreached anticipated proportions, but for laggard general economic improvement and such unsettlement of buying activity as usually exists in the year of a presidential election. To the close of 1940 there had not been time for much stimulus to be felt in general business as a consequence of such increase in employment as came from war and defense orders. The last quarter did show a decided uptrend, however, and, anticipating greater spending power, the factories generally increased their schedules for the 1941 models; the most conservative predict a four-million production. They contend that it is vital to our defense to guard our economic front and, as general business follows the automobile business, the more cars sold the better. It will keep dealers in business whose service facilities are important to maintain all equipment now in use.

As for improvement of products, plans and preparations for the new models, including any necessary retooling, were already past danger of interference from taking on war orders. So complete was their redesigning, however, as to suggest intent to do all possible while possible, lest the machine-tool builders be too tied up to supply equipment for much change in the 1942 models. Anyhow, changes, both in appearance and mechanically were more decided than in the 1940 models. Riding ease, by contrast with what it once was, seemed almost ideal, nevertheless designers still found refinements possible in weight distribution, balance, springing, and shock absorption. All makes were improved in comfort, safety, convenience, and economy of performance. Most striking was an almost extravagant striving at ornateness, particularly in front-end treatment, with lavish use of chromium, flowing over on some to hood and body-side moldings, to embellish, perchance, the simplified body contours now universally stream-lined. Characteristic were more massive bumpers, a contribution perhaps to looks, but certainly to strength. In parking, especially, it has be-

come habit to maneuver to contact in either direction; now danger of damage to car or bumpers and risk of locking bumpers are diminished. Two-tone painting, optional on nearly all, with two-tone interior trim to harmonize, featured the styling—an obvious appeal to feminine tastes. All were longer and wider, and door widths were increased. A general effect of greater roominess, with more ample leg and elbow room applies also to headroom, in spite of a tendency to lower overall height. On the average, cars had 2 to 4 inches longer wheelbase, were 3 to 5 inches wider and 5 to 9 inches longer overall. Still larger luggage compartments with better disposition of the spare tire and lids counterbalanced to obviate chance of falling unintentionally, were featured. Body lines were cleaner, not only enhancing beauty, but facilitating washing and polishing. Few crevices, prone to catch and hold dirt, remained. Valleys between the hood and fenders entirely disappeared and there was more tendency to sweeping rear lines, effacing the bustle effect of the luggage compartment. All headlamps were blended either into the noses or tops of the front fenders. There located they are farther apart and nearer the ground, both favorable, some feel, to better lighting of the road. Tail lamps became similarly established in the rear fenders still earlier. Running-boards had threatened to become a tradition, but concealed running-boards, covered by flares at the bottom of doors and body, appeared on many lines as a compromise for those who object to their complete elimination. Besides an enhanced appearance, there is immunity from accumulations of mud, snow, and ice that make footing treacherous.

Horsepowers of engines were raised throughout, principally from increased compression ratios, the average of which is now 6.6 to one, but also from better carburetion. Only three lines had any increase in cylinder dimensions. Hoods locked from a knob within the car under the dash were the new order, especially needful since batteries took their place under the hood, to reduce exposure to theft. With the car locked the hood cannot be raised without forcing. Coupes are growing more and more like two-door sedans, which, to a great extent, they are replacing. Since most coupes acquired a single full-width rear seat, their principal differences are somewhat less leg room in the rear compartment and slightly shorter rear quarter windows.

Transmissions have been the most backward element in the automobile's evolution. Latterly factories have turned their research in that direction with a variety of results and a new crop of trade names. The only thing they had in common was the purpose of simplifying driving by reducing hand and foot work in speed changing. The fluid coupling was a part of Oldsmobile's Hydramatic, Chrysler's Vacumatic, De Soto's Simplimatic, and Dodge's fluid drive. All Chrysler products except Plymouth had fluid coupling available as an optional extra. On Chrysler and De Soto it might be had in combination with a four-speed semi-automatic transmission whose shifts between first and second and between third and fourth speeds are controlled by the accelerator pedal. In general the others were efforts to operate the clutch more or less automatically Packard had the Electromatic clutch; Hudson the Vacumotive clutch. None of these were standard equipment, but might be had at extra cost. Standard equipment in all cars was a three-speed gearshift controlled by a hand-lever

beneath the steering wheel, except in the Crosley. In many a lower ratio second-gear speed was provided for quicker getaway. Overdrives seemed to be returning to favor, being provided on many models. Usually these were at least semi-automatic in their going into and out of action. Finger-tip gear-shifting, so called, had actual shifting movement performed by a vacuum cylinder connected with the engine suction. Remembered as a part of the Hudson Electric Hand, it was first mechanically controlled on the 1940 Chevrolet. For 1941, Chevrolet, Hudson, Chrysler, De Soto, Dodge, Plymouth, Packard, and Lincoln had it as standard or optional equipment. It reduces the effort of gear shifting and shortens the movement of the gear-shift lever.

Among other features, not new but more widely used, were independent front suspensions, power operation for the tops of convertible cars (provided in even the lowest-priced), steering wheels with no spoke in the upper half for better view of the instrument panel, air-foam rubber seat cushions, direction indicators, concealed gasoline filler caps, oil-bath air cleaners, checks to hold doors fully open so that they do not swing or blow shut unexpectedly, and single-piece heat-treated curved rear windows—a part of the increasing effort to achieve better visibility. The Packard 180 and the Lincoln Custom line had an innovation in window controls. Through an electric motor, hydraulic lifts raise or lower the windows selectively when conveniently located switches are moved up or down, doing away with manual manipulation. Packard full-mechanical refrigeration cooling system, introduced the previous year, was continued as an optional extra. Cars of all Chrysler makes featured a new safety rim that prevents a flat tire from being thrown off.

No new manufacturers came into the passenger car field and no old ones passed out. There were some new chassis and some were dropped. In the Willys case, it carried a new name—Americar—and replaced the Overland. Cadillac discontinued its 16-cylinder line (all of its new models are V-8's) and the La Salle, but replaced the latter's two models with two lower-priced Cadillacs. Nash added a new model in the price range of greatest demand, as had Hudson and Studebaker earlier. It had the distinction of being the only car in its class having coil springs rear as well as front. A new line for Ford was a four-cylinder truck.

Exports of motor vehicles suffered drastically because of the European and Asiatic wars. Latin American business increased some, but not enough to offset other losses, so that exports as a whole fell off 26 per cent. In the interest of national defense, as well as in its own selfish interest, the automobile industry is concerned about western hemisphere solidarity. With all other countries that produce automobiles practically out of the market, South American business all came to this country, but as most of it always had, the increase was not significant.

In 1940 the longest continuous increase in car sales was recorded—23 months—and service-maintenance volume reached an all-time peak. The first nation-wide plan for selling automobile repairs on the installment basis was announced and slowly got under way with jobber sponsorship. Jobbers continued to open additional machine shops and to improve methods and equipment, especially for complete engine rebuilding. These shops would be a factor in national defense by their widely scat-

tered facilities for keeping motor transportation in operating condition.

New models were all out before the National Automobile Show (October 12 to 20), but in spite of that, it was especially well attended. Two factors that contributed were Ford's exhibiting there for the first time and the introduction of a new feature—the Historic Car Exhibit, where nearly 40 old timers were shown, one dating as far back as 1897 and all holding interest either because of age, or having distinguished themselves in notable races or other events, or having once belonged to or transported notable personages.

**Statistics.** The before mentioned 25 per cent production increase was released by the Automobile Manufacturers Association when the year closed. Still partly estimated, the factories' combined passenger-car sales from United States and Canadian plants were 3,705,000 and motor truck sales 771,000. The former had a wholesale value of \$2,413,800,000 and the latter \$598,300,000. These figures, added to the estimated wholesale value of parts, accessories, and tires sold to present owners, and service equipment—\$1,250,000,000—made the grand total of factory business \$4,262,100,000.

The latest available figures for foreign production, exportation, and importation of motor vehicles are for the year 1939 which, as published in *Automotive World News*, June 20, 1940, by the Department of Commerce, showed that in that year 21.9 per cent of the world total of 4,779,170 were produced outside of the United States and Canada, as compared with 33.6 per cent in 1938. Such was the effect of wars and conquests on so many foreign vehicle-producing countries in 1939, and it was certainly greater in 1940. In 1939 non-American production of cars amounted to 685,710 passenger cars and 360,742 trucks and buses. In 1940 it was assuredly far less, even allowing for production of such vehicles for military use, so it is probable that the world total of vehicles was not over 5,250,000. Foreign vehicle-producing countries in 1939 exported 190,919 units (18.2 per cent of their production), and the same countries imported 115,679. The United States and Canada exported 8.3 per cent of their production, 311,034 vehicles (sales within Canada not included), and imported 18,585.

For 1940 United States and Canadian vehicle exports dropped to 230,500 units and accounted for only 5.1 per cent of production, a showing made poorer by the increased domestic sales. The combined value of motor vehicles, parts, and tires exported totaled \$280,000,000, a decrease from the year before of 13 per cent.

A new high for number of vehicles in use was established. Domestic registration reached 31,950,000 for a 4.3 per cent increase, and gave the United States 69 per cent of the estimated world registration of 47,000,000. The figure for this country is not final, but represents 27,300,000 passenger cars and 4,650,000 trucks. Of the new vehicles sold here last year about 84 per cent replaced others that were scrapped.

The jump in employment must be partly attributed to defense work. Workers in automobile, body, and parts factories increased 14 per cent to 443,000 and the weekly payroll 26 per cent to \$15,400,000.

Motor vehicle user taxes continued at the same ratio of total Federal, State, and local taxes, 11 per cent, but the revenue collected from them—\$1,772,000,000—was 8.7 per cent greater than the year before, double the percentage of increased vehicles

in use. With nearly the same disparity, gasoline taxes, representing two-thirds of what is paid to the various governmental divisions by users of the highways, climbed 8.2 per cent to \$1,120,000,000.

The only current measure of motor vehicle retail business is the number of establishments, for sales volumes as reported to the Census of Business are long deferred in the process of collecting, compiling, and distributing. That source is the authority for a recent statement that "the number of auto service stations increased less than one-third the rate of the preceding five years in the period since 1935, while sales in the latest five years more than doubled the preceding period." The following, from Chilton Company figures, shows the past year's increase in number of establishments:

Type of establishment	1939	1940
Total car and truck dealers	40,599	41,494
Total repairshops	86,709	87,366
Total retail outlets, duplicates eliminated	94,494	94,985
Wholesalers	6,176	6,264
Retail gasoline outlets	400,000	400,000

Retail sales of motor vehicles in the United States were 27.1 per cent higher than for 1939.

**Motor Transportation.** In "Public Aids to Transportation," (vol. iv) issued during the year by the Federal Co-ordinator of Transportation, the estimated distribution of motor traffic in 1937 was comprehensively studied. It showed a total annual mileage of 265,000,000,000, broken down as: 215,935,100,000 for passenger cars including taxicabs, 46,695,700,000 for motor trucks, and 2,369,200,000 for motor buses including school buses. Translated into probable 1940 traffic, stepping each item up in the ratio of the intervening registration increases, the estimated mileages were: total annual passenger car, 231,640,500,000; motor truck, 51,405,800,000; motor bus, 2,612,300,000, making a grand total motor vehicle mileage of 285,658,600,000. In 1940 more than 90 per cent of all passenger mileage was traveled by motor vehicle—490,000,000,000 passenger miles.

According to data obtained from highway planning surveys made by the U.S. Public Roads Administration, 55 per cent of the total mileage of passenger cars is connected with business activities. From the same source was the estimate that 56.5 per cent of motor-vehicle travel was over primary rural highways and trans-city connections, 13.4 per cent over secondary highways and local rural roads, and 30.1 per cent over city streets.

More than 48,000 communities, with a total population of nearly 8,000,000, not reached by railroads, were dependent upon motor vehicles for their personal transportation and the handling of goods and supplies into and out of them. Most of these never had street railways and those that once had, have almost entirely replaced them with buses. Rail transportation by surface lines, subways, and elevated railways became still more restricted to the larger cities and some of them abandoned surface cars in favor of trolley buses or gasoline-driven buses. Growing use of trolley buses has been a noticeable trend of recent years, dictated largely by desire to secure the greater flexibility of buses without scrapping or liquidating power plants. Not being confined to rails, they contribute materially to fluidity of traffic.

The United States had more motor trucks in use than all other countries combined. One of every four was owned by a farmer. Conspicuous among

the advantages of trucks is their more rapid handling of perishable goods. Large percentages of farm products went to market exclusively by trucks—27 per cent of the butter, 39 of eggs, 65 of live poultry, 40 of fruit and vegetables, 62 of cattle, 61 of calves, 68 of hogs, 29 of sheep and lambs, and 50 of horses and mules. Twenty-four cities received all of their milk by truck. About 9 per cent of the coal production was shipped from the mines by truck.

Motor transportation has played a conspicuous part in speeding the delivery of mail, especially in rural districts. The latest figure on the mileage of rural highways used by the U.S. Post Office Department was 1,392,657, in its operation on 32,839 rural routes using 15,045 motor trucks in all branches of its service. About half of the motor vehicles built were transported from their factories to dealers over the highway by truckaways or driveaways, notwithstanding which about 14 per cent of railroad freight was automotive. Railroads themselves had in use more than 66,000 trucks for terminal transfer, intercity and store-door delivery service. As of March, 1939, there were 25,058 owners of truck fleets of eight or more, operating a total of 954,302 trucks. The Bell Telephone system was the largest single owner, having 16,210 trucks and 4490 passenger cars. An incomplete list showed 127 companies each operating a hundred or more vehicles.

The owners of the 4,650,000 motor trucks registered by the end of the year paid in special taxes for the privilege of operating them, \$460,000,000. Per dollar of gross revenue from operating for-hire trucks, an average of 68 cents was paid in taxes. Privately owned and operated trucks made up 86 per cent of the total. Truck and bus operation made its contribution to employment by requiring 3,900,000 drivers.

Motor buses in use increased to 141,300. Of these 54,000 were revenue buses (city 33,550, intercity 18,000, sight-seeing and charter hire 2450) and 87,300 non-revenue buses (school 86,300, hotel 300, industrial 500, and miscellaneous 200). Motor carriers operated 30,525, electric railways 19,250, and steam railroads 1775. Those buses that were exclusively or partially in the service of schools (two out of three), carried last year a daily average of 3,968,000 scholars and the cost of the service was \$76,053,000, with 44,250 schools using buses.

Very important from the standpoint of better understanding among the 21 American republics was the increased travel among them as progress is made in the completion of the Pan-American Highway. During the year more headway was made in several sections, but figures of the total mileage had not been assembled. Since construction began in 1925 it has proceeded at a rate in excess of 600 miles per year. The highway begins at Nuevo Laredo, Mexico, extends for 3200 miles to the Panama Canal, proceeds another 6000 miles to Buenos Aires, Argentina. There it turns north an additional 1900 miles to Rio de Janeiro, Brazil. At the end of 1940 approximately two-thirds of the highway in South America was suitable for year-round travel, and much of it—2015 miles—was paved road. Eventually connecting all of the republics of the two continents, this highway will be of tremendous commercial importance not only in promoting travel between the countries, but also in extending trade between them, the highway furnishing the additional means of motor transport for their exchanges of goods.

**Automobile Accidents.** The overall trend in traffic accidents has been constantly downward since 1934 when the fatality rate was 18.4 per 100,000 vehicle miles. "Accident Facts," published during the year by the National Safety Council, showed that the traffic fatality rate on a mileage basis reached a new low in 1939, 12.1 per 100,000 vehicle miles, 30 per cent below what it was in 1929. There was a 10 per cent decrease in accident rates by the operators of motor vehicle fleets. Private intercity trucking was the classification that had the largest reduction, 28 per cent.

The 1940 safety record was at least no worse. Although there were numerically more fatal accidents than in 1939 (latest estimate 34,500), accidents in relation to miles driven were the same, for there was a 6 per cent increase in mileage driven. That fatal automobile accidents were not greater was attributed to co-ordinated traffic control, traffic education, highway improvement, and better cars. The 1941 models have been adjudged at least 50 per cent safer than those of 1931. Factors contributing to reduced severity of accidents have been more use of steel in places that protect passengers, recessing or rounding of fitments that may cause injuries if a sudden stop throws car occupants against them, and especially the now universal use of safety glass throughout. Lower center of gravity as against the former top heaviness has increased stability and reduced the frequency of accidents.

An important part in the technique of traffic accident prevention is adequate accident reporting and its intelligent analysis, so that the indicated corrective measures may be applied to reduce recurrence. Twenty-seven States now have, through adoption or revision, accident report forms and methods that are substantially standard. There is much more, however, to the Standard Highway Safety Program for States advocated by the Automotive Safety Foundation, the seven elements of which include legislation, motor-vehicle administration, enforcement, engineering, education, training personnel, and research. To date not more than 20 States have as yet either a well co-ordinated official safety program, or an adequate State Safety council, or both, which gives some indication of how much room for improvement still exists.

Much of the gain in traffic safety may be ascribed to "Child Safety Education," which began in 1922. As a result the 5- to 14-year-old age group has led all other ages, year after year, in the reduction of traffic-death figures. From 1922 through 1938 the 5- to 14-year-old fatalities dropped from 14 to 11 per 100,000 persons, nearly 25 per cent, while the rate for every other age group rose, some 30 per cent, some over 100 per cent. More than 500,000 children are now enrolled in school safety patrols. The film, "Speaking of Safety," which has already been seen by 5,000,000 elementary school children during the past three years, was given additional distribution. Perhaps most important of all, the American Association of School Administrators adopted and incorporated in its 1940 *Yearbook*, a thorough-going safety program of education for schools.

Guidance of traffic by radio, which has been under experimental development for years, had its first work-out last summer with an installation of the Halstead system on the George Washington bridge from New York City to Englewood, N.J. So far it works only for east-bound traffic, direct-

ing motorists what to do on leaving the bridge to reach various objectives. A sign calls attention to the service and indicates the dial setting. Use of a low-power transmitter and wave-guide cable confines the broadcast to cars for which it is intended. It offers great possibilities in increasing safety as well as expediting traffic by transmitting messages that warn of dangerous driving conditions, or advise detours to avoid places where traffic is congested. It has obvious advantages over signs that may be missed, especially at night, and is elastic in its adaption to emergencies. Messages to be continuously repeated are recorded and reproduced so that an announcer is not kept on duty. For some time broadcasting stations have been giving spot announcements of highway conditions for the benefit of radio-equipped cars which have now reached a ratio of one to every four cars registered. These experiments portend a new technique in traffic control. See ACCIDENTS.

**Legislation.** Most State legislatures sit only alternate years and most of them in the odd-numbered years; only nine States held regular sessions. Apparently those that convened were more or less satisfied with what was already on their statute books so far as motor vehicles and use of their highways were concerned. New enactments were principally amendments of existing laws. Some adverse bills were presented but nearly all defeated and, in general, laws passed were not unkind to highway users, although not all of the hoped for legislation was secured.

The most unsatisfactory phase was that of diversion of motor taxes to other than highway purposes. New York was the worst offender, diverting three-fourths of its total special road imposts in the budget adopted—in excess of \$75,000,000. New Jersey somewhat increased diversions and South Carolina evaded a State supreme court nullification of a diversion law enough to divert \$2,000,000 for State government expenses. On the other side, Louisiana reduced diversion and North Dakota became the eighth State to make it, by amendment, constitutionally prohibitory. In other States similar efforts failed.

The tax situation, which had reached the point where one out of every nine tax dollars collected from all sources, Federal, State, and local, was paid by the motorist, at least was not aggravated. No States increased their gasoline tax rates, although three attempted it. Motor vehicle taxes of one form or another were reduced in Alabama, Louisiana, and Mississippi; some increased and some decreased in Virginia and peddlers were affected by changes in Kentucky, Mississippi, and Virginia.

Many States have found it conducive to more use of cars and hence yielding them more in gasoline taxes, if they defer registration renewals from the first of the year. Less than 10 per cent of United States motorists had to pay for their new tags on January 1. To date 30 States have modified their laws to postpone registration two or three months and 14 others give periods of grace up to 60 days.

Nothing new of moment was enacted in respect to carrier regulation. Size and weight restrictions were liberalized in Louisiana and Virginia. Bills to that end failed in Kentucky, and Rhode Island reduced the maximum permissible length of combinations of trucks and trailers. Slight gains were made in the extension of reciprocal privileges to non-residents in Alabama and California.

Safety received consideration in bills relating to equipment, inspections, etc., but few laws were significantly changed. New York, Rhode Island, and Virginia gave greater power to local authorities over speed limits.

State operation of toll highways is spreading. Pennsylvania authorized extending to Philadelphia, the superhighway opened during the year from Pittsburgh to Harrisburg. South Carolina created a Commerce Development Board with broad powers to build and operate toll highways, railroad, and motor carrier lines.

Efforts to increase business regulation generally failed. Maine repealed its certificate of title and used-car-dealer regulatory laws. Rhode Island passed measures regulating manufacturer-dealer relationships including the licensing of automobile dealers. That State also provided for regulating motor fuel retailing, as did Alabama also.

Consumer groups, farmers, and governmental agencies joined in vigorous opposition to laws that interfere with free trade among States and no new barriers, such as port-of-entry laws, were created. Among the organizations on record against such barriers are: National Conference on Interstate Trade Barriers, Council of State Governments, American Association of State Highway Officials, Western Conference on Governmental Problems, American Association of Motor Vehicle Administrators, American Farm Bureau Federation, U S Departments of Agriculture and Commerce, Institute for Consumer Education, National Highway Users Conference, American Petroleum Association, and U S Public Roads Administration.

See BUSINESS REVIEW; INSURANCE; LIVING COSTS; MACHINE DEVELOPMENT; ROADS AND STREETS

HENRY R COBLEIGH

## AUTOMOTIVE SAFETY FOUNDATION. See BENEFACCTIONS.

**AVIATION.** See AERONAUTICS and articles on various countries under *Transportation*

**AZERBAIDJAN SOVIET SOCIALIST REPUBLIC.** See UNION OF SOVIET SOCIALIST REPUBLICS under *Area and Population*.

**AZORES.** A group of nine islands (Corvo, Fayal, Flores, Graciosa, Pico, Santa Maria, São Jorge, São Miguel, Terceira), in the Atlantic Ocean, 800 miles west of Portugal of which it is, administratively, a part (3 districts). Area, 922 square miles; population (1930 census), 253,935. Chief towns: Ponta Delgada (capital), 18,022 inhabitants; Angra, 10,642; Horta, 7643. The principal products consist of oranges, pineapples, olives, grapes, and bananas. See PORTUGAL under *History*.

**BADEN.** See GERMANY under *Area and Population*

**BADMINTON.** The nation's No. 1 badminton player was David Freeman of Pasadena, Calif. He made a thorough sweep of the fourth annual national championships at Seattle in March, retaining the singles title he captured in 1939 and sharing in the victories of the men's and mixed doubles. His partner in the men's doubles was Chet Goss of Los Angeles, while Miss Sara Williams of Spokane paired with him in the mixed event. The women's singles title was won by Miss Evelyn Boldrick of San Diego, while the doubles victors were Miss Elizabeth Anselm of San Francisco and Miss Helen Zabriskie of Oakland.

At the Eastern championships in New York

City in February, Harold Seavey of Boston was victor in the men's singles, Jack Laimbeer and Julian H. Burgess of Garden City took the men's doubles, Miss Mary Hagan of Old Sixty-ninth the women's singles, Miss Helen Gibson and Mrs. Wanda Bergman of Westport the women's doubles and Mr. and Mrs. William Faversham of Boston the mixed doubles.

**BAHAMAS.** A British West Indian crown colony consisting of 20 inhabited and several uninhabited islands and rocks. Land area, 4404 square miles; population (1938 estimate), 67,726. Chief islands: Abaco, Acklins, Andros, Bimini, Cat Island, Crooked Island, Eleuthera, Exuma, Grand Bahama, Inagua, Long Island, Mayaguana, New Providence, Rum Cay, and San Salvador (or Watlings). Capital, Nassau (on New Providence). Education (1938): primary and secondary schools had 16,131 students enrolled.

**Production and Trade.** Sponge, shell (tortoise and conch), cascarilla bark, pine timber, salt, tomatoes, sisal, and crawfish are the chief products. Many tourists visit the colony every year. Trade (1938), excluding specie: imports £1,138,839 (34 per cent of this total was expended on food, drink, and tobacco); exports (including re-exports of £64,688) £213,135, of which sponge represented £90,054. In 1938 there were 1060 miles of highways.

**Government.** Finance (1939 estimates) revenue, £444,583; expenditure, £444,448; public debt, £253,000 on Dec. 31, 1938. Executive power rests with a governor, aided by an executive council. There is a legislative council of 9 nominated members and a house of assembly of 29 elected members. Governor and Commander-in-Chief, Duke of Windsor (assumed office on Aug. 17, 1940).

**History.** During January, 1940, the first landing ground for aircraft was opened 3 miles south of Nassau. Under the British-United States accord of Sept. 2, 1940, the British Government leased to the United States for 99 years the waters of Abraham Bay and a small area of land adjacent thereto on Mayaguana Island for the establishment of naval and air bases. A bill for the acquisition by the Bahaman Government of the land involved and its transfer to the United States through the British Government was passed by the House of Assembly at Nassau November 25.

See BRITISH WEST INDIES; GREAT BRITAIN under *History*

**BAHREIN ISLANDS.** See under ARABIA

**BAKER ISLAND.** See UNITED STATES.

**BALEARIC ISLANDS.** See SPAIN under *Area and Population*.

**BALI.** See NETHERLANDS INDIES under *Area and Population*.

**BALKAN ENTENTE.** A bloc of Balkan states—Greece, Rumania, Turkey, and Yugoslavia—which by the treaty of Feb. 9, 1934, mutually guaranteed their frontiers against aggression by any of the Balkan countries (see 1939 YEAR BOOK, p. 63, for further details).

The sixth annual conference of the Balkan Entente was held at Belgrade on Feb. 2-4, 1940. The Foreign Ministers of the participating powers agreed to extend the life of the entente until February 1948; to maintain their neutral and pacific position with respect to the European War; to keep a "common vigil" for the preservation of their territorial integrity and independence; to strengthen economic ties with one another and with other Balkan states. Their position was cal-



culated to prevent Bulgaria and Hungary from pressing their territorial claims in a way that would drag the Balkans into the war.

These calculations were upset by Italy's entrance into the war, the establishment of a German protectorate over Rumania, and the subsequent Italian attack upon Greece. Both Hungary and Bulgaria obtained large slices of Rumanian territory in defiance of the Balkan Entente. Rumania repudiated its obligations under the pact, and Yugoslavia seemed likely to do so. But Turkey's warning that she would attack Bulgaria if the latter country joined in the Italian attack upon Greece helped to keep Bulgaria out of that conflict. With this single exception, the Balkan Pact at the end of 1940 appeared to have been effectively dissolved and new combinations of the Balkan powers were in process of formation. See GREECE, RUMANIA, TURKEY, and YUGOSLAVIA under *History*.

**BALKAN STATES.** The States of the peninsula south of the Danube, and bounded by the Adriatic, Aegean, and Black Seas. See ALBANIA; BULGARIA; GREECE; RUMANIA; TURKEY; YUGOSLAVIA.

**BANGKA.** See NETHERLANDS INDIES under *Area and Population*.

**BANG'S DISEASE.** See VETERINARY MEDICINE.

**BANK ROBBERIES.** See FEDERAL BUREAU OF INVESTIGATION.

**BANKRUPTCY AND RECEIVERSHIP.** See BUSINESS REVIEW; RAILWAYS; SUPREME COURT.

**BANKS AND BANKING.** The deposits of banks in the United States reached a new high record level during 1940 as a result of an unprecedentedly heavy inflow of gold from abroad and large-scale purchases of Government bonds by the commercial banks of the country. Gold imports during the year aggregated \$4,749,000,000, marking the culmination of the huge transfers of gold by European countries to the United States brought about by the war. As a result of the enormous gold shipments of 1939 and 1940, the bulk of the monetary gold stocks of Europe has now been shifted to the United States, and future shipments will necessarily decline sharply to correspond with the current level of new gold production, at most.

The pressure on the banks to increase current earnings caused large purchases of Government bonds by both large and small institutions. The reporting member banks of the Federal Reserve System alone showed an increase for the year of \$971,000,000 in their holdings of U.S. Government obligations, chiefly of longer term, while holdings of Government-guaranteed bonds rose by \$300,000,000.

The extremely easy condition of the money mar-

ket was further intensified during the year by the vast gold inflow. The military collapse of France brought a flurry of selling on the part of some banks into the Government bond market, but when it became apparent that Great Britain would carry on the war alone banks and insurance companies vied with each other in adding to their portfolios of high grade bonds, so that in the closing months of the year yields had fallen to the lowest levels on record. The pressure to add to bond portfolios reflected the rise in excess reserves of member banks of the Federal Reserve System to a new high point close to \$7,000,000,000.

The extent to which member banks have built up substantial holdings of longer term Government bonds is shown by the following table summarizing their portfolios of direct Treasury obligations on June 29, 1940:

<i>Due</i>	<i>Amount (Millions of dollars)</i>	<i>Per cent of total</i>
Within 5 years . . . . .	4,022	34.7
5-10 years . . . . .	3,202	27.6
10-20 years . . . . .	3,776	32.5
After 20 years . . . . .	600	5.2
<b>Total . . . . .</b>	<b>11,600</b>	<b>100.0</b>

Larger holdings of longer term Government bonds and a moderate increase in loans made for increased operating earnings for many banks. The outlook for a larger volume of loans brightened as a result of the national defense program. The Federal Reserve System has undertaken to play the role of intermediary in facilitating the placing of defense contracts and sub-contracts, particularly with smaller concerns. The banks of the country, under the leadership of the American Bankers' Association, set up a National Defense Loans Committee, with representatives in each Federal Reserve District, to co-operate in the facilitation of the defense program. The Assignment of Claims Act of 1940 was enacted making legal the hypothecation of Government contracts with banks or other financing institutions, in order to make such agreements "bankable." Contractors could thus finance plant expansion and working capital requirements by a pledge of such agreements. Some disappointment was felt when Federal Loan Administrator Jesse H. Jones set a maximum rate of 1½ per cent on such loans where the War or Navy Department guaranteed reimbursement, on the ground that they were virtually backed by the credit of the United States. It was felt by many bankers that the risk justified a higher rate. Without the guarantee of reimbursement, Administrator Jones stated 4 per cent was to be the maximum rate. However, a moderate volume of loans based on defense contracts had been made by the end of the year, and a number of others were in process

#### PRINCIPAL ASSETS AND LIABILITIES OF INSURED COMMERCIAL BANKS

[In thousands of dollars]

	<i>June 29, 1940</i>	<i>Dec. 30, 1939</i>	<i>June 30, 1939</i>	<i>% change from Dec. 31, 1939</i>	<i>% change from June 30, 1939</i>
Reserve with Federal Reserve Banks . . . . .	13,750,656	11,603,504	10,010,744	+18.5	+37.4
Other balances with banks . . . . .	7,556,291	7,343,873	6,186,780	+2.9	+22.1
U. S. Govt. obligations, direct & fully guaranteed . .	15,900,885	15,567,480	15,038,215	+2.2	+5.7
Other securities . . . . .	6,920,404	6,860,359	6,954,694	+0.9	-0.5
Loans, discounts, and overdrafts (incl. rediscounts)	17,014,372	16,866,021	16,040,373	+0.9	+6.1
Demand deposits (of individuals, partnerships, and corporations) . . . . .	28,899,054	27,196,842	24,772,378	+6.3	+16.7
Time deposits (of individuals, partnerships, and corporations) . . . . .	14,779,568	14,471,056	14,298,215	+2.1	+3.4
Total deposits . . . . .	58,425,391	56,076,349	52,326,754	+4.2	+11.7
Total liabilities and capital account . . . . .	65,389,180	63,146,526	59,425,859	+3.9	+10.4



of negotiation. The RFC also financed a large volume of defense orders.

The principal assets and liabilities of insured commercial banks on June 30 and comparable earlier dates are shown at the foot of the opposite page.

#### COMMERCIAL BANKS COVERED BY REPORT

	June 29, 1940	Dec 30, 1939	June 30, 1939
National banks, members Federal Reserve System	5,164	5,187	5,203
State banks, members Federal Reserve System . . .	1,234	1,175	1,127
Banks not members Federal Reserve System . . . . .	7,083	7,173	7,239
Total . . . . .	13,480	13,535	13,569

**Credit Control Policy.** Excess reserves of member banks of the Federal Reserve System, which reached a peak in 1939 of \$5,534,000,000, rose to \$6,940,000,000 on Oct. 23, 1940. Thereafter, there was the usual temporary decline, due to the holiday expansion of currency circulation and Government financing, during the closing months of the year.

So long as business activity remained at a relatively low level and unemployment was widespread, the authorities regarded the huge excess reserves with equanimity, and discussion of corrective measures to eliminate them was on a purely academic level. The national defense program caused an increase in business activity to the highest point yet recorded during the last half of 1940, however, and unemployment dwindled rapidly. The problem of excess productive capacity in many fields was transformed into the opposite problem of "bottlenecks." Such circumstances greatly increased the possibility of an inflationary rise in commodity prices, particularly if spending on consumer goods would expand *pari passu* with armament spending. As a result, discussion of measures that would scale down excess reserves and halt the increase in bank deposits was greatly intensified. Chairman Marriner S. Eccles of the Board of Governors of the Federal Reserve System at first urged privately the adoption of a vigorous restrictive credit policy. On Dec. 31, 1940, for the first time in its history, the entire Federal Reserve System sponsored a special report to Congress outlining the steps it favored to meet the danger. This historic document, signed by the Board of Governors, the presidents of the twelve Federal Reserve Banks and the Federal Advisory Council, made five specific recommendations of a monetary character to meet the threat of commodity price inflation resulting from the defense program. In addition to these monetary steps, the report urged direct controls to prevent industrial and labor bottlenecks and a tax policy that would cut down consumption and unessential investment. The five monetary recommendations are as follows:

"1. Congress should provide means for absorbing a large part of existing excess reserves, which amount to seven billion dollars, as well as such additions to these reserves as may occur. Specifically, it is recommended that Congress—

(a) Increase the statutory reserve requirements for demand deposits in banks in central reserve cities to 26%; for demand deposits in banks in reserve cities to 20%, for demand deposits in country banks to 14%; and for time deposits in all banks to 6%.

(b) Empower the Federal Open Market Committee to make further increases of reserve requirements sufficient to absorb excess reserves, subject to the limitation that reserve requirements shall not be increased to more than

double the respective percentages specified in paragraph (a). (The power to change reserve requirements, now vested in the Board of Governors, and the control of open market operations, now vested in the Federal Open Market Committee, should be placed in the same body.)

(c) Authorize the Federal Open Market Committee to change reserve requirements for central reserve city banks, or for reserve city banks, or for country banks, or for any combination of these three classes.

(d) Make reserve requirements applicable to all banks receiving demand deposits regardless of whether or not they are members of the Federal Reserve System.

(e) Exempt reserves required under paragraphs (a), (b), and (d) from the assessments of the Federal Deposit Insurance Corporation.

"2. Various sources of potential increases in excess reserves should be removed. These include: the power to issue three billions of greenbacks; further monetization of foreign silver; the power to issue silver certificates against the seigniorage, now amounting to one and a half billion dollars on previous purchases of silver. In view of the completely changed international situation during the past year, the power further to devalue the dollar in terms of gold is no longer necessary or desirable and should be permitted to lapse. If it should be necessary to use the stabilization fund in any manner which would affect excess reserves of banks of this country, it would be advisable if it were done only after consultation with the Federal Open Market Committee, whose responsibility it would be to fix reserve requirements.

"3. Without interfering with any assistance that this Government may wish to extend to friendly nations, means should be found to prevent further growth in excess reserves and in deposits arising from future gold acquisitions. Such acquisitions should be insulated from the credit system and, once insulated, it would be advisable if they were not restored to the credit system except after consultation with the Federal Open Market Committee.

"4. The financing of both the ordinary requirements of Government and the extraordinary needs of the defense program should be accomplished by drawing upon the existing large volume of deposits rather than by creating additional deposits through bank purchases of Government securities. We are in accord with the view that the general debt limit should be raised; that the special limitations on defense financing should be removed; and that the Treasury should be authorized to issue any type of securities (including fully taxable securities) which would be especially suitable for investors other than commercial banks. This is clearly desirable for monetary as well as fiscal reasons.

"5. As the national income increases a larger and larger portion of the defense expenses should be met by tax revenues rather than by borrowing. Whatever the point may be at which the budget should be balanced, there cannot be any question that whenever the country approaches a condition of full utilization of its economic capacity, with appropriate consideration of both employment and production, the budget should be balanced. This will be essential if monetary responsibility is to be discharged effectively."

No sooner was this report issued than it became clear that a fundamental split within the Administration had developed over credit policy. Secretary of the Treasury Morgenthau said that the report had produced a needless decline in the Government bond market, and that he regarded the measures proposed as unnecessary and as an artificial interference with the equilibrium of the money market. Federal Loan Administrator Jesse H. Jones as-

serted that he was in favor of low interest rates, and thus by implication was diametrically opposed to the proposals of the Federal Reserve System. The banking community, however, for the most part enthusiastically supported the Eccles program, although feeling some hesitation about putting into the hands of the Federal Open Market Committee

the rise. Presumably, in the event of a future severe decline in the Government bond market, these holdings would be replaced, and the market would thus be supported to some extent.

Changes in the principal assets and liabilities of the twelve Federal Reserve Banks during the year were as follows:

#### PRINCIPAL ASSETS AND LIABILITIES OF THE 12 FEDERAL RESERVE BANKS

[In millions of dollars]

1940 End of Month	Gold certificates on hand and due from U.S. Treasury	Bills dis- counted	U.S. Government bonds	Treasury notes	Federal Reserve notes in actual circulation	Member bank reserve deposits	Treasury deposits
January	15,552	7	1,344	1,133	4,832	12,150	549
February	15,804	7	1,344	1,133	4,872	12,328	562
March	16,068	4	1,342	1,133	4,951	12,423	702
April	16,418	3	1,337	1,129	4,941	12,919	446
May	16,983	3	1,347	1,130	5,057	13,217	365
June	17,743	2	1,338	1,128	5,199	13,781	234
July	18,189	4	1,321	1,127	5,248	13,498	694
August	18,606	4	1,319	1,117	5,370	13,541	810
September	18,928	5	1,319	1,115	5,450	13,727	756
October	19,280	4	1,379	954	5,577	14,208	349
November	19,575	4	1,297	903	5,743	14,215	250
December 24	19,681	4	1,285	900	5,965	13,837	481

the power to increase legal reserve requirements of member banks to a level double the maximum now specified in the law. President Roosevelt indicated that he had reached no decision on the subject of credit policy, giving the impression that if a substantial rise in commodity prices should occur he might throw his support in favor of at least some of the proposals made by the Federal Reserve System.

The comprehensive investigation of monetary and banking matters authorized by the Senate in 1939 was not pursued by the Banking and Currency Committee with any vigor, owing to the European war.

Fluctuations in member bank excess reserves during 1940 were as follows:

#### EXCESS RESERVES OF MEMBER BANKS

[Million dollars]

January 31	\$5,559	July 31	\$6,514
February 29	5,692	August 31	6,525
March 30	5,828	September 30	6,555
April 30	6,149	October 31	6,960
May 31	6,385	November 30	6,849
June 29	6,857	December 24	6,438

**Federal Reserve Banks.** The Federal Reserve Banks reduced moderately their holdings of U.S. Government obligations in the course of the year. With Government bond prices rising to new high levels, the Reserve Banks continued the policy of stabilizing quotations to some extent by selling on

**Bank Regulation Changes.** Despite the active discussion of fundamental changes in bank legislation to pave the way for a more restrictive credit policy, no important banking laws were passed during the year. A bill to regulate bank holding companies more closely failed of passage, largely because it was unsatisfactory to the Treasury, which desired a more drastic measure. Following its controversy with the Bank of America of California, the Treasury made clear that it would approve nothing less than a bill requiring the dissolution of bank holding companies within a specified period of years.

Changes in loans, investments, and deposits of reporting member banks of the Federal Reserve System, month by month, as reported in the *Federal Reserve Bulletin*, are shown in the table at the foot of this page.

See EXPORT-IMPORT BANK; FARM CREDIT ADMINISTRATION; FEDERAL HOME LOAN BANK BOARD; FINANCIAL REVIEW; INTERNATIONAL BANKING AND FINANCE; MONEY, U.S. STOCK OF.

JULES I. BOGEN.

**BAPTISTS.** A religious group, probably evolved from the Anabaptist movement of the 16th century, which adopted the principle that immersion is essential to valid baptism. The first Baptist churches were established in Amsterdam in 1608, in London in 1611, and in America, probably at Providence, R.I., in 1639. There are 21 denominations in the United States which use the

#### LOANS, INVESTMENTS, AND DEPOSITS OF REPORTING MEMBER BANKS IN 101 LEADING CITIES

[Monthly data are averages of weekly figures. In millions of dollars]

Month	Commercial, industrial, and agricultural loans	Loans to brokers and dealers in securities	Other loans for purchase or carrying of securities	All other loans	U.S. Government obligations	Other securities	Demand deposits adjusted
					Direct	Guaranteed	
January ..	4,331	651	496	2,789	8,833	2,410	3,327
February .	4,317	611	481	2,783	8,862	2,419	3,419
March ....	4,371	634	476	2,788	8,904	2,384	3,488
April .....	4,414	624	474	2,799	8,941	2,398	3,504
May .....	4,397	574	475	2,826	9,053	2,407	3,496
June .....	4,383	422	471	2,857	9,201	2,402	3,542
July .....	4,451	399	473	2,876	9,313	2,415	3,565
August .....	4,456	375	470	2,908	9,415	2,579	3,642
September .	4,551	400	462	2,945	9,315	2,582	3,683
October .....	4,709	424	458	2,961	9,305	2,603	3,669
November .	4,885	456	456	2,985	9,490	2,702	3,587
December 24	5,011	545	466	3,029	9,828	2,740	3,682

name *Baptist*, the largest of which are treated below. For census statistics, see RELIGIOUS ORGANIZATIONS.

**Southern Baptist Convention.** This body of the Baptist denomination was formed in 1845, when Southern Baptists withdrew from the national organization on account of the slavery issue and also for the better administration of the work of the Convention. Since that time it has functioned, not as a new denomination, but as a separate organization for the purpose of directing missionary, educational, and general denominational work in the white Baptist churches of the Southern and Southwestern States. According to the official *Handbook* for 1940 the Southern Baptist Convention comprised 18 State conventions.

The annual session of the Southern Baptist Convention was held in Baltimore, Md., June 12-16, 1940. The various boards and agencies of the convention showed decided gains in receipts for the year. The director of the Work of Promotion in the Executive Committee, Dr. J. E. Dillard, led an "Every Member Canvass" during the week of Nov. 25 to Dec. 8, 1940, with the objective of securing weekly subscriptions totaling \$45,000,000.

The officers elected for 1939-40 were: The Rev. W. W. Hamilton, D.D., LL.D., of New Orleans, La., President; Francis Asbury Davis, Baltimore, Md., and Wm Cox Allen, Greenville, S.C., Vice-Presidents; the Rev. Hight C. Moore, D.D., Litt D., of Nashville, Tenn., and Mr. J. Henry Burnett of Macon, Ga., Recording Secretaries; and the Rev. Austin Crouch, D.D., of Nashville, Tenn., Executive Secretary, and the Rev. J. E. Dillard, D.D., of Nashville, Tenn., Secretary of Promotion. Headquarters are at 161 Eighth Avenue, North, Nashville, Tenn.

The following table gives statistics compiled by the denomination for 1936 and 1940.

Item	1936	1940
Churches (congregations)	24,671	25,018
Ordained ministers	21,881	22,493
Church members	4,482,315	4,949,174
Sunday Schools	22,704	23,754
Enrolled in Sunday Schools	3,173,356	3,523,853
Enrolled in Baptist Training Unions	693,186	815,528
Enrolled in Missionary Unions	595,852	747,845
Value of Church property	\$203,469,481	\$214,724,695
Gifts to local work of churches	\$24,201,802	\$30,869,268
Gifts to missions & Benevolences	\$4,986,885	\$6,267,263
Total contributions	\$29,188,687	\$37,136,531
Schools & colleges fostered	26,203	28,892
Students enrolled—regular session	\$39,294,807	\$45,165,412
School property	\$25,490,369	\$28,392,825
Endowment funds	\$6,221,150	\$6,670,075
Property of 18 Children's Homes	\$10,075,845	\$15,268,099
Property of 20 hospitals		

**National Baptist Convention of America (NEGRO).** The Convention held its 1940 session on the Simmons University Campus with the Baptist Churches of Louisville, Kentucky, as hosts, from Wednesday, September 4 to Sunday, September 8, inclusive. The Woman's Auxiliary met at Zion Baptist Church. The parent body and the Woman's Auxiliary met on the same dates. The theme of the Convention was "The Place of Christianity in this World's Conflict." Representatives were in attendance from 35 States in the union, from Liberia—western Africa, from the Bahama Islands, the Republic of Panama, and from Canada. Thirty High Points were recorded in the Convention's activity for this session. Among the objectives for 1940-41 were building of a home for the aged men and women and an Orphanage in

Dexter, New Mexico; increased financial support to foreign fields; more educational money for the four schools and colleges endorsed by the Convention through its Educational Board, namely the Lynchburg Theological Seminary and College in Lynchburg, Virginia, Guadalupe College in Seguin, Texas; Georgia Baptist College at Macon, Georgia, the Florida Normal and Industrial College at St. Augustine, Florida. The Convention condemned in strong terms religious and racial intolerance; it accepted greetings from the Southern Baptist Convention brought by Dr. Nobel Y. Beall of Atlanta, Georgia; it renewed its membership and representation in the Baptist World's Alliance; it went on record as favoring more economy in the operation of the Convention, thus increasing the contributions for home mission, foreign mission, and education; it was pronounced and emphatic in opposing the sale of intoxicating liquors, the open saloon, and urging a prohibition movement in America; it called upon the administration in Washington to enforce the Thirteenth, Fourteenth, and Fifteenth Amendments to the Constitution, along with many other far-reaching actions calculated to bring an era of good will and peace on earth. It reported an addition of more than 150,000 communicants for the Convention year, bringing its numerical strength, according to its Statistical Secretary, to more than 2,650,000 members. The Convention reported as having raised, between the parent body and its various Boards during the fiscal year, a little more than one and a quarter million dollars.

The next session of the Convention was awarded to Shreveport, Louisiana, September 10-14. The officers selected for 1940-41 are Rev. G. L. Prince, D.D., President, 2610 Avenue L, Galveston, Texas; Rev. C. P. Madison, D.D., Secretary, 2925 Woodlawn Avenue, Norfolk, Virginia; Rev. A. A. Lucas, Treasurer, 5109 Farmer Street, Houston, Texas; Rev. G. C. Coleman, D.D., Vice-President, 867 37th Street, Oakland, California; Rev. Henry A. Boyd, Secretary Sunday School Congress, Railroad Commission, and National Baptist Publishing Board, 523 Second Avenue, North, Nashville, Tennessee; Mrs. M. A. B. Fuller, President Woman's Auxiliary, 1105 Angelina Street, Austin, Texas; Mrs. Eva Ball White, Corresponding Secretary Woman's Auxiliary Convention, 848 Edmondson Avenue, Baltimore, Maryland. Denominational headquarters are at 523 Second Avenue, North, Nashville, Tennessee.

**Northern Baptist Convention.** This body of the Baptist denomination, according to the *Annual* of the Northern Baptist Convention, was composed in 1940 of 36 conventions in 33 States, the District of Columbia, and Puerto Rico. The thirty-third annual meeting of the Northern Baptist Convention was held in Atlantic City, N.J., May 21-26, 1940. Its general theme was "The Light Shinereth." The officers elected for 1940-41 were: President, Hon. Ernest J. Millington, Cadillac, Mich.; First Vice-President, Rev. L. M. Hale, Wichita, Kan.; Second Vice-President, Prof. J. C. Morris, Jr., Cambridge, Mass.; Corresponding Secretary, the Rev. Joseph C. Hagen, D.D., Summit, N.J.; Recording Secretary, the Rev. Clarence M. Gallup, D.D., New York, N.Y.; and Treasurer, Harold J. Manson, Brooklyn, N.Y. The leading denominational papers were: *Baptist Observer* (Indianapolis); *Baptist Record* (Pella, Ia.); *Missions* (New York); *Watchman-Ex-*

*aminer* (New York); and *U.S. Baptist*, (Washington, D.C.).

The foreign mission field of the Northern Baptist Convention included Assam, Burma, South India, Bengal-Orissa, South China, East China, West China, Japan, Belgian Congo, and the Philippine Islands. The work of the Convention covers domestic, city, and foreign missions; higher education, social service, Sunday schools, and pensions for clergy.

The total membership of the Northern Baptist Convention for 1939-40 was 1,549,012, distributed among 7526 churches, mostly above the Mason and Dixon Line. The total amount of funds received and expended by the churches and their agencies, as of Apr. 30, 1940, was \$15,957,796 for church operating expenses and \$3,503,929 for missions, education, and philanthropy.

Headquarters of the General Council, the executive body to which is entrusted the work of the Convention between annual meetings, are at 152 Madison Avenue, New York, N.Y.

**BARBADOS.** A British West Indian crown colony. Area, 166 square miles; population (1938 estimate), 193,082. During 1938 there were 5327 births, 3743 deaths, and 869 marriages. Capital Bridgetown, 15,200 inhabitants.

**Production and Trade.** The chief products are sugar (156,443 tons in 1939) and Sea Island cotton. The British Government agreed to purchase all exportable sugar during 1940. There are about 107 sugar factories and four rum distilleries. During 1939, 9103 tourists visited the island. Imports in 1939 totaled £2,445,753; exports, £2,028,991. Of the exports, sugar accounted for £1,278,295; molasses, £575,358; rum, £9887; cotton, £233. During 1939, a total of 1139 vessels of 2,428,829 net tons entered Bridgetown. The Royal Dutch Air Lines connect Barbados with Trinidad and Curaçao.

**Government.** For 1940-41 revenue was estimated at £573,597 and expenditure at £653,967. Among the special items of expenditure were a £25,000 contribution to Imperial government war expenditure and £8000 required to deal with emergency conditions. The public debt on Mar. 31, 1939, was £449,170. A governor, who is aided by an executive council, administers the government. There is a legislative council of 9 members, and a house of assembly of 24 members elected by the people. Governor and Commander-in-Chief, Sir E. J. Waddington (appointed Feb. 11, 1938).

**History.** It was announced on Feb. 21, 1940, that the British Colonial Secretary was awaiting an explanation of the Barbados legislative council's action in deleting the section relating to peaceful picketing from the local Trade Unions Bill which had been passed by the house of assembly. By May of 1940 there was an increase of 14 per cent in the working man's budget since the start of the war. The legislature was asked to recommend a 10 per cent bonus to lower-paid government employees, and the Sugar Producers' Association added a 10 per cent bonus to the weekly wages of agricultural workers on sugar estates. Progress was made during 1940 in settling Barbadians in St. Lucia (q.v.) on a large sugar estate purchased by the government. See *BRITISH WEST INDIES* for the report of the Royal Commission.

**BARBUDA.** See *LEEWARD ISLANDS*.

**BARBIA.** See *EUROPEAN WAR* under *Campaigns in Africa*.

**BARLEY.** The barley crop of the United States in 1940 was estimated by the U.S. Department of Agriculture at 309,235,000 bu., 12.5 per cent more than the 274,767,000 bu. grown in 1939 and about 37 per cent above the 1929-38 average and was harvested from 13,394,000 acres versus 12,644,000 acres in 1939. The current large production, second only to 1929, was held due to increased acreages and above average yields. The acre yield in 1940 averaged 23.1 bu. and in 1939, 21.7 bu. The production in 1940 of leading barley States was: Minnesota 57,348,000 bu., California 33,516,000, South Dakota 30,821,000, North Dakota 28,064,000, Wisconsin 24,525,000, Nebraska 22,544,000, and Kansas 18,176,000 bu. The seasonal average price (preliminary) per bu. received by farmers was 38.7 cents and the estimated value of production was \$119,719,000 in 1940 compared to 40.3 cents and \$110,826,000 in 1939. See *Crop Production Table* under *AGRICULTURE*.

**BASEBALL.** The national pastime provided some exciting days, not to mention moments, in the erratic big league races of 1940. To begin with the New York Yankees lost the American League pennant, and strangely enough that was sensational news, for the New York boys had garnered pennants for the past four consecutive years. Another anomaly was the consistently excellent playing of the Brooklyn National Dodgers, a team that belied all the evaluations and prognostications of the so-called experts.

Failure of the Yankees provoked the closest race the American League had seen in 18 years. In an exciting contest between the Detroit Tigers and Cleveland Indians for the American League pennant, the lead changed 18 times until, tied for the third time, they met in a decisive series in late September and the Tigers grabbed a precarious lead which they maintained until the end, winning by the narrow margin of one full game. The Indians lost the pennant formally in a game at Cleveland September 22 and the local fans expressed their great disappointment by showering the Detroit players with large quantities of fruit and vegetables, much of which was said to be not altogether fresh.

The National League pennant was carried off by the Cincinnati Reds, after the Brooklyn Dodgers had led the league for much of the early part of the season. Brooklyn finally finished second, a full 16 games behind the champions, but they began the season by winning the first nine games.

In the World Series, the Tigers fell down before the superior pitching of the Cincinnati team, and the see-saw series ended when the Reds conquered the Tigers in the seventh and deciding game in Cincinnati, with Paul Derringer 'outpitching' Buck Newsom for a 2 to 1 victory, thus presenting Cincinnati with its first world's championship since 1919.

At Tampa, Fla., an all-star inter-league game was played for the Finnish relief fund, and in it the Nationals beat the Americans, 2-1. And in the regular annual all-star game, played in St. Louis in mid-season, the Nationals were first again, 4-0.

The manager of the Cleveland Indians, Oscar Vitt, was dismissed on October 28 following criticism of him by the players of his team. They charged that his constant dissatisfaction with their efforts gave them the "jitters." The players staged an open rebellion on June 13.

Freddy Fitzsimmons of the Brooklyn Dodgers led both major leagues in pitching, with a record

of 16 won and 2 lost for a percentage of .889. Johnny Mize, first baseman for the St. Louis Cardinals, was the year's home run king, with 43 circuit clouts. Hank Greenberg of the Tigers knocked out 41 homers, and was tied in that respect with Frank McCormick, first baseman of the Reds. The leading batsmen were Debs Garms with .355 and Joe DiMaggio with .350, representing the National and American Leagues respectively.

In the minor leagues, Rochester won the International League pennant, but Newark won the playoffs and thereafter conquered Louisville, American Association play-off winner, in the Little World Series. Kansas City was the leader at the close of the regular American Association race.

In the Dixie series, Nashville, Southern Association pennant bearer, defeated Houston, representing the Texas League. Seattle captured the championship in the Pacific Coast League and Scranton once again carried off the Eastern League pennant.

**BASKETBALL.** In the manly art of basketball, American colleges continued to exhibit selective specimens of brain and brawn in savage contests throughout the country. Nine teams appeared to be the leaders in their field. In alphabetical order, they were: Colorado, Duquesne, Indiana, Kansas, New York University, Purdue, Rice, Santa Clara, and Southern California. The national invitation tournament, the court Rose Bowl affair, was won by Colorado, and the National Collegiate A. A. championship was captured by Indiana, yet neither team could claim to be the master of the other. Both Colorado and Southern California failed miserably in the N. C. A. A. The finalists were Indiana, which could not win the Big Ten championship, and Kansas, which had extreme difficulty in gaining a tie for first in the Big Six. The Indiana quintet triumphed 60 to 42.

But that is the way of basketball, a game of imponderables. N. Y. U. won 18 games in a row and then succumbed before the City College quintet, a team that was more distinguished for its failures than for its victories.

**BASUTOLAND.** See BRITISH EMPIRE.

**BAUXITE.** See ALUMINUM; ARKANSAS under *Mineral Production*.

**BAVARIA.** See GERMANY under *Area and Population*.

**BECHUANALAND.** See BRITISH EMPIRE.

**BETTER.** See ENTOMOLOGY, ECONOMIC.

**BEETS.** See SUGAR.

**BELGIAN CONGO.** See CONGO, BELGIAN.

**BELGIUM.** A kingdom of Western Europe, occupied by German military forces in May, 1940. Capital, Brussels. Ruler in 1940, King Leopold III, who succeeded to the throne Feb. 23, 1934.

**Area and Population.** On Dec. 31, 1939, Belgium had an area of 11,775 square miles and an estimated population of 8,396,000. On May 19, 1940, the districts of Eupen and Malmédy (area, 382 sq. mi.; pop. about 60,000) and Moresnet were detached from Belgium and incorporated in Germany, leaving Belgium with an area of about 11,393 square miles and a population of about 8,330,000. Estimated populations of the chief cities on Dec. 31, 1938: Brussels and suburbs, 912,774; Antwerp, 273,317; Ghent, 162,858; Liège, 162,229.

**Education and Religion.** Primary, infant, and adult elementary schools on Dec. 31, 1938, numbered 13,438 with 1,222,164 pupils. There were 273 secondary schools of all kinds with 86,279 students, and four universities (at Brussels, Louvain, Ghent,

and Liège) with 10,775 students. The majority of Belgians are Roman Catholics.

**Production.** Manufacturing, mining, intensive agriculture, and commerce have enabled Belgium to support one of the densest populations of Europe (712 per square mile in 1938). Estimated production of the chief crops in 1939 was (in metric tons): Wheat, 349,000; barley, 51,100; rye, 349,400; oats, 724,200; potatoes, 3,323,200; beet sugar, 240,500 (1939-40); tobacco, 5300; linseed, 25,100; flax, 46,700. Livestock as of Jan. 1, 1939: 1,689,680 cattle, 264,650 horses, 960,372 swine. Mineral and metallurgical production (1939), in metric tons, was: Coal, 29,846,890; briquets, 1,525,190; coke, 5,176,650; pig iron, 3,068,200; wrought iron, 31,060; steel, 3,036,160; wrought steel (except semi-finished), 2,202,420. Leading manufactures include glass, paper, cardboard, cement, cotton yarn, rayon, metal products, alcoholic beverages, furniture, etc.

**Foreign Trade.** Imports of Belgium and Luxembourg in 1939 totaled 19,690,000,000 paper francs (23,165,507,000 in 1938); exports, 21,670,000,000 (21,723,853,000 in 1938). Peace-time trade is mainly with France, Germany, the United Kingdom, United States, the Netherlands, and the Belgian Congo (see YEAR BOOK, 1939). Following the German military occupation in 1940, Belgium's trade was confined to Germany and countries under its military or economic control. See TRADE, FOREIGN.

**Finance.** The 1940 budget provided for total receipts of 12,350,000,000 francs and expenditures of 20,000,000,000, including 8,000,000,000 francs for national defense. Following the German conquest, loans of 6,000,000,000 francs were issued and new taxes designed to raise an additional 1,000,000,000 francs were imposed to meet the heavy costs of the German military occupation and other emergency expenses. Public debt on Dec. 31, 1939, 59,318,300,000 francs (domestic, 40,317,600,000; foreign, 19,000,700,000). The unit of currency for foreign exchange transactions was the belga, equal to five Belgian francs; it averaged \$0.1685 in 1939. See *History*.

**Transportation.** Previous to the German invasion, Belgium had 7068 miles of railway line, 20,244 miles of highways, an extensive network of rivers and canals which carried about one-fourth of the total merchandise traffic, 8313 miles of air-routes in Europe and Africa (August, 1939), and a merchant fleet of 88 ships totaling 353,997 gross tons (20 vessels totaling 64,084 gross tons were lost in 1939 as a result of the war). During 1939, 9524 vessels of 19,389,516 tons entered the port of Antwerp.

**Government.** The Constitution of 1831, amended in 1921, vested executive power in the King, acting through a ministry responsible to Parliament. There was a Senate of 167 members and a Chamber of Deputies of 202 members, all elected for four years. Deputies were elected by universal male and restricted female suffrage. Of the Senators, part were elected by direct suffrage and part indirectly by the provincial councils. Premier at the beginning of 1940, Hubert Pierlot (Catholic), heading a coalition government comprising Catholic, Socialist, and Liberal members and two non-party men. For the standing of the parties in Parliament after the 1939 elections, see 1939 YEAR BOOK, p. 71. See *History* for 1940 developments.

#### HISTORY

**Prelude to War.** From January 1 to the fatal 10th of May, 1940, Belgium lived under the con-

stant threat of invasion while suffering acutely from the economic effects of the European conflict (see YEAR BOOK, 1939, p. 71 f. for background). On May 10 began the powerful German surprise assault that in the course of 18 days overran practically all of the country and forced King Leopold to surrender his shattered army and his ruined kingdom.

The months previous to the invasion were marked by the reorganization of the Pierlot Cabinet on January 5, the completion of work on the series of strong defense systems guarding the German frontier, the progressive mobilization of additional military classes, and the adoption of measures against "fifth column" elements. In the January cabinet crisis, the Pierlot Ministry submitted its collective resignation to the King. Leopold called on M. Pierlot to form a new government and the Premier succeeded in assembling a new Catholic-Socialist-Liberal cabinet containing 14 instead of 18 members. The principal Ministers were: Foreign Affairs, Paul-Henri Spaak (Socialist); Finance, Camille Gutt (nonparty); War, Lieut. Gen. Henri Denis (nonparty). All but one member were holdovers from the previous ministry. The opposition of the Liberal party to the government's policy of bilingual education led Premier Pierlot on April 25 to again submit the cabinet's resignation. However King Leopold on April 26 refused to accept the resignation on the ground that it was "no time for ministerial crises on purely internal grounds."

Information reaching the Brussels authorities caused the mobilization of additional troops on January 14 and the speeding up of work on the defense lines. By the middle of March about 700,000 men out of a possible 1,000,000 were under arms, or nearly 9 per cent of the population. The cost of mobilization was estimated at \$600,000 a day. On March 20 a law was passed suppressing all Communist publications to end anti-war propaganda among the conscripts. The expulsion and arrest of the nine Communist Deputies in the Chamber was threatened.

With the revelation of the role "fifth column" elements had played in the German conquest of Norway, the Belgian Government took further protective measures. The activities of Germans and other aliens were more strictly controlled, as were the pro-German activities of the Flemish Fascists. On the eve of the invasion, the government presented to Parliament three tax proposals intended to raise an additional 900,000,000 Belgian francs for national defense.

During the January war scare, the Belgian Government again indicated that it was prepared to give immediate armed assistance to the Netherlands in case of an attack upon that country. However the King stubbornly refused to permit discussions with the Allied general staffs to facilitate co-ordination of Belgian and Allied military efforts in case of a German invasion. General van den Bergen, Belgian Chief of Staff, was replaced by a relatively inexperienced officer, General Michiels, on January 31 because he apparently favored the formation of a government that would co-operate with the Allies. The Brussels Government on February 14 signed a war trade agreement with Britain and France that was expected to curtail Belgian re-exports to Germany. But in every respect the Belgian Government and people held to the policy of strict neutrality adopted at Leopold's insistence in 1936 (see YEAR BOOK, 1936, p. 93).

**The German Invasion.** The simultaneous German invasion of Belgium, Luxemburg, and the Netherlands was launched without warning at dawn on May 10 (see EUROPEAN WAR for a complete account). While German armored divisions thrust through the strongly defended frontier defenses, bombers rained death and destruction upon the principal Belgian airports, cities, lines of communication, and other defense nerve centers. Thousands of German parachute troops landed behind the Belgian front and joined with "fifth column" elements in spreading confusion and hamstringing the nation's resistance.

The Belgian Government and army were not caught off guard. From the moment of crossing the frontier, the invaders encountered stubborn resistance. No sooner did the first German bomber appear over Brussels at 4 a.m. than the government sent an appeal for aid to Britain and France. Within half an hour they received a pledge of assistance and shortly afterward British and French mechanized troops crossed the Belgian frontier in fulfillment of this promise.

**Nazi Statement.** At 7:30 a.m. the German Ambassador to Brussels handed Foreign Minister Spaak a lengthy memorandum, identical with that delivered to the Netherlands Government at the same time. It announced the Reich's intention to occupy Belgium "to insure its neutrality . . . with all the Reich's military means of power" in view of "incontrovertible proof that an Anglo-French attack on Germany is immediately imminent and that this attack will take place against the Ruhr over Belgium and the Netherlands." The memorandum charged that Belgium, in violation of its neutrality, had secretly sided with Britain and France and was prepared to support the alleged Anglo-French plan of attack "in every direction." It stated that "German soldiers are not entering Holland and Belgium as enemies," and continued:

The German Government further declares that Germany does not intend by these measures to attack the integrity of the Kingdom of Belgium and of the Kingdom of the Netherlands or their possessions, or their property in Europe or in their colonies, either now or in the future. The Belgian and Netherlands Governments today still have it in their power to safeguard the welfare of their peoples at the last moment by insuring that no resistance will be offered to the German troops. The German Government herewith requests the two governments to issue the necessary orders without delay. Should the German troops encounter opposition in Belgium or Holland, it will be crushed with every means. The Belgian and Netherlands Governments alone will bear the responsibility for the consequences for bloodshed which would then become unavoidable.

**Belgian Defiance.** Before the German Ambassador could read the memorandum, Foreign Minister Spaak informed him that Belgium had been invaded without provocation and would "resist to the death." The cabinet met at 1 p.m. and authorized the application of carefully prepared war emergency plans. Evacuation of cities and towns in the path of the invaders was begun. Many Belgians suspected of disloyalty were rounded up and imprisoned, including the Rexist (Fascist) leader, Léon Degrelle. Schools were closed and food supplies placed under the control of mayors in each city and town. The Bourse was closed, exchange dealings suspended, and the conversion of national bank notes prohibited. King Leopold assumed supreme command of the armed forces.

Meeting in the early afternoon, Parliament heard Premier Pierlot denounce the German invasion as a wanton violation of Hitler's pledge of Oct. 13,

1937, to respect Belgium's inviolability and integrity so long as Belgium refrained from participating in military action against the Reich. He said:

Despite this solemn promise the German forces violated our frontiers and invaded our territory today, proving for a second time in 25 years what worth can be attached to their promises.

France and Britain have not broken their promises (see *YEAR BOOK*, 1937, p. 86-87) and are giving us, according to their guarantee, all military, naval, and aerial support in their power.

Holland, Luxembourg, and Belgium are united as never before in their history. Belgium has neglected nothing for her defense.

**Defense Lines Broken.** Parliament and both the Walloon and Flemish sections of the country rallied behind the government's slogan of "resistance to the death." British and French troops en route to the Belgian battle front had an enthusiastic popular reception. However the failure of both the Belgian and Netherlands Governments to co-ordinate their defense measures with each other and with the Allied general staffs previous to the invasion greatly handicapped their military operations. The tide of war swiftly turned against the Belgians and their Allies (see *EUROPEAN WAR*). On May 17 the government withdrew from Brussels to Ostend before the inexorable German military machine. On May 28, with his decimated army exhausted and threatened with annihilation, King Leopold stunned his people and the world by unconditionally surrendering some 300,000 men—all that remained of Belgium's army of over 800,000.

**Leopold's Capitulation.** The King's surrender, enhancing the critical position of the hard-pressed British and French armies, aroused the most severe criticism throughout the anti-German world until the circumstances under which he acted became better known. The Belgian Government and many leading Belgian personalities, including the Duchess of Vendôme, sister of Leopold's father, repudiated and denounced the capitulation. Premier Reynaud of France, in a radio broadcast on May 28, declared that "in full battle, King Leopold III without a word to the French and British soldiers who, in response to his anguished appeal had come to the assistance of his country, laid down his arms. It is a deed without precedent in history." Reynaud's accusation was later disproved, as were other charges of treachery, betrayal, and pro-Germanism leveled at the King.

As early as May 21 King Leopold, in conferences with General Weygand, the new French commander-in-chief, and General Gort, commander of the British armies in France, at the Belgian headquarters at Saint André near Bruges, pointed out that the Belgian military position was hopeless unless further British and French aid was forthcoming. When the attempted Anglo-French counter-attack failed and the Germans on May 24 launched a four-day offensive against the Belgian forces, the Belgian Government left Ostend for Paris. However Premier Pierlot and three other cabinet ministers remained with the King in an effort to persuade him to join the Belgian Government in the French capital.

On the night of May 24-25, the four ministers visited the King in his new headquarters in the chateau of Wynendael near Thourout. He told them that the Belgian army was bearing the brunt of the German attack and suffering heavy losses, and that he favored Belgium's withdrawal from the war. According to a subsequent statement by Foreign Minister Spaak, one of those present, the King not only refused to leave the country but

insisted that the government remain in Belgium with him. The ministers protested that the Belgian cause might be irreparably lost if ruler and government were permitted to fall into German hands. They resolutely opposed capitulation and on the morning of May 25 left for Paris via London. While they were in London on May 26, the King telephoned them, requesting the signature of a cabinet minister on two blank royal decrees. All 13 members of the cabinet, which was reunited later that day in Paris, declined to sign, thus depriving the King's subsequent actions of constitutional validity.

During May 25 Leopold issued an appeal to his troops to resist the attack with all their strength. But the same afternoon he informed Gen. Sir John Dill, chief of the British Army's Imperial Staff, by letter that he had no choice but to surrender. The same advice was telephoned to Prime Minister Churchill the same evening by Sir Roger Keyes, British liaison officer at Leopold's headquarters. On the night of May 27 the King sent an emissary to ask the German terms. The reply was that "The Fuehrer requires unconditional surrender." The Belgians were given until 4 a.m. on May 28 to comply. Before the expiration of this time limit, the Belgian Cabinet met again in Paris and again refused to approve the King's course. Nevertheless Leopold at 4 a.m. issued the order for the Belgian troops to lay down their arms. Some of the troops refused to comply and joined the British and French in their flight to Dunkirk. The King himself was taken prisoner and placed under guard for the remainder of the year in his castle at Laeken near Brussels.

**The Government's Course.** On the day Leopold surrendered, the Belgian Government in Paris published its repudiation of his action. Premier Pierlot declared "No act of the King has effect unless countersigned by the Minister. . . . Dissolving the link uniting him and the nation, the King has placed himself under the authority of the invader. Under these circumstances he is no longer in a position to govern." The Chambers have to meet. During the interval the King's constitutional powers will be exercised on behalf of the Belgian nation by the Ministers meeting in council." The cabinet unanimously agreed to continue the struggle and make no peace until Belgium's independence, rights, and dignity were restored. On May 30 it issued decrees denying the King's right to rule Belgium and prolonging the cabinet's powers for the duration of the war.

This policy was supported by the colonial administration of the Belgian Congo and by Belgian diplomatic and consular officials in foreign countries. It was unanimously approved by 89 Deputies and 54 Senators of the Belgian Parliament who met in Limoges, France, on May 31. This was not an official session of Parliament as less than half the members were present.

The government immediately took steps to raise a new Belgian army of over 200,000 men in France and to mobilize other Belgians for the production of military supplies. Equipment for 60,000 men had been sent to France as a precaution during the early days of the German invasion. The government in exile also had at its disposal 23,000,000,000 gold francs that had been shipped to London and New York previous to the German attack. The British and French Governments gave assurances that as long as the Belgian Government continued its military co-operation with them, it would be



left in control of the Belgian Congo. The Belgian merchant fleet of some 200 vessels, mostly small, was placed at the Allies' disposal.

**Transfer to London.** Upon the capitulation of France, two members of the Belgian Government—Ministers Camille Gutt (Finance) and Albert de Vleeschauwer (Colonies)—were sent to London to maintain contact with the British Cabinet. Premier Pierlot and the remainder of the cabinet established the Belgian Government at Vichy. There they aided in the repatriation of some 1,700,000 Belgian refugees who had fled to France, but found co-operation with the Pétain regime increasingly difficult due to German pressure upon the French. In mid-September the Pétain Government withdrew its recognition of the Belgian Government, which unanimously decided to transfer its powers to the two Belgian Ministers in London. Premier Pierlot and Foreign Minister Spaak set out for the British capital, after releasing the other cabinet ministers in France from their oaths of office. They were held in Spain for over a month at German instigation, but finally reached London on October 22.

Recognized by the Allied governments and by Washington as the legal government of Belgium, the four cabinet ministers in London proceeded to raise a third Belgian Army for the purpose of restoring Belgium's territorial integrity and independence and liberating the imprisoned King Leopold. (Leopold's status as a prisoner of war instead of a traitor had been recognized by the Belgian Ambassador to London as early as July 21 in a broadcast over the British Broadcasting Corporation's network.) By a decree of December 13 Belgians in all territories unoccupied by the Axis powers and belonging to the 1925-41 military classes were called up for service. Veterans who had escaped to England from the battles of Flanders and France served as the nucleus for the new Belgian military and air force organized in Great Britain. The air force participated creditably in the Anglo-German aerial warfare during the remainder of the year.

**Nazi Rule in Belgium.** While fighting in Belgium was still in progress, the German Government on May 19 proclaimed the reincorporation in the Reich of Eupen, Malmédy, and Moresnet, the former German districts ceded to Belgium by the Versailles Treaty. The three districts were added to the Aachen District of the Rhine Province of Prussia. On May 20 Gen. Baron Alexander von Falkenhausen was named military administrator of both Belgium and the Netherlands.

The German administrator attempted to persuade King Leopold to assume responsibility for the administration of the country, but he refused, insisting that his status was that of a military prisoner. Efforts to win the co-operation of the Belgian Government in exile were likewise unsuccessful. The Belgian people as a whole offered the same passive resistance to the German occupation as in 1914-18. Some Flemish Separatists and members of Léon Degrelle's Rexist (Fascist) movement indicated their willingness to collaborate with Hitler's "new order" in Europe. But representing a small minority, they were not entrusted with the formation of a Belgian government. At the year-end Belgium remained the only German-subjugated country except Poland that had no native administration.

Chancellor Hitler ordered the release of all Belgian war prisoners except officers and non-commissioned officers on July 19, and made other efforts

to win the co-operation of the Belgian people. However sabotage and other forms of opposition to the invaders mounted as the Belgian people recovered from the shock of the May attack, and the German authorities resorted to harsher methods. Collective fines and wholesale imprisonments were imposed upon communities where sabotage occurred. The death penalty was imposed for sabotage. Flemish separatism was encouraged by the German authorities, as during the World War. All anti-Nazi statements were ordered deleted from Belgian school books. All the familiar Nazi controls of communication and of political, economic, and cultural life were introduced. The annual Armistice Day celebration was prohibited. The Universities of Brussels, Ghent, and Liège were placed under German-appointed administrators and rectors. Anti-Jewish measures were introduced. During three weeks of December, it was reported, 250 trade union leaders and 65 politicians were arrested by the German authorities in Antwerp Province alone for sabotage and anti-German activities.

**Economic Situation.** Belgium's economic situation had become serious even before the German invasion (see YEAR BOOK, 1939). But it was completely disorganized by the *blitzkrieg*. According to a survey by the German-controlled Commissariat for Reconstruction issued December 5, the 18 days of warfare in Belgium caused damage estimated at 13,000,000,000 Belgian francs. Only one-fifth of the kingdom's 2500 towns and villages escaped damage. The destruction included 9832 houses razed, 24,156 severely damaged, and 116,710 slightly damaged, 352 factories wrecked, all communications disorganized and some 6000 miles of highway and virtually the entire railway network disrupted. More than 100 railway stations and 1425 bridges and tunnels were blown up either by the advancing Germans or retreating Allied forces. Brussels, Antwerp, and Liège suffered only minor damage but medium-sized towns like Louvain, Tournai, Nivelles, and Ostend were badly devastated. The Louvain Library, destroyed during the World War and reconstructed with American funds, was again completely wrecked by fire.

A large part of the civil population fled before the German invaders; nearly 2,000,000 crossed into France while other hundreds of thousands obstructed the paths of the contending armies in Flanders, suffering numerous casualties. Civil government had broken down almost everywhere. The Germans sought to bring order out of this chaos as quickly as possible in order to enlist Belgium's economic resources in their total war. They established a Commissar of Reconstruction to restore the communications and transportation systems and to reconstruct and expand industry and agriculture. Substantial progress was reported by the year's end. Despite work on these projects and the recruiting of skilled labor for jobs in the Reich, the number of unemployed was reported at 1,000,000 in September and this total increased as more refugees returned from France.

Food reserves suffered severely during the fighting and the Germans were reported to have appropriated large amounts for shipment to the Reich and to maintain their occupationary forces. The German authorities rationed bread, meat, milk, eggs, and butter at levels 30 per cent below those fixed in Germany. During the winter it was indicated that the food situation was increasingly critical.

The German military administration officially in-



dicated its intention to establish some form of permanent economic union between Belgium and the Reich after the war. The German exchange control system was extended to Belgium June 27. A decree of the same date established the Bank of Issue of Brussels. It issued banknotes in Belgian franc denominations which were legal tender in the occupied territory of Belgium. The commander in chief of the German Army fixed the exchange rate for German and Belgian currency at 10 francs per reichsmark on May 10, 1940, and at 12.50 francs per reichsmark on July 24. The German Ministry of Economic Affairs on September 10 concluded an agreement with the Swedish Government for a compensation trade pact between Sweden and Belgium.

**Other Events.** On July 1 the German Foreign Office requested the United States and other foreign diplomatic missions in Belgium to discontinue their missions by July 15. The Papal Nuncio to Brussels was ordered to leave at the same time. The Belgian Ambassador to Nationalist Spain, representing the government in exile, was invited to leave on October 31 and the embassy at Madrid was closed following the unauthorized departure from Spain for London of Premier Pierlot and Foreign Minister Spaak.

Consult John Cudahy (US Ambassador to Brussels), "Belgium's Leopold," *Life*, Nov. 25, 1940, pp. 75-83; Oliver Benson, "Was Leopold a Traitor?", *Events*, July, 1940, pp. 38-42; Vera Michels Dean, "Europe under Nazi Rule," *Foreign Policy Reports*, Oct. 15, 1940. See CONGO, BELGIAN, under *History*, EUROPEAN WAR, JEWS under *France and the Lowlands*; LABOR CONDITIONS; LEAGUE OF NATIONS; REPARATIONS AND WAR DEBTS.

**BENEFACTIONS.** The assembling of a report in the diverse field of philanthropy is contingent, to an extent at least, on the accidents of publicity. Any total estimate as to the vast sums of money which change hands yearly in the name of charity would be mere guesswork. An indication, however, of trends in the Nation's giving habits is to be obtained from the facts published by the John Price Jones Corporation of New York. This organization compiles reports of publicly announced gifts and bequests, and issues the annual totals for seven large cities in the United States—New York, Chicago, Washington, Philadelphia, Baltimore, Boston, and St. Louis.

Total gifts in these seven cities during 1940 were put at \$61,997,707, as compared with \$83,050,032 in 1939. This appears to indicate a falling-off of charitable activity until it is recalled that the 1939 total was augmented by a single gift of \$25,000,000—that of Samuel H. Kress to the National Gallery of Art. Total bequests in 1940 were \$15,723,127, a decline from the \$22,661,863 reported the previous year.

An analysis of the causes toward which these gifts and bequests were donated reveals, as one might expect, that the year's most noteworthy change was a stepping-up of foreign relief. (See the separate article on WAR RELIEF.) The total in that category was more than \$10,000,000 higher than in 1939. Education appeared to be the loser, having declined from \$30,322,670 in 1939 to \$18,419,898. The gift classifications in order of size were: organized relief, education, foreign relief, health, fine arts, religious purposes, play and recreation, and miscellaneous reform.

**Foundation Activities.** It is apparent that an

increasingly large sum of money earmarked for charitable purposes has been and is being concentrated in the hands of foundations or trusts. During 1940 there was at least one important addition—the 8,000,000-dollar Culpeper Foundation—and the assets of others were augmented by individual gifts (see below), while a number of the long-established foundations continue to operate out of current income with no diminution of capital.

Dr. Frederick P. Keppel, in his 1940 report as president of the Carnegie Corporation of New York, made some interesting comments on the function of this type of organization and its place in the life of the Nation. He stated that, "With rare exceptions, a foundation can reach its objective only by working through another institution, and there are in the United States far more universities, colleges, and other operating institutions, and far more voluntary organizations for worthy purposes than the nation can possibly afford. In the years to come many of these are bound to disappear, and one of the most difficult duties that face the foundation is that of so directing its grants that its influence will be directed toward survival of the fittest."

In this connection, Dr. Keppel welcomed "the growing evidence of what may be called a conservation movement in cultural philanthropy," shown in the co-operative grouping of hitherto competing institutions. Commenting on the conflicting calls made upon foundations in a time of emergency, he admitted the possibility that funds available for educational and scholarly purposes may ultimately be reduced. However, there is as yet, he said, no indication that this will happen.

In reporting on the current activities of the foundations, it is necessary to point out that there are a number of organizations which make no public statement of their work or their finances. E. V. Hollis, in a study of *Philanthropic Foundations and Higher Education* made in 1938 (Columbia University Press), stated that, although he had record of 573 foundations, only 125 supplied data which could be analyzed. Of the capital assets reported to him at that time, almost 90 per cent was controlled by only 20 groups, with 64 per cent accounted for by the Rockefeller and Carnegie trusts.

The following paragraphs summarize briefly the work of some of the more prominent foundations and trusts. The foundations which have the largest financial assets are discussed in separate articles such as CARNEGIE ENDOWMENTS, COMMONWEALTH FUND, GENERAL EDUCATION BOARD, and ROCKEFELLER FOUNDATION.

**Automotive Safety Foundation**, somewhat unusual in that it is supported, not by a permanent fund, but by annual contributions from more than 150 companies in the automotive industry. Organized in 1937 to carry on a broad, integrated highway safety program, the Foundation made grants in 1940 to 15 qualified national organizations for specific activities in the fields of legislation, motor-vehicle administration, enforcement, engineering, education, training of personnel, and research. President: Paul G. Hoffman. Director: Norman Damon. Headquarters: the Tower Building, Washington, D.C.

**Bok Foundation** has as its principal activity the support of the Curtis Institute of Music in Philadelphia. Grants have also been made to the Settlement Music School, Philadelphia, and the Research Studio, Maitland, Fla., the latter being a kind of "laboratory" for painting. Financed by

gifts of \$12,500,000 from Mrs. Mary Louise Curtis Bok, the Foundation was created in 1931 for the support of music, fine arts, science, invention, or general education. Address: 1726 Locust Street, Philadelphia, Pa.

**Buhl Foundation**, established in 1928 by Henry Buhl, Jr., reported that its capital assets were \$12,734,289 in 1940 and that expenditures for the year totaled \$373,007. The Foundation's programs center in the Pittsburgh area, where it has sought to provide more adequate factual bases for social work and regional economic effort, to promote research in public health and the natural sciences, and to develop the community's resources in higher education. Another objective is the advancement of housing standards for American cities, as exemplified in large-scale planned communities administered on a long-term investment basis. In demonstration of this last-named objective, the Foundation operates Chatham Village in Pittsburgh, built in 1932 at a cost of \$1,700,000. The Buhl Planetarium and Institute of Popular Science was built at a cost of \$1,100,000 in 1939 as a gift to the people of Western Pennsylvania. Director: Charles F. Lewis. Offices: the Farmers Bank Building, Pittsburgh, Pa.

**Children's Fund of Michigan** reported expenditures of \$759,735 during the fiscal year ending Apr. 30, 1940, capital assets on that date were \$8,945,776. The Fund was established by James Couzens with a gift of \$10,000,000 in 1929 to promote the health, welfare, happiness, and development of children in Michigan, primarily, and elsewhere in the world. Chief officer: Wm. J. Norton, 660 Frederick Street, Detroit, Mich.

**Cranbrook Foundation**, also devoted to the welfare of the people of Michigan, specifically in the field of education. Established in 1927, it maintains at Bloomfield Hills, Mich., a cultural center including three schools, an Academy of Arts, and an Institute of Science. Expenditures for the year ended June 30, 1940, were \$571,248; capital assets on that date, \$8,144,667. Chairman of the Board of Trustees: George G. Booth.

**Duke Endowment**, created by James B. Duke in 1924, is principally known for its connection with Duke University, but it conducts a number of other activities in the Carolinas as well. The Endowment is a permanent one with a self-perpetuating board of 15 trustees. Except for the \$17,000,000 spent in erecting and equipping Duke University, it is authorized to expend none of its principal. A report covering its first 15 years, ended Dec. 31, 1939, showed that the Endowment had distributed and allocated \$36,939,947 as follows: Duke University, \$18,007,284; hospitals, \$13,013,341; Davidson College, \$974,007; Furman University, \$975,032; Johnson C. Smith University, \$718,269; orphanages, \$1,669,142; superannuated Methodist preachers, \$350,691; rural Methodist churches, \$572,284 for buildings and \$659,892 for operations. These appropriations benefited 160 hospitals, 51 orphanages, and 1667 rural churches. Chairman of the Trustees: George G. Allen. Headquarters: Power Building, Charlotte, N.C.

**Falk Foundation**, created by Maurice and Laura Falk, makes grants to economic research organizations for definitive studies of specific economic problems involved in the development of American industry, trade, and finance. Grants voted in 1940 totaled \$121,800, including two grants to the Brookings Institution for studies of "Public Relief in the United States" (\$42,800) and "Refu-

gee Problems in the Dominican Republic" (\$50,000). Payments made on grants in 1940 totaled \$149,000 and capital assets had a market value of approximately \$5,200,000 as of November 16. The Foundation was established in 1929 with the provision that principal as well as income be used within 35 years. Executive Director: J. Steele Gow. Chairman of the Board of Managers: Leon Falk, Jr. Offices: Farmers Bank Building, Pittsburgh, Pa.

**Guggenheim Foundation**, established by Solomon R. Guggenheim in 1937 for the promotion of non-objective painting, maintains the Museum of Non-objective Painting at 24 East 54th Street, New York City. It also lends travelling exhibitions to schools and museums, and grants a number of scholarships yearly to non-objective painters. Director: Baroness Hilla Rebay. Offices: Carnegie Hall, New York City.

**Juilliard Musical Foundation** was incorporated in New York State in 1920, in accordance with the will of Augustus D. Juilliard, to aid worthy students of music, promote the instruction of the general public in the musical arts, and to encourage a deeper interest in music in the United States. Invested trust funds had a book value of about \$12,000,000 in 1940; only the income is distributed. Secretary: M. Steilen, 31 Nassau Street, New York City.

**Kellogg Foundation**, established by W. K. Kellogg in 1930 to advance the well-being of children without regard to race, creed, or geographical boundary, expended \$1,337,101 during the year ending Aug. 31, 1940. Total capital assets on that date were \$47,319,003. The Foundation has undertaken and is administering the Michigan Community Health Project, a model program involving seven counties in southwestern Michigan (See DENTISTRY). The present program includes also national and international health promotion activities and the granting of fellowships. President: George B. Darling. General Director: Emory W. Morris. Headquarters: Battle Creek, Mich.

**Macy Foundation**, established by Mrs. Walter Graeme Ladd in 1930 in honor of Josiah Macy, Jr., reported total expenditures for the year ending Dec. 31, 1940, at \$206,312; total grants paid, \$148,922. Drafts are not permitted upon the endowment, which has a ledger value of \$6,216,852. Emphasis is placed on special problems in medicine which require for their solution studies and efforts in correlated fields as well, such as biology and the social sciences. President: Ludwig Kast. Headquarters: 565 Park Avenue, New York City.

**Markle Foundation, John and Mary R.**, established in 1927 by John Markle, has limited its new activities to grants in aid of specific research projects in medical sciences. Appropriations made in 1939 amounted to \$808,015, while grants paid and operating expenditures were \$596,705. There were in progress during the year 126 separate projects receiving aid. The year-end market value of the principal account was \$16,632,968. President: J. P. Morgan. Secretary: Florence E. Quick. Offices: 14 Wall Street, New York City.

**Milbank Memorial Fund**, established in 1905, had expended a total of \$11,550,093 up to the end of 1939. Appropriations for grants and projects in that year totaled \$225,846. The Fund assists agencies and institutions in the field of public health and medicine, education, social welfare, and research. Emphasis is given to activities which are preventive rather than palliative, and to the im-

provement of administrative procedures in public health. In 1939, 31 organizations received funds, including Barnard College, \$100,000, Community Service Society of New York, \$20,000, Judson Health Center, \$25,000, and Neighborhood Health Development, Inc., \$26,000. President: Albert G. Milbank. Executive Director: Fran G. Boudreay, M.D. Offices: 40 Wall Street, New York City.

**Permanent Charity Fund** was established in 1915 by the Boston Safe Deposit and Trust Company to furnish a medium through which money may be left in trust to charity. The principal of the Fund is invested and the income distributed to existing organizations, usually of Boston and vicinity. Payments to charities during the fiscal year ended June 30, 1940, totaled \$176,159 and capital assets on that date were \$5,479,092. President: Charles E. Mason. Offices: 100 Franklin Street, Boston, Mass.

**Rackham Fund**, established by Horace H. and Mary A. Rackham, was in process of closing in 1940 after seven years of activity during which grants were made to existing organizations, usually in Michigan, for educational, scientific, and charitable purposes. Total cash funds available were \$14,215,413, of which \$109,925 remained unspent on Sept. 30, 1940. The Fund's disbursements were in the fields of child welfare and character building, development of community life, education, health and hospitals, benevolence, religion and public purposes, and science. Grants to the University of Michigan included \$1,500,000 to develop engineering, \$6,603,500 for the Horace H. Rackham School of Graduate Studies, \$600,000 to create an Institute for Human Adjustment, \$505,000 for a Sociological Research Unit, \$100,000 for undergraduate scholarships, \$1,000,000 for arthritis research and a clinic. Other major gifts went to the Boys' Club of Detroit, Franklin Settlement in Detroit, The Community Center at Fenton, Mich., Michigan State Normal College for a School of Special Education, Arnold Home for Aged and Incurables in Detroit, Detroit Community Fund, and to Michigan State College for research in chemical use of agricultural products.

**Reynolds Foundation, Inc.**, established in 1936 for charitable and civic purposes in the State of North Carolina by Zachary Smith Reynolds, has undertaken as its first project a campaign to control venereal disease in the State. An annual grant, amounting in 1940 to \$200,000, is made to the State Health Department for this purpose. The principal of the trust had a market value of \$5,805,673 on Nov. 1, 1940. President: Richard J. Reynolds, Winston-Salem, N.C.

**Rosenwald Fund**, incorporated by Julius Rosenwald in 1917 "for the well-being of mankind," conducts its activities chiefly among Negroes and in the rural South. Capital assets on June 30, 1940, were valued at approximately \$4,500,000. The present program includes the following: (1) Rural education, especially in the south, for which \$292,642 was spent during the two-year period ending June 30, 1940; \$437,000 has been appropriated for continuing the work. (2) Fellowships for advanced study for Negroes and white Southerners, for which \$100,000 a year is set aside. 96 individuals received new grants and 68 received renewed grants during the past two years. (3) Aid to important Negro universities, which is concentrated in four major centers—Howard, Atlanta, Fisk, and Dillard Universities; support was extended also to Talladega College for the first time in 1940. (4) The

improvement of Negro health and race relations. President: Edwin R. Embree. Offices: 4901 Ellis Avenue, Chicago, Ill.

**Russell Sage Foundation**, established in 1907, has an endowment of \$15,000,000 to be used for the improvement of social and living conditions in the United States. While the foundation is not primarily a contributing organization, it does make grants of about 30 per cent of its income to agencies with similar purposes. Among the types of activity carried on are adult education, city and regional research and planning, improvement of housing, family welfare, training for social work, community social work programs, child welfare, placement and vocational service, leisure-time activities, legal aid, penology and prevention of delinquency, service to travelers and transients, publications, organization of social workers, improvement of race relations, research, and social phases of the arts. Information obtained is given out through publications, lectures, addresses, courses of instruction, conferences, and correspondence. The Foundation's conference rooms and halls are used each year by approximately 100 different groups for about 500 meetings. President: Lawson Purdy. Offices: 130 East 22 Street, New York City.

**Sloan Foundation**, incorporated by Alfred P. Sloan in 1936, aids accredited schools and colleges in developing new "patterns" in economic education. On Nov. 30, 1940, its capital assets were valued at \$5,321,313. Up to the same date, the Foundation had made grants amounting to \$1,115,514. At present the Foundation is enabling colleges and universities to promote economic literacy through varied media, including radio, motion pictures, the printed word, fellowships, and class instruction. Among such projects aided by the Foundation are: University of Chicago Round Table of the Air, a weekly radio discussion of economic phases of national and international questions; the Educational Film Institute of New York University, which produces and distributes sound motion pictures on economic subjects; and the Public Affairs pamphlets, containing popular digests of current economic researches, issued continuously by the Public Affairs Committee of New York. Other beneficiaries include the Tax Institute of the Wharton School of Finance and Commerce at the University of Pennsylvania and the national Institute for Consumer Education (q.v.). Moreover, both at the Massachusetts Institute of Technology and at the University of Denver, the Foundation maintains a special group of ten fellowships offered to college graduates in national competition. At M.I.T. these are awarded to young industrial executives for a year's study of social and economic conditions. At Denver the fellowships provide training for a new profession—appraiser of local government—through an 18-month course in taxation and public expenditures. Entering the field of applied economics, the Foundation in 1940 enabled the State universities of Kentucky and Florida to start experiments designed to aid low-income groups. The experiments aim to discover whether solely through instructing school children in simple, inexpensive ways of improved diet and housing, the community level of living can be raised. Director: Harold S. Sloan. Offices: 30 Rockefeller Plaza, New York City.

**Spelman Fund** of New York, incorporated in 1928 with a principal fund of \$10,000,000. During 1940, the Fund continued its program directed at the improvement of methods and techniques in the

field of public administration. Support was extended to public and quasi-public agencies engaged in disseminating information regarding advances in administrative practice, in developing new types of organization and operating methods, and in actually installing administrative improvements in governmental agencies. The Fund appropriated \$431,000 during the year. Chairman of the Board of Trustees: Charles E. Merriam. Executive: Guy Moffett. Offices: 49 West 49 Street, New York City.

**Warm Springs Foundation**, a membership corporation, conducts a modern and scientifically equipped institution at Warm Springs, Ga., with a capacity of 100 beds, for the study and treatment of the after-effects of poliomyelitis (infantile paralysis). The Foundation is the only institution devoting its energies entirely to infantile paralysis. It seeks to improve and perfect methods of treatment and make the knowledge gained thereby available to the medical profession and the public. Through completion of a new medical building with complete hospital facilities, the Foundation was able in 1940, for the first time, to care for patients in a single building and study every phase of treatment. President Franklin D. Roosevelt. Chairman of the Executive Committee: Basil O'Connor. Address: 120 Broadway, New York City.

**Individual Gifts and Bequests.** The following list names, in order of magnitude, the beneficiaries, during 1940, of individual gifts and bequests amounting to a half-million dollars or more. The information is derived from *Giving Today*, a quarterly report issued by the John Price Jones Corporation.

National Gallery of Art, Washington, D.C.: Gift of an art collection estimated at \$12,000,000 to \$50,000,000 in value, from Joseph E. Widener, Elkins Park, Pa.

Charles E. Culpeper Foundation: A bequest of \$8,000,000 to establish a foundation devoted to charity, education, and religion, from Charles E. Culpeper, Norwalk, Conn. Kresge Foundation: Gift of \$7,650,000 in stock from S. S. Kresge, Detroit, Mich.

Joslyn Art Memorial: Bequest of \$2,500,000 made by Mrs. Sarah H. Joslyn of Omaha, Neb., bringing her gifts to the Memorial to a total of \$7,000,000.

Morton Memorial Hospital, Northwestern University: Bequest of \$2,000,000 in the will of Mrs. Margaret Gray Morton, Chicago, Ill.

Vanderbilt Mansion, Hyde Park, N.Y.: Gift to the nation of a mansion valued at \$2,000,000 as a national historic museum, from Mrs. Margaret Louise Van Alen of Newport, R.I.

Wesley Memorial Hospital, Northwestern University: Gift of 20,000 shares of the Inland Steel Company, valued at \$1,660,000, for the construction of a 20-story hospital, from George H. Jones, Chicago, Ill.

David P. Wohl Foundation: A gift reported (though not officially stated) to total \$1,000,000 to establish a foundation for the benefit of charitable and educational projects, from David P. Wohl, St. Louis, Mo.

Fowler Memorial, St. Louis, Mo.: Bequest of \$1,000,000 for the construction of a hospital, from the will of Mrs. Cora Liggett Fowler in memory of her husband.

John Bulow Campbell Trust Fund: A bequest of \$1,000,000 for the promotion of religious, educational, and health projects in Atlanta, Ga.

Mount Joy, Pa.: Gift to the community of an oil company valued at \$1,000,000, from Clarence Schock.

Samuel H. Kress Foundation: Gift of 82,303 shares of stock valued at \$1,000,000 from Samuel H. Kress of New York.

University of Chicago: Gift of Chicago Loop property valued at \$1,000,000 from Marshall Field, Ill.

New York Community Trust: Bequest of \$900,000 to establish (if practicable) restaurants in which needy persons may be fed free or for a nominal charge, from Wilhelm Loewenstein of New York.

Hofstra College Endowment fund of \$700,000 from the estate of Mr. and Mrs. William S. Hofstra, Hempstead, L.I.

Harvard College: Bequest of \$642,169 from Julia Isham Taylor, New York, N.Y.

Northwestern University: Bequest of \$635,000 from John S. Appleman, Chicago, Ill.

Memorial Hospital, Worcester, Mass.: Bequest estimated at \$600,000 from the estate of Mrs. Mary G. Ellis, Worcester, Mass.

Massachusetts General Hospital and Pennsylvania Hospital of Philadelphia: Bequests of \$583,333 each from the estate of Rev. Alexander Gardner Mercer of Newport, R.I., who died in 1885 (Distribution of the estate was delayed until the death of 80 annuity recipients.)

Worcester Art Museum: Bequest of a half-million dollar art collection and \$25,000 from Mrs. Mary Griffin Ellis, Worcester, Mass.

Greenwich (Conn.) Hospital: Anonymous gift of \$500,000 contingent on the Hospital's raising an additional \$750,000 for a new building.

Jefferson Medical College Hospital: Bequest of \$500,000 for tuberculosis and cancer research and treatment, from Mrs. Emily Barton Pendleton, Atlantic City, N.J.

Pennsylvania College for Women: Gift of a home and seven acres of ground valued at \$500,000 from Paul Mellon as a memorial to his father, Andrew Mellon.

West Palm Beach, Fla.: Gift of \$500,000 to build an art gallery and school, from Mr. and Mrs. Ralph Norton of Illinois.

**Fund-Raising Campaigns.** Aside from the intensified drives for war relief (q.v.), one of the most publicized fund-raising campaigns of the year was that conducted by the Metropolitan Opera Association of New York with the object of gaining ownership of the Metropolitan Opera House and initiating a new and enlarged program as a center of musical activity. The Association directed its campaign in large part to its radio audience, emphasizing for the first time the importance of small donations. The result was, not only achievement of the million-dollar goal early in May, but an increased interest in opera on the part of a wider public. Other musical organizations seeking to solve their financial problems through public subscription were the Chicago Symphony Orchestra, which raised \$137,364 toward liquidation of its deficit, and the National Symphony Orchestra which set a goal of \$107,600 for its campaign. See also *MUSIC*.

Outstanding in the educational field was the raising of \$5,000,000 in gifts and pledges to establish a University Center in Atlanta, Ga. The success of the campaign secured a conditional grant of \$2,500,000 from the General Education Board toward the project, which will involve the co-ordination and development of six Georgia institutions. The Bicentennial Planning Committee of the University of Pennsylvania announced that it had raised \$5,035,000 on September 20. The President's Program of Princeton University reached \$3,311,084 (February 22), and the 75th Anniversary Fund of Vassar College \$1,933,429 (June 8). The Catholic University of America also had under way a nationwide drive. An unusual tribute—in that it honored a man still living—was the collection of \$100,000 among the friends of Carter Glass to establish the Carter Glass chair of government at Sweet Briar College.

The Presbyterian Board of Christian Education conducted a sesquicentennial fund drive for \$10,000,000 during the year; \$8,167,944 had been collected by September 22. A special thank offering of \$974,089 from Episcopal women was announced at the convention of the Protestant Episcopal Church, October 11; the money was to be used for foreign and domestic missions. Of increasing interest in the field of health is the annual campaign to combat infantile paralysis, the Committee for the Celebration of the President's Birthday, which co-ordinates this drive, reported \$1,407,245 raised in 1940. The usual number of drives for enlarging or renewing hospital facilities went forward.

There are, of course, many organizations and institutions, whose regular program includes the

collection of gifts for various purposes. For their current reports the reader is referred to such articles as AMERICAN LEGION, COMMUNITY CHESTS AND COUNCILS, COMMUNITY TRUSTS, RED CROSS, the report on gifts tabulated under UNIVERSITIES AND COLLEGES, the articles on religious organizations, and the list of SOCIETIES AND ASSOCIATIONS. See also ART under *Museums*; LIBRARY PROGRESS under *Gifts, Grants, and Buildings*.

**BEQUESTS.** See **BENEFACCTIONS**

**BERMUDA.** An insular British colony, 677 miles southeast of New York. Included in its area are some 360 islands, of which 20 are inhabited. Area, 19.3 square miles; civil population (Mar. 26, 1939, census), 30,814 (11,481 white, 19,333 colored). Chief towns - Hamilton, the capital, 3259 inhabitants; St. George, 1000. During 1938 there were 769 births and 332 deaths. Bermuda is an important British naval base.

**Production and Trade.** There are about 1000 acres of farming land under arable cultivation and most of it bears from two to three crops a year. The chief crops are potatoes, onions, lily bulbs, cut flowers, and green vegetables. Bananas and arrowroot are grown. During the first eight months of 1939 over 65,000 tourists visited the islands. Trade (1938) - imports, £1,906,689, exports, £145,943. Bermuda is linked to New York by air service and is a port of call on the New York to Lisbon transatlantic air route. Shipping aggregating 6,441,284 tons entered and cleared during 1938.

**Government.** For 1939 revenue was estimated at £430,423 and expenditure at £433,866. The public debt on Dec. 31, 1938, totaled £75,000. A governor, aided by an executive council, administers the colony. There is a legislative council of 9 members (3 official and 6 nominated unofficial) and an elected house of assembly of 36 members (4 from each of the 9 parishes). Governor and Commander-in-Chief, Maj.-Gen. Sir Denis Bernard (appointed Apr. 6, 1939).

**History.** In notes exchanged Sept. 2, 1940, the British Government agreed to lease to the United States for 99 years sites for naval and air bases in Bermuda. After surveys by United States experts, the sites agreed upon were announced in Washington November 18, as follows:

(a) For land-plane base Long Bird Island—enlarged by dredged fill to accommodate main runway along its major axis and two cross runways nearly on the end, together with certain of the land north and east of Ruth's Bay and south of the main road leading to Stokes Point.

(b) For seaplane base, naval base and garrison area. That part of St. David's Island from Stokes Point to Riggs Bay, together with portion lying south of the main road and south and west of the road leading to Ruth's Bay and including Ruth's Point and promontory, and in addition certain small islands lying close off the southern shore of St. David's Island.

(c) For explosive storages. The small islands between St. David's and Hamilton Island along the eastern entrance to Castle Harbor (Cooper's, Nonsuch, Brangman's, Charles, and Castle Islands).

(d) In order to prepare Castle Harbor for use. The United States authorities to have the right to substitute a drawbridge (for relocated highway and railway) between St. George's Island and Coney Island to render this entrance to Castle Harbor usable for vessels and seaplanes. The United States authorities also to have the right to make such alterations to the southwest causeway to Long Bird Island as may be necessary, and to do such other dredging and filling in Castle Harbor as may be required for the base.

(e) The question of the granting of facilities affecting an island or islands in the Great Sound for operation of seaplanes is still under consideration.

Even before the approval of these base sites by the Bermuda House of Assembly on Novem-

ber 27, United States naval planes began operations from Bermuda in connection with the neutrality patrol of the inter-American security zone.

The issue of leasing the base sites was first submitted to the House of Assembly in secret sessions held August 19 and 20. On August 24 the Governor of Bermuda announced the local government's decision to approve the proposal. In a memorial to the British Government adopted August 20, the Assembly expressed deep concern "lest some new conception of American hemisphere defense may affect the status of this ancient Colony as an integral part of the British Commonwealth." The memorial urged that "nothing be allowed to prejudice our Constitution, our Government or our complete happiness and contentment under British rule." The British Secretary of State for Colonies replied that there was no question of Bermuda, or any part of it, being separated from the British Empire, or of the people of Bermuda ceasing to be British subjects.

On September 2 the Assembly voted to ask the Governor to protect the islands' peacetime pursuits in determining the base sites. An official committee of six represented the local government in the subsequent negotiations. It strenuously objected to the original proposals of the United States board of inspection on the ground that they would "give rise to gravest economic, social and political dislocation of the life of the colony." Following the Governor's announcement of the sites on November 18, the Assembly after considerable debate approved the Governor's message with an amendment urging that title to private property taken over for the bases vest in the Bermuda Government, subject to lease to the United States. The size of the base area, and the announcement that a garrison of at least 4500 troops would be sent to guard it, caused apprehension as to the long-term consequences of the lease.

Bermuda's loyalty to the mother country was shown by various acts during the year. In addition to four volunteer defense units maintained by the Bermuda Government, the Assembly voted on June 24 to conscript men for service in a Bermuda Defense Corps. On September 18 the Governor under the British Orders in Council assumed power to command the services of persons and property for defense purposes. On May 29 the Assembly approved an immediate war contribution to the British Government of £40,000 and at the end of November this was raised to £200,000. Direct taxation was imposed for the first time to meet a marked shrinkage in revenues.

The colony became a highly important cog in the British convoy and blockade systems. Murray's Anchorage served as a concentration point for convoys bound for Britain and various other destinations, beginning in May, 1940. Before the end of the year a staff of over 700 censors was reported at work in Hamilton examining mails carried on vessels and airplanes touching the island en route to or from European ports. The United States consul at Hamilton formally protested when the censorship of U.S. airmails began on January 18. After March 15 some of the Pan American transatlantic planes omitted the stop at Bermuda. Effective July 8 passport visas were required of all persons not British subjects landing on the island and all persons over 16 years of age living in Bermuda were required to carry identification cards.

**BESSARABIA.** See RUMANIA and UNION OF SOVIET SOCIALIST REPUBLICS under *History*.

**BILLIARDS.** Willie Hoppe was once again the leading figure in the world of billiards, a position he has frequently occupied throughout the last 34 years. At 52 he won the three-cushion billiard championship without sustaining a defeat. In doing so, he defeated ten of the leading players in the world, and won 20 straight games, an unprecedented achievement in the history of three-cushion billiards. He was named the No. 1 player of 1940 by the National Billiard Association.

Hoppe averaged 1.161 points an inning over the 20-game route, a mark which shattered Cochran's former record of 1.123 set in 1935. Five former title holders faced him. His nearest competitors, in order, were Jake Schaefer, Jay Bozeman, and Welker Cochran.

The world's pocket billiard championship was won by Andrew Ponzi of New York who defeated Jimmy Caras of Wilmington, Del. He broke the world's record high-run of 126, exceeding that mark by one point.

**BILLITON.** See NETHERLANDS INDIES under *Area and Population*.

**BIOLOGICAL CHEMISTRY.** Because of the war and other unsettled conditions the year has witnessed an appreciable slackening of the pace of publication of important experimental data. However, some very important developments have been made, and this is especially true in the field of the vitamins.

R. J. Williams and his co-workers have solved the major structural problems connected with the chick antidermatitis vitamin, pantothenic acid. Evidence for the complete structure of this powerful member of the vitamin B family has been published. In collaboration with these investigators its total synthesis also has been realized in the Research Laboratories of Merck and Co. Inc., Rahway, New Jersey. Its biological activity has also been investigated. In carrying out these latter studies György and Poling reported results which strongly indicate that pantothenic acid has a curative effect on nutritional achromotrichia (depigmentation of the hair, also called "graying") of rats. Their results, however, are in conflict with observations made by Williams. In the latter case pure pantothenic acid exhibited no preventive or curative effect on gray hair, although it was observed that the rate of growth and the length of life were greatly enhanced. It is to be noted in this connection, however, that the diet in the two sets of experiments was somewhat different. Williams substituted 8 per cent butter for 2 per cent corn oil. This would seem to suggest that another factor has to be taken into consideration, an idea first suggested by Nielsen et alii. It should also be recorded at this time that certain derivatives, such as hydroxy pantothenic acid, have been synthesized. They also possess striking biological activity. It has been observed, however, that the effectiveness of all these compounds varies with different microorganisms and also the testing conditions. Certain microorganisms such as *Lactobacillus Helveticus* cannot grow without pantothenic acid. Herein, in some such manner, may rest its value in human nutrition.

Other important experimental data in the field of the vitamins have been published. Although several laboratories have reported neurological lesions as a consequence of vitamin A deficiency the relation of vitamin A to growth and function of

the nervous system has remained unsolved. Experiments by Wolback and Bessey at the Harvard Medical School indicate, however, that the explanation of these lesions occurring in this deficiency lies in a relative over-growth of the central nervous system. This results in mechanical damage and degeneration of the nerve fibers. The earliest and most striking manifestations are in the spinal canal and appear to involve both anterior and posterior nerve roots.

During the past year the concept of isosterism, as proposed by Grimm and extended by Erlenmeyer, has attracted attention by its possible application with respect to the substitution of a pyridine nucleus for the thiazole component of the vitamin B<sub>1</sub> molecule. With these views in mind several investigators have attempted the synthesis of the true isoster of thiamin (B<sub>1</sub>) in order, if possible, further to correlate structure and physiological activity. This has finally been successfully accomplished by Elderfield and Tracey at Columbia University. Starting with ethyl  $\alpha$ -( $\beta$ -ethoxyethyl)- $\beta$  aminocrotonate these investigators prepared 2-methyl-3-( $\beta$ -hydroxyethyl)-pyridine. This compound was then condensed with 2-methyl-5-bromomethyl-6-amino pyrimidine hydrobromide to give the true pyridine analog of thiamin. Its physiological properties are being investigated and the results when published will be of interest both theoretically and practically.

Work on another member of the vitamin B family continued to be of absorbing interest. Dr Sebreel of the National Institute of Health has continued his studies on pellagra, and has found that keratitis, a disease which affects the outer transparent coating of the cornea, is in reality a deficiency disease, and is caused by a lack of riboflavin. Thus it is not due to syphilis as previously supposed. He was led to this discovery by the observation that keratitis is often found in sufferers from pellagra who are not entirely cured by nicotinic acid.

Last year this reviewer reported on the synthesis of vitamin B<sub>6</sub> in the Research Laboratories of Merck and Co. During the past twelve months these same laboratories have released for publication other interesting facts on the chemistry of this highly interesting compound. This molecule has been found to exist in tautomeric forms. Evidence as to the nature of this tautomerism has been obtained by the comparison of the absorption spectra and ionization constants of the vitamin with those of vitamin B<sub>6</sub> methiodide, N-methyl vitamin B<sub>6</sub>, betaine, and related compounds. Their results show the presence of three tautomeric modifications, all in equilibrium. These forms are assumed to represent the successive stages of acidic ionization of the vitamin B<sub>6</sub> hydrochloride. It is of further interest to note that when methylation of the nitrogen atom in one form of the B<sub>6</sub> molecule takes place all biological activity is destroyed.

The research chemists of Merck and Company have also reported the formation of a vitamin B<sub>6</sub> borate complex. This observation was made in the course of the development of a colorimetric method for the determination of vitamin B<sub>6</sub>. Boric acid with a co-ordination number of 4 is linked to two molecules of the vitamin through the oxygen atoms in the 3 and 4 positions. This complex is of further interest in that it is thermostable in neutral solution and has the physiological activity of vitamin B<sub>6</sub> itself. It may be inferred, therefore, that the complex in the animal organisms is com-

pletely broken down to liberate the unchanged vitamin.

Vitamin E, the compound known as the fertility vitamin from wheat germ, is being hailed in certain medical circles as a cure for the hitherto hopeless diseases of muscle weakness and nerve degeneration. Striking results are reported by Dr. Franklin Bicknell and by Dr. Ira Wechsler. According to Dr. Bicknell this vitamin can also be used to protect children against infantile paralysis. He is of the belief that when it is so used, the nerve and brain cells are more resistant to attack by the paralysis virus. The vitamin has been used for muscular dystrophy, amyotrophic lateral sclerosis, peroneal muscular atrophy, and amyotonia congenita. Results of treatment in the muscle weakness conditions were remarkable, every patient except one showing improvement. In concluding his paper Dr. Bicknell suggests, however, that the substance in wheat germ which produces this improvement may be something other than the chemical,  $\alpha$ -tocopherol, which has been identified as the pure form of the anti-sterility vitamin. For this reason he used dried whole wheat germ and not the pure chemical itself.

The announcement of a new vitamin has been made. According to C. A. Elvehjem and his co-workers there is present in milk a compound which prevents stomach ulcers in guinea pigs. Milk is the best source of this vitamin, which is interesting in that sufferers from stomach ulcers are usually fed a diet of milk and cream. Its purification and structure are yet to be realized.

V. du Vigneaud, P. Gyorgy, and co-workers have called attention to the possible identity of vitamin H, the curative factor for egg-white injury, with biotin, a growth factor for yeast, and with co-enzyme R, which is a growth and respiration factor for many strains of legume nodule bacteria. The identity of biotin and co-enzyme R has been indicated previously by West and Wilson. From the standpoint of chemical and physical properties the similarity in the nature of these compounds is marked. All these substances are dialyzable, heat stable, and resistant to treatment with acid and alkali. None is precipitated with lead acetate. Treatment of vitamin H or biotin with benzyl chloride in pyridine results in an inactive product. Nitrous acid produces inactivation, acetylation also causes inactivity. The highest purity vitamin H is extremely potent in co-enzyme R activity. In conclusion these investigators report that a crystalline preparation of biotin methyl ester possesses vitamin H activity to a high degree. When purified to a constant melting point and activity it possesses such an extremely potent vitamin H activity as to leave no doubt that vitamin H and biotin are one and the same compound.

Advances continue to be made in the field of the sterols and hormones. The isolation in pure form of the interstitial cell-stimulating (luteinizing) hormone of the anterior lobe of the pituitary gland has been reported by investigators of the Rockefeller Institute for Medical Research of New York and of the Squibb Institute for Medical Research at New Brunswick, N. J. This protein hormone, isolated from swine pituitary glands, has a molecular weight of about 90,000. Its isoelectric point is pH 7.45. It was shown to be pure by tests in the electrophoretic apparatus of Tiselius and in the ultracentrifuge. The hormone so obtained was found to stimulate the interstitial tissue of the testis or ovary, and caused the formation of corpus lutea

provided that maturing follicles were present. Extracts of swine pituitary with purely follicle-stimulating effects did not cause oestrus in immature hypophysectomized female rats unless luteinizing hormone was also administered.

R. I. Dorfman of the Yale University School of Medicine has reported that he has obtained evidence of a new estrogenic substance present in the neutral fraction of human pregnancy urine. From his experiments it appears that in addition to the well-defined phenolic estrogens in human pregnancy urine there appears to be another estrogenic substance which is a neutral non-ketonic compound.

Fernholz and his co-workers have determined beyond reasonable doubt the structure of two sterols, brassicasterol and spinasterol. Marker and his students have continued their studies on the sapogenins. Among the more interesting results which have been obtained may be mentioned the following: (a) they have observed that under suitable conditions pseudo-sarsasapogenin, pseudo-tigogenin, and pseudo-chlorogenin are isomerized by hydrochloric acid to the original sapogenins; (b) they have shown that allopreganediols can be obtained from tigogenin. Sarsasapogenin and diosgenin can be converted into testosterone and related compounds; (c) the structure of pseudo-sarsasapogenin has been further elucidated. Evidence has also been submitted which indicates that the hydroxyl groups in chlorogenin are in the 3-beta and 6-alpha positions; (d) they have also shown that the supposed sapogen, trillagenin, is in reality a mixture of diosgenin and trillin.

Wallis and his students have also continued their studies in the field of the sterols and hormones. From their experiments a new route has been suggested for the preparation of sterols having an hydroxyl group at  $C_{11}$ . This is of practical importance because of the position of the hydroxyl group at the  $C_{11}$  position in the adrenal cortex hormone cortin. These investigators have also published a new and simple method for the synthesis of hexoestrol, a synthetic sex hormone of high potency. Because of this new method this substance can now be prepared at a much cheaper cost.

In 1938 this reviewer reported through the discovery of the utilization of sulfanilamide a new era in medicine—the era of chemotherapy of bacterial diseases. Again this year the work has consisted mainly in the preparation of derivatives of this compound and in the investigation of their physiological activity. Although there is no complete record of all the sulfanilamide derivatives which have been made it is conservative to state that they now exceed three thousand. Experiments show, however, that only a few are valuable: namely, sulfanilamide itself, sulfapyridine, and sulfathiazole. Much work has been done during the year in an attempt to find out the significant property necessary for this activity. But just how the potent ones act, why they act, and on what they act are not yet established. At present it may be said only that they retard the growth of bacteria. The results obtained with this treatment, however, are often dramatic. Diseases such as erysipelas, scarlet fever, tonsillitis, mastoiditis, meningitis, peritonitis, septicemia, pneumonia, gonorrhea, respond to this treatment. Although the streptococcus haemolyticus is affected, streptococcus viridans seems to be immune and as a result there is at present no cure for this infection. Evidence has also appeared during the year which indicates that some of the sulfanilamides are effective in the treatment of tubercu-



losis, at least in guinea pigs. They are also effective to some extent in gas gangrene, trachoma, undulant fever, and lymphopathia venereum. Before concluding this subject it would seem appropriate to mention a few specific compounds which have become of interest because of their potency in combatting infections of various types. 4,4'-Diamino-diphenyl sulfone is effective in many infections in mice. Sulfathiazole has been found to be a particularly valuable drug in the treatment of gonorrheal urethritis in the male. Certain heterocyclic derivatives such as sulfamyl-2-pyridylamide and 2,4-methyl thiazylamide have curative action. Sulfamyl guanidine also has been found to be a good agent especially for certain intestinal infections.

It is possible to report progress in the chemotherapeutic treatment of certain parasitic diseases. Malaria will serve as an example. Here the most promising results have been obtained with quinoline and acridine derivatives. While none is the ideal drug, those of the type of plasmoquine, rhodoquine, and atabrin are certainly valuable aids to quinine. Here again, however, the great obstacle to progress is the lack of knowledge of the mechanism by means of which the drug acts and what properties it should have to be effective.

Progress has been made during the year in certain other fields of investigation. Adams and his students have continued their studies on marihuana, that part of the hemp plant, or extract therefrom which induces somatic and psychic changes in man. Their researches on one of the components of the "red oil," cannabinal, have led to a clearer picture of its structure. They have shown that the hydroxyl group and *n*-amyl group occupy different positions from those first suggested by Cahn. Their formula, which represents cannabinal as 1-methyl 3-*n*-amyl-6,6,9-trimethyl-6-dibenzopyran, has been demonstrated to be correct by synthesis. They have also isolated another compound cannabidiol and work on its structure has been carried out. Like cannabinal it is also physiologically inactive. When cannabidiol is isomerized with various acidic reagents it produces two forms of a new compound tetrahydrocannabinal. The evidence is that their structures differ mainly in the location of the double bond. The lower rotating form has high activity; the higher rotating form is less active. Both can be hydrogenated to give a single hexahydrocannabinal which is also physiologically active. Recently Todd has isolated another compound from "red oil" which he has named cannibol. There is as yet, however, no information regarding its chemical and physiological properties.

A protein-digesting enzyme resembling pepsin in its action has been found in the weed known as horse nettle. Experiments show that it is even more like the digestive agent found in papaya, and called papain. Because of the weed's name, *solanum*, this newly discovered substance is called solanain. Since papain has been used in medicine it is possible that this enzyme may also be of value. It is also to be noted that it may find an economic use in tanning, etc.

A complex vaccine effective against different strains of influenza virus has been produced by Dr. F. L. Horsfall, Jr. and Dr. E. H. Lennette of the Laboratories of the International Health Division, The Rockefeller Foundation, New York. By means of their experiments it has been possible to prepare vaccines capable of producing active immunity in ferrets against the influenza virus.

Ferrets which were given these vaccines and subsequently inoculated with 1000 infectious doses of heterologous strains of influenza virus showed neither the typical signs of infection nor increase in neutralizing antibodies, indicating conclusively that no infection by the virus had occurred. This vaccine was also tested on small groups of humans. It was found that a vaccine prepared from the tissues of ferrets suffering from "concurrent infections with influenza virus and the strain of distemper virus isolated from spontaneously infected ferrets" produced a definite increase in antibodies neutralizing influenza virus in every case. These investigators are now conducting experiments to determine the duration of the immunity in man produced by this complex vaccine.

From a statement of Dr. Mary Collier of the Mission Station in Nan Siam, published in *Science*, scientists have gained the information that in the use of diphtheria toxoid and antitoxin there is a treatment for leprosy which far exceeds any method yet known. Startling results are obtained. It was known previously that the leprosy bacillus damaged greatly the adrenal glands and that this injury was the more immediate cause of trouble. It is also known that diphtheria liberates a toxin which damages the adrenal glands. Thus, it occurred to Dr. Collier that the use of the antitoxin and toxoid might be beneficial. The results to date are so favorable that it is hoped to immunize the children and associates of lepers and so in time to eradicate the disease.

At last it is possible to report on the therapeutic effectiveness of certain new compounds in arthritis. Early in 1939 Dr. A. B. Sabin reported that by intravenous injection of a newly discovered pleuropneumonia-like microorganism it was possible to produce an experimental chronic arthritis in mice which bears a close resemblance to human arthritis. Continuing these experiments this investigator now reports that a practically non-toxic new gold compound, calcium aurothiomalate, has been prepared which has high therapeutic effectiveness in combatting this disease. It is interesting that this substance is approximately ten times more effective therapeutically than is calcium aurothioglycollate. Although at present the investigations have been carried out only on mice it is hoped that shortly other types of mammals may be studied.

It has also been reported by Boyd and his co-workers that treatment of arthritis with acetyl-beta-methylcholine chloride is giving encouraging results. Thirty-five cases of arthritis have been so treated. Ten of sixteen patients whose hands were treated showed an increased flexibility in function and usefulness. Pain was reduced in some patients. Muscular fatigue was markedly relieved in almost all cases adequately treated. Increased endurance was experienced by those completing a full course of treatment. Maximum effects were obtained after a course of eighteen to twenty treatments. Circulatory changes were graphically demonstrated. Patients with circulatory disturbances of the extremities—those with cool, pale, moist, and often cyanotic hands and feet—gained most from the treatment.

To this reviewer progress during the past twelve months in cancer research is more promising than formerly. Early in the year Dr. John F. Menke of Stanford University announced that he had succeeded in preparing from certain cancers of human origin an extract which when injected into mice produced tumors. This is the first time in medical



history that a substance from human cancer has been incontestably transmitted to an animal. Recently, in *Science*, Dr. P. E. Steiner of the University of Chicago has reported that from unaffected livers of persons who have died from cancer he has prepared an extract which produces cancer in mice. This work, it can be seen, goes further in that it shows that in an unaffected organ of the body there is stored up a substance which is carcinogenic in its nature. Although sufficient time has not elapsed to permit a final conclusion, to date a similar extract from the livers of non-cancer bearing persons has not induced tumors. Dr. Steiner reports that experiments are in progress on the chemical separation, on the relation to the type of cancer produced, on the distribution within the body, and on the origin of this most highly interesting compound.

A few developments have been made with the new electron microscope. A conservative estimate based on the examination of pictures taken with this instrument makes the resolving power 20 times that of the best light microscope. As is well known this instrument uses electricity instead of light and magnetic fields instead of lenses. In a lecture by Dr. T. F. Anderson given in the Frick Chemical Laboratory of Princeton University new facts about viruses to the diphtheria bacillus were described which are of great interest. For example, since 1900 it has been known that the diphtheria bacillus reduces tellurite salts to the metal. It has not been known, however, where the formation of the metal occurred. This new microscope shows clearly that the crystals are not only contained within the diphtheria cells themselves, but that in some cases they protrude through the cells or extend the cellular membrane. When applied to viruses one can see from the picture so produced the shape of the individual molecules. It is, thus, revealed that they are of great length relative to their width and thickness. See also CHEMISTRY; MEDICINE AND SURGERY.

EVERETT S. WALIS

**BIOLOGICAL SURVEY**, Bureau of. A bureau of the U.S. Department of the Interior which was consolidated with the Bureau of Fisheries on June 30, 1940, to form the Fish and Wildlife Service (q.v.).

**BIRDS**. See FISH AND WILDLIFE SERVICE; ZOOLOGY.

**BIRTH CONTROL**. The inclusion of birth control service with other health services available to the public in the United States gained impetus in 1940. This may be attributed to increased understanding and support of physicians, health, and welfare officers, and the lay public. Evidence of this support appeared in the response to a Gallup Poll, released by the American Institute of Public Opinion in January, reporting answers to the question, "Would you approve or disapprove of having government health clinics furnish birth control information to married people who want it?" The vote of those who expressed opinions was 77 per cent affirmative.

At the close of 1940, physicians were serving in 606 birth control centers in this country, as against 553 at the close of 1939. Of them, 109 were in hospitals, as against 96 in 1939; 180 in health departments, compared with 162 in 1939; 252 were supported in whole or in part by public funds, as against 223 in 1939. There has been an increased interest in the teaching of contraception in medical

schools. Physicians direct the work of all birth control centers listed by the Birth Control Federation of America.

Public health nurses acting as field representatives of the Federation in eleven States during the year, have been able under medical direction to take simple contraceptives to women in isolated rural areas and instruct them in their use. Finding that the high rates of infant and maternal mortality among Negroes all over the country, were due in part to ill-advised pregnancies, the Federation set up two special Negro demonstration projects, one urban and one rural. The Federation sponsored and took part in regional Conferences on Tomorrow's Children in Chapel Hill, N C, and in connection with the Harvard Summer School at Boston, Mass. It participated in the National Conference of Social Work, and its affiliated State Leagues took part in State Conferences of Social Work in many states during the year.

The State health departments of North and South Carolina continued extending to indigent women medically directed contraceptive service.

During the year the Federal Trade Commission was active against false therapeutic claims of numerous commercial contraceptives, issuing "cease-and-desist" orders, and bringing suits against a number of manufacturers and sellers of certain products. The Commission has moved, also, against several firms advertising and marketing calendars and slide rules for the so-called "safe period" or "rhythm" method of birth control, stating that the weight of medical opinion was against the statement that absolutely accurate calculations of such periods could be made.

On Mar. 21, 1940, by a vote of three to two, the Supreme Court of Errors of the State of Connecticut handed down a decision upholding the existing law of the State, which is the only one in the country forbidding the "use" of contraceptives, and ruling that, under the statute, it was illegal for physicians to prescribe contraceptives or for patients to use them, even where definite medical indications existed. As a result of this decision all birth control centers in the State were closed, pending effort to change the law.

The Massachusetts Mothers' Health Council secured 44,500 certified names on its initiative petition to change the law in that State. The question will be voted upon by the people of the State in November, 1941. Mrs. Sanger made a tour of the State, speaking in a number of the larger cities. In Holyoke opposition of some of the Roman Catholic leaders resulted in cancellation of rental of two meeting places, and she spoke finally in the quarters of a local textile union, urging support of the initiative petition to the end that the physicians of Massachusetts would again be free to advise patients legally on contraception.

During the year, groups in the States of Maine and Virginia were organized and affiliated with the Birth Control Federation, making 32 co-operating State leagues. D. Kenneth Rose became Executive Vice-President of the Federation and Woodbridge E. Morris, M.D., General Medical Director. Other officers were re-elected. The work of the Federation is sponsored by a National Committee for Planned Parenthood, comprising over 1600 leaders from all walks of life, who actively subscribe to the principle that the privilege of planning a pregnancy should be made as available to families in the economically or geographically restricted portions of our population as it now is to families economically

or geographically better off. The Federation's budget for 1940 was \$152,000, derived mainly from contributions, which are tax-exempt. The program includes, besides the above mentioned medical and field services, consultation service, and a sustained program of public education. The *Journal of Contraception*, published by the Federation, changed its name, in January, to *Human Fertility*, as more truly describing the nature of its contents. See CONNECTICUT under *History*.

**Australia.** Birth control clinics continued operations in Australia, despite the war. Mothers in low income groups are now given a maternity bonus of twenty dollars on the birth of each child, with a small weekly payment for each child after the first in New South Wales.

**England.** The Family Planning Association, headed by Lord Horder, continued work. Clinics still functioned and reported increased attendance due to the war, with its attendant uncertainty and insecurity. Dr. Marie Stopes' clinic was bombed in an October air raid, and partly wrecked.

**France.** The new legal code, put in effect during the year, provided more drastic regulation of contraceptive advertising. The Vichy government bent all efforts to induce a rise in the birth rate and to return women to the home.

**Germany.** Continued strenuous opposition to birth control was coupled with a new policy to raise the birth rate and prevent loss of population due to the war. Women and girls were told that it could become "an exalted task, even outside of wedlock, to become mothers of children begotten by soldiers moving to the front."

**India.** The All-India Women's Conference met in Allahabad in January and adopted a resolution calling for family planning as essential to health, urging instruction in contraceptive technique for all medical officers connected with municipal and government hospitals, dispensaries, and health centers, and asking that advice be given married women at such agencies. The National Planning Commission also passed a resolution urging the establishment of birth control clinics under State direction.

**New Zealand.** The Family Planning Association, as affiliate of the British organization succeeded the Sex Hygiene and Birth Regulation Society and continued to carry on its work.

**Puerto Rico.** Birth control clinic services were established under the Board of Public Health. The *Asociación pro Salud Maternal e Infantil* continued its work to bring simple forms of contraception to the low income group on the Island.

WOODBRIDGE E. MORRIS.

**BIRTHS AND BIRTH RATES.** See BIRTH CONTROL; VITAL STATISTICS; and major countries under *Population*.

**BISMARCK ARCHIPELAGO.** See AUSTRALIA.

**BITUMINOUS COAL COMMISSION.** See COAL AND COKE; UNITED STATES under *Regulation in Other Fields*.

**"BLACK LIGHT."** See ELECTRICAL ILLUMINATION.

**BLIND AND HANDICAPPED.** Aid to the. See SOCIAL SECURITY BOARD; also, CHILDREN'S BUREAU; EDUCATION, U.S. OFFICE OF; RELIEF.

**BLISTER RUST.** See ENTOMOLOGY, ECONOMIC; FORESTRY.

**BLITZKRIEG TACTICS.** See EUROPEAN WAR; MILITARY PROGRESS.

**BLOCKADE.** See EUROPEAN WAR; SHIPPING, and the countries affected, as BELGIUM, BULGARIA, DENMARK, FRANCE (AND COLONIES), GERMANY, GREAT BRITAIN, GREECE, IRELAND, NETHERLANDS, NORWAY, RUMANIA, SPAIN, SWEDEN, SWITZERLAND, TURKEY.

**BLOOD PLASMA.** See MEDICINE AND SURGERY.

**BOBSLEDDING.** Miss Katharin Dewey, 24 years old, attained international fame when she piloted a team to win the national A.A.U. senior "four man" bobsled racing championship on the Mount van Hoevenberg run at Lake Placid.

Miss Dewey, skipper of the Sno Birds of the Lake Placid Club, had for crew three hefty young men, Leo and Pat Martin and Lawrence Straight. They outstripped such favored bobsledders as Bill Linney of Lyon Mountain and Francis Tyler, Lake Placid's Olympic veteran. The Linney-piloted sled was second to Miss Dewey's for four heats and ended as runner-up.

Linney, however, fared better in other competitions. With the Republic Miners Club team, he captained a sled, in which John Kerr, Jerry Blanch, and Angus Clain were crew, to the national junior championship of the A.A.U., and distinguished himself in several other tournaments. He wrested the North American championship, the Adirondack Association A.A.U. senior title, the Governor Herbert H. Lehman Trophy, the Samuel H. Packer Trophy, and the Lowell Thomas International Trophy.

Tuffield Latour, an undertaker, and Paul Dupree, his friend, both of the Saranac Lake A.A., achieved distinction in two-man competitions. They won the national A.A.U. senior and junior titles, the North American championship, the Adirondack Association A.A.U. senior crown, and the Lowell Thomas International Trophy.

**BOHEMIA AND MORAVIA.** Two former provinces of Czecho-Slovakia, which after being shorn of their Sudeten districts by the Munich Accord of Sept. 29, 1938, were occupied by German troops on Mar. 15, 1939, and proclaimed a protectorate of the Reich the following day. Capital, Prague.

**Area and Population.** The protectorate has an area of 19,058 square miles (Bohemia, 12,525; Moravia, 6533) and a population estimated at 6,804,875 on Jan. 1, 1939 (Bohemia, 4,472,353; Moravia, 2,332,522). The inhabitants are Czechs except for a small German minority. The chief cities, with their 1937 populations, are: Praha (Prague), 962,200; Brno (Brunn), 291,800; Moravská Ostrava, 178,099 in 1935; Plzeň (Pilsen), 124,353 in 1935.

**Production, etc.** See 1939 YEAR BOOK, p. 181-182 for statistical data on Czecho-Slovakia before the partition. Little statistical information on the protectorate of Bohemia and Moravia has since become available. Agriculture, manufacturing, forestry, and commerce are the chief occupations. Cereals, corn, potatoes, beet sugar, tobacco, and flax are the chief crops. Leading industrial products: Arms, rayon and other textiles, wood pulp, cement, shoes, glass, leather goods, iron and steel products, and innumerable others. Western Bohemia is one of the leading industrial areas of Europe. The protectorate is an important source of coal, iron ore, salt, zinc, and antimony.

**Finance.** The budget for the autonomous administration of the Protectorate in 1939 was: Receipts, 4,638,000,000 crowns; expenditures, 4,902,-

000,000 crowns (1 reichsmark equals 10 crowns).

**Government.** For the governmental system previous to the German occupation, see 1939 YEAR BOOK, p 182. The terms of the Protectorate were set forth in the decree signed by Chancellor Hitler and several members of his Cabinet on Mar. 16, 1939. Bohemia and Moravia were declared to "belong henceforth to the territory of the Great German Reich." Germany assumed direct control of the Protectorate's defense, foreign affairs, communications and postal and telephone systems, customs, currency. The Protectorate was declared autonomous, with its own organs, authorities, and officials.

But these prerogatives, according to the decree, are exercised "in accordance with the political, military and economic importance of the Reich" "The Head of the Protectorate must have the confidence of the Fuehrer and Reich Chancellor for the discharge of his duties." The German Chancellor appoints a "Reich Protector in Bohemia and Moravia," who as Hitler's representative and as delegate of the Reich Government "has the task of seeing that the lines of policy laid down by the Fuehrer . . . are observed." The Protector was empowered to dismiss all members of the Protectorate's government, reject its measures, and prevent the promulgation of its laws, decrees and orders as well as the execution of administrative measures and judicial decisions. The decree gave the Reich Government blanket authority to "promulgate orders applicable to the Protectorate in so far as the common interest demands it."

The decree made all German inhabitants of the Protectorate German nationals and Reich citizens, subject to German jurisdiction and to "the regulations for the protection of German blood and German honor." Other inhabitants were declared "nationals of the Protectorate." Chancellor Hitler on Mar. 18, 1939, appointed Baron Constantin von Neurath, former German Foreign Minister, as Reich Protector, with headquarters at Prague. Karl Hermann Frank, a leader of the Sudeten German agitation against the Czecho-Slovak Republic before the Munich Accord, was appointed State Secretary of the Protectorate, with control over both German and Czech police. Dr. Emil Hacha, elected President of the Czecho-Slovak Republic by the National Assembly Nov. 30, 1938, and signer of the capitulation agreement of Mar. 15, 1939, remained in office as President of the Protectorate. The government of the Protectorate, as reconstructed Apr. 27, 1939, was headed by Gen. Ing. Alois Eliaš. Over and above the rule of the Reich Protector and the puppet government of the Protectorate was the rule of the German secret police and military commanders.

Measures placed in effect during 1939 under the decree of March 16 completed the transformation of Bohemia and Moravia into an authoritarian state completely subservient to Berlin and serving as a political and economic appendage of the Reich (see 1939 YEAR BOOK, p 183 f). The National Unity party (Czech) and the National Socialist party (a branch of the German Nazi party) were the only legal political groups permitted, and both were under close German supervision.

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Nazi administration of the Protectorate in 1940 was marked by an extension of German political and economic control, a determined effort to de-

nationalize and Germanize the Czechs, the ruthless crushing of efforts at opposition, and the continued stubborn resistance of the Czechs to all forms of pressure.

Under its new German managers and owners, Czech industry was converted into a vast arms factory with the great Skoda and Brno munitions and armament works as a basis. Numerous Jewish-owned textile plants were taken over by Germans and converted to the manufacture of uniforms and other war supplies. The application of anti-Semitic measures was used to transfer control of further industries and properties to German hands, while Czech manufacturers, bankers, and business men were increasingly driven out of business and replaced by Germans. Czech public and private revenues were expropriated. More workers were drafted for labor service in the Reich. More Czech properties and natural resources were appropriated for German war needs or, it was charged, simply stolen by the Nazi party organization in the Protectorate and the Gestapo (secret police). There was systematic persecution of intellectuals, priests, members of patriotic organizations and former soldiers and public servants who sought to "maintain Czech thought."

Czech universities and many high schools were closed as centers of anti-Germanism. Books of great Czech national writers were banned. Publications of all kinds were strictly censored and many articles appearing in newspapers under Czech names were said to have been written at German dictation. From time to time during the year reports from the Protectorate by way of Prague, Belgrade, Rome, Paris or London told of large-scale arrests of Czechs by the Gestapo, of crowded prisons, of persecution in concentration camps, of continued acts of violence by individual Czechs against Germans, of extensive sabotage by Czech workers in munitions and other industries, and of intensified Czech passive resistance to German measures and demands.

There was a steady trickle of Czech fugitives from the Protectorate to neighboring countries. At the end of January Dr. Jaromir Necas, Controller of Prices for the Eliaš Government, and Ladislav Feierabend, Minister of Agriculture, fled from Prague to France. An Associated Press report from Prague, dated February 9, stated that from 500 to 600 leading Czechs had been placed in "protective custody." Other reports indicated that the Gestapo had been successful in arresting many members of Czech underground organizations engaged in sabotage and anti-German propaganda. On May 6, after several killings of Germans by Czechs, the Reich Protector decreed the death sentence for possession of firearms or munitions by Czechs without permission of the German authorities. Czech sources in London reported in September that 650 followers of Dr. Beneš had been arrested during the previous week in the Protectorate. A total of 43,000 Czechs were said to be in concentration camps and more than 9000 under "protective arrest." Following the German victory over France, the Germans were reported to have adopted a much harsher attitude toward the Czechs.

Meanwhile the German authorities lent encouragement to the activities of the small Czech Fascist party—known as the Vlájka—as another instrument of warfare upon the Czechs. Commencing in January, Ian Rys, militant leader of this group, fiercely attacked the Czech Govern-

ment as well as Jews, Freemasons and other anti-German elements. The revered Masaryk, founder and first President of the Czechoslovak Republic, was denounced by some of Rys' leading associates. Emboldened by the special privileges extended to its members by the Germans, the Vlastka later demanded replacement of all Czech police by Germans, removal of the Czech Government and the Czech Mayor of Prague, and the signing by President Hacha of an oath of allegiance to Chancellor Hitler. On March 16 Rys threatened an armed revolt against the Czech Government.

Combined pressure from Czech Fascists and from German authorities was reflected in the telegram sent to Hitler by President Hacha on Mar. 15, 1940, the first anniversary of the German military occupation. It referred to the "valuable advantages" bestowed by German protection and concluded with a prayer "for blessing and fortune for the glorious armies of Germany which protect the Czech people."

Hitler replied that Germany did not intend to "threaten Czech national existence or bring their national conscience into conflict with the general necessities of the Reich." He expressed hope of "preserving this part of the Reich from the horrors of war." On the same day the leader of the Czech National Unity party issued a statement accepting the German version that President Hacha on Mar. 15, 1939, had of his own accord requested Hitler to take Bohemia and Moravia under his protection. He declared Hacha's "decision" was the only right one and promised to make the Protectorate a safe base for the German army by hard work in factories, offices, and fields. This statement was apparently inspired by fear that the German authorities planned to replace the National Unity party by the Czech Fascist party as the only legal Czech political group. On April 23 the Hacha Government dropped its persistent opposition to acceptance of the German Nuremberg laws against the Jews. Following the arrest of many National Unity party leaders, a reorganization of the Hacha Cabinet was announced in Berlin on August 17.

In March and April the Germans organized an armed force of 8000 Czechs, formerly non-commissioned officers in the republican army, to maintain internal order. They were distributed in seven garrison towns, thus relieving German troops for service on the Western Front. Further measures restricting bank payments to Jews were announced January 27. The forced emigration of Jews to Poland and elsewhere continued. Germans from the Italian Tirol and from the Reich proper were brought into the Protectorate to take the places and positions of deported Jews and of Czech farmers and other workers drafted for labor service in the Reich.

Another important step toward economic absorption of Bohemia-Moravia in the Reich was the unification of their monetary systems and the elimination of customs and exchange barriers, effective October 1. The par value of the Czech crown was fixed at one-tenth of one reichsmark, the ratio in effect since March 1939. Previously the Germans had partially adjusted the Czech wage and price structure to that of the Reich. Nevertheless higher prices prevailing in Germany tended further to deplete the Protectorate's commodity reserves. Competition between Czech and German industries within the free trade area was restricted by quota and price agreements between

various branches of industry in both territories and by the extension to Bohemia-Moravia of the German import and export permit system. Exports of raw materials, semi-manufactures and foodstuffs from Bohemia-Moravia to Germany after October 1 were made subject to special permit from the Minister of Commerce or the Import-Export Office at Prague.

See CZECHO-SLOVAKIA; GERMANY under *History*.

**BOILERS.** See POWER PLANTS.

**BOK FOUNDATION.** See BENEFACTIONS under *Foundation Activities*.

**BOLIVIA.** A republic of South America. Sucre is the seat of the Supreme Court and nominally the capital, but La Paz, the largest city, is the actual seat of the government.

**Area and Population.** Taking into account the Chaco boundary settlement of 1938 (see YEAR BOOK, 1938, p. 131 f.), Bolivia has an area estimated at 537,792 square miles. The population on Dec. 31, 1939, was estimated at 3,457,000, divided racially as follows: White, 13.08 per cent; mestizo (mixed), 27.51; Indian, 52.34, others, 7.07. Foreigners in Bolivia in 1940 included about 5000 Germans and German-Bolivians, 475 citizens of the United States, and about 500 British. Estimated 1936 populations of the chief cities were: La Paz, 200,000 (250,000 in 1940); Cochabamba, 52,323, Oruro, 44,826; Potosi, 35,900; Santa Cruz, 31,300; Sucre, 27,508. Spanish is the language of the educated classes. The Indians speak mainly Quechua and Aymara.

**Education and Religion.** The illiteracy rate, which was 83.5 per cent for that part of the population seven years and over in 1900, remains high. The school enrollment in 1936 was: Elementary, 73,854; secondary, 5522, special schools, 4615, universities, 1482. Roman Catholicism is recognized as the State religion. Public exercise of other forms of worship is guaranteed.

**Defense.** There is compulsory military training. The Chaco War of 1932-35 with Paraguay left Bolivia with numerous war veterans and considerable armament. Armed effectives in November, 1940, totaled 14,060 (army, 13,900; air force, 160).

**Production.** Mining is the chief industry; minerals accounted for 94 per cent of the value of all 1939 exports. Mineral exports in 1939 in metric tons, with the value in pounds sterling in parentheses, were: Tin, 27,648 (£6,262,715); silver, 225 (£613,645); wolfram, 2002 (£465,070); antimony, 10,060 (£344,021); lead, 14,119 (£215,359); copper, 4056 (£178,738); zinc, 7769 (£114,853); gold, 271,595 fine grams (£65,124); bismuth, 13 (£5485). Crude petroleum production was about 14,000 metric tons in 1938. Agriculture and stock raising are other leading occupations. Wheat, quinoa, corn, rice, barley, sugarcane, cotton, coca leaves, tobacco, and coffee are the chief crops. The principal manufactures are alcohol and beverages, foodstuffs, textiles, and clothing. A 1937 survey covered 406 industrial establishments with a total capital of 128,744,159 bolivianos and a production valued at 192,391,300 bolivianos.

**Foreign Trade.** Imports in 1939 were valued at 66,401,727 bolivianos (70,558,889 in 1938); exports, 117,399,540 (94,829,659 in 1938). In current United States dollars, the 1939 imports totaled \$24,237,000; exports, \$42,851,000. See *Production* for chief exports. Textiles, wheat, flour, sugar, live animals, and machinery are leading imports.

For distribution of trade, see *YEAR BOOK*, 1939, p 81 Also see *TRADE, FOREIGN*.

**Finance.** Budget estimates for 1939 balanced at 300,669,856 bolivianos and an actual surplus of 61,230,000 bolivianos was reported. The original estimates for 1940 balanced at 627,000,000 bolivianos, but a decree of June 29, 1940, reduced expenditures for the second semester of the year by 65,072,181 bolivianos, or 20 76 per cent

As of Dec. 31, 1939, the Central Bank placed the external consolidated dollar debt at \$100,202,549 (principal, \$60,896,849; unpaid interest, \$39,305,700), the external sterling debt at £634,739, and the internal funded debt at 356,689,370 bolivianos. There was in addition a floating debt of 986,939 pounds sterling and 42,668,914 bolivianos due the Central Bank as of Jan. 19, 1940, and an ordinary floating debt of 22,847,854 bolivianos as of Dec. 31, 1939. The boliviano was linked to the pound sterling at the rate of 140 per pound from June, 1938, until May 10, 1940, when it was pegged to the dollar at 40 to 1 for the duration of the European War. The average official exchange rate was 32 33 bolivianos to the dollar in 1939; curb rate, July–December, 1939, 45 46 bolivianos to the dollar

**Transportation.** Exclusive of lines under construction, Bolivia had 1402 miles of railway line in 1940 Under the Bolivian-Brazilian treaty of Feb 25, 1938 (see *YEAR BOOK*, 1938, p 97) work proceeded during 1940 on the first section (Corumbá–El Carmen, 70 miles) of the railway that will link the Corumbá terminus of the Brazilian network with the Bolivian railways at Vila Vila via Santa Cruz de la Sierra Construction of the Sucre–Camiri railway was renewed Commencement of work on the projected extension of the Argentine railway system from the border station of Yacuiba to Villa Montes and beyond was envisaged in a provisional accord signed with Argentina (see *History* for details). Highway mileage (1939), 10,154 Five steamers operate on Lake Titicaca (12,500 feet above sea level) Statistics of Lloyd Aereo Boliviano, a Junkers subsidiary, for 1939 were: Miles flown, 478,030; passengers, 18,407; freight, 3510 metric tons. La Paz, Oruro, and Uyuni are stations on the Pan American–Grace Airways network A new radio telephone circuit between the United States and La Paz via Buenos Aires was opened Apr 26, 1940

**Government.** The 1938 Constitution (see *YEAR BOOK*, 1938, p 96 for chief provisions) was suspended Apr. 24, 1939, and restored Oct 6, 1939, as described in *YEAR BOOK*, 1939, pp 82–83. President at the beginning of 1940, Gen. Carlos Quintanilla, who assumed office "by vote of the officers of the La Paz garrison" on Aug 23, 1939, upon the death of President Germán Busch For developments in 1940, see *History*.

### HISTORY

**Constitutionalism Restored.** The steps taken by Provisional President Quintanilla in 1939 to restore constitutional government (see *YEAR BOOK*, 1939, pp 83–84) were crowned with success in 1940. Gen. Enrique Peñaranda, commander-in-chief of the Bolivian army during the latter part of the Chaco War, was elected President on March 10 with the backing of the Quintanilla Government and of four of the five established political parties. He received more than 70 per cent of the votes cast while the other 30 per cent were divided between José Antonio Arce, leader of the

newly organized Young Socialist party, and Gen Bernardino Bilbao Rioja, who had been deported to Chile on Oct. 27, 1939. The election was orderly and uncontrolled by the government. Elections for 105 Deputies and 27 Senators, also held in March, favored the moderate and rightist parties. A Liberal–Republican Socialist bloc won control of the Senate and held a strong position in the Chamber, but the election of numerous independents and some leftists to the lower house made the balance of power there in doubt.

Displeased by the electoral results, extreme leftist politicians joined with some of the younger army officers in an attempted military coup on March 26 The revolt of some 2000 troops of the La Paz garrison was frustrated by prompt action on the part of Gen. Antenor Ichazo, army chief of staff. Four leftist leaders, the head of the military school, and the commander of the Presidential Palace Guard were arrested as leaders of the conspiracy. A state of siege was proclaimed throughout the republic, but it was indicated that popular opinion strongly supported the government. The inauguration of General Peñaranda as President followed on April 15 It was the first time since the installation of President Salamanca in 1931 that the government had changed hands without a military coup

**Peñaranda's Policies.** The new chief executive continued the retreat from the radical and quasi-totalitarian policies of President Busch, begun under Provisional President Quintanilla In his inaugural address he pledged that his government would be democratically inspired, support inter-American solidarity, and promote economic collaboration with neighboring States. He invited investments of foreign capital to develop Bolivia's agricultural and pastoral riches, pledged resumption of payments on the foreign debt which had been in default since 1932, and said his government would strive to revive the mining industry, develop internal communications, and build additional hydro-electric power plants At the same time the President sought to conciliate potential enemies by granting amnesty to ex-President David Toro, who had been in exile since 1937, and by appointing Gen. Bilbao Rioja military attaché to the Bolivian Legation in London. Ringleaders of the March revolt were likewise freed

President Peñaranda's cabinet reflected election returns in that it included representatives of most of the political parties and independents, with Liberals and Republican Socialists predominant Although the President continued to rule by decree pending the convening of Congress on August 6, he ended the state of siege on May 7 and abolished previous curbs on the press and public agitation The Young Socialists and other radical groups meanwhile had organized a Left Front under Dr Arce and launched a vigorous campaign against the government's middle-of-the-road economic and other policies On July 26 rioting broke out between rival political factions in Oruro during a Left Front convention The government then arrested Dr. Arce and other prominent leftists and imposed a state of siege in Oruro Department The prisoners were liberated by an amnesty decree affecting all political offenders, issued on October 18

The cabinet resigned on November 4 when Congress passed a measure requiring reduction of the ministry from 11 to 8 portfolios. The new cabinet sworn in November 11 represented diverse political opinions and was considered more strongly pro-

democratic. It included Gen. Carlos Blanco Galindo, former Provisional President, as Minister of Defense and Colonization.

**Legislation, etc.** Among the measures to which the leftists objected were the Quintanilla decrees of January 13 and February 9 prohibiting strikes by railway employees and forbidding their participation in certain political activities. Another highly controversial issue was the progressive repeal of President Busch's drastic mining legislation of June 7, 1939 (see *YEAR BOOK*, 1939). On March 19 all limits on the amount of dividends the mining companies could pay in foreign currencies were abolished. On May 15 the companies were granted reduced quotas for delivery of their foreign exchange to the government at the official rate. Also their taxes were further reduced. In return, the companies agreed to increase monthly tin exports to 3000 metric tons. As a result of this, production and exports of tin showed a marked upturn. The rising foreign demand for tin and other Bolivian minerals virtually doubled the total national income from exports as compared with the months preceding the European War.

At the same time the government took steps to curb speculation in certain types of goods, establish a farm credit system, restrict importation of luxuries, and establish a new social security system and wages-and-hours code worked out by two experts of the International Labor Office. Economic conditions remained extremely difficult, however, and this enhanced the government's problem in seeking to allay discontent. Inflationary factors caused the curb exchange rate of the boliviano to decline to 81 to the dollar on July 17. The Minister of Finance then raised the compensation rate from 53.40 to 70 bolivianos per dollar, pegged the boliviano to the dollar at 2½ cents, and took other steps by which exchange rates were stabilized during the last quarter of the year as follows: Controlled, 39.90 bolivianos to the dollar, compensation, 55; curb, about 60.

Currency in circulation increased from 547,000,000 bolivianos in June, 1939, to 770,900,000 bolivianos a year later. The price index for the city of La Paz (Base 1931 = 100) increased from 746 in January, 1940, to 769 in June. On July 31 the government extended the price control measures introduced April 4 by setting up price regulating committees in each departmental capital. They were empowered to fix prices of both imported merchandise and domestic products. A drought, combined with a continued shortage of foreign exchange, resulted in a scarcity of meat, sugar, corn, potatoes, and certain other foodstuffs during the last quarter of the year.

President Peñaranda on October 5 recommended that Congress renew payments on the defaulted public debt, appropriating for that purpose 2 per cent of the general revenues in 1941, 4 per cent in 1942, 6 per cent in 1943, 8 per cent in 1944, and 10 per cent in 1945 and annually thereafter. A succession of strikes during October culminated in a serious railway tie-up. This was ended through government intervention and the concession of a wage increase. An influx of Jewish refugees into La Paz and other cities led Opposition deputies on September 8 to pass a bill authorizing cancellation of immigration permits issued to Jews.

**Nazi Activities.** Unrest was also stirred up by well-organized German propaganda, directed against both British and American "imperialism and capitalism" and their alleged servants in Bo-

livia. A correspondent of the *New York Times*, after surveying the situation in Bolivia in July, 1940, charged that the German Legation in La Paz and the Bolivian branch of the German Nazi party were preparing a "fifth column . . . to help the Germans wrest control of the Bolivian tin industry from the United States if Germany wins the war." He reported that the Nazis and their Bolivian sympathizers were strongly entrenched in the government, army, and all departments of economic life, that they subsidized or directly controlled important sections of the press and radio, and that some leftist and rightist Bolivian leaders were in their pay. Guillermo Gutiérrez, director of *La Razon*, leading La Paz newspaper, charged that German and pro-German importers in Bolivia were using profits from the sale of United States goods for pro-Nazi, anti-United States, and anti-British propaganda.

Pro-Ally sentiment was not lacking, however. Italy's entrance into the war and the collapse of France led demonstrators to attack the German and Italian legations in La Paz on June 12.

**Foreign Relations.** Foreign Minister Alberto Ostria Gutiérrez, who was retained in his post by President Peñaranda, was active during 1940 in forging closer economic and political ties with all of Bolivia's neighbors. After a five-day visit to Buenos Aires, Dr. Gutiérrez on April 2 signed three agreements with the Argentine Foreign Minister. Two of these provided for quicker clearance of passengers' baggage at the frontier and extension of Argentine telegraph lines from Yacuiba to Aguairá in Bolivia. The third accord defined the basis for the construction of the projected railway between Yacuiba on the Argentine frontier and Santa Cruz de la Sierra, and for joint Argentine-Bolivian exploitation of the Bolivian oil fields tapped by the railway (see *YEAR BOOK*, 1937, p. 97 for previous accord).

Under this provisional agreement, the Argentine government agreed to advance funds for construction of the first section of the railway from Yacuiba to Villa Montes (62 miles). The sum advanced was to be repaid from the output of the San Andita oil field (25 miles north of Yacuiba). The Argentine Government also undertook to advance up to 500,000 pesos for boring new wells in the San Andita field and to build a pipeline from Bolivian wells near Aguas Blancas on the Bermejo River to the railhead at Orán in the Argentine Province of Salta. The accord bound Argentina also, if the output of the Bolivian wells justified it, to finance construction of the other sections of the railway to Santa Cruz de la Sierra and of a branch line from Boyubie to Sucre, already started by the Bolivian Government. It was stipulated that the projected railways were to be operated and managed exclusively by the Bolivian Government.

By this agreement, La Paz officials hoped to avert the threatened collapse of the government petroleum monopoly established to exploit Standard Oil properties expropriated in 1937. Under management of the monopoly, Bolivian fields were producing only 30 per cent of the republic's needs. The government was forced to import petroleum at high prices while contributing heavily to the expenses of the monopoly.

Modification of Bolivia's attitude in the oil expropriation controversy appeared likely as a result of this situation and of economic collaboration extended by the United States Government. In September the La Paz authorities accepted an offer of

United States technical aid in reviving the once important rubber industry of northeastern Bolivia. It was announced October 4 in Washington that the State Department, at the request of the Bolivian Government, had assigned two officers of the Engineer Corps, U.S. Army, to survey the cost and feasibility of completing the railway between Vila Vila and Santa Cruz de la Sierra (see under *Transportation*). Shortly afterward Warren Lee Pierson, president of the United States Export-Import Bank, conferred with Bolivian officials in La Paz.

Following conferences in Washington with Bolivian tin producers, Jesse Jones, Federal Loan Administrator, announced October 19 that the Metals Reserve Company, a subsidiary of the Reconstruction Finance Corporation, would build or finance a large tin smelter in the United States. In contracts signed with the Metals Reserve Company November 4, five Bolivian tin producers undertook to furnish sufficient tin ores and concentrates to produce 18,000 tons of fine tin annually for five years. The Bolivian Government guaranteed faithful performance of the contracts by the producers.

No appreciable progress was recorded during 1940 toward carrying out the Bolivian-Paraguayan economic accords of Apr 21, 1939 (see *YEAR BOOK*, 1939), and of Oct 20, 1939. The latter accords provided (1) for the construction as soon as possible of a communications route uniting the two countries by land, (2) for appointment of a mixed commission to draft a trade treaty, (3) for negotiation of a convention permitting transit of Bolivian products via the Paraguay River, (4) for establishment of a permanent air line between La Paz and Asunción, and (5) for furtherance of intellectual, cultural, and scientific exchange between the two countries. The two governments indicated their continued collaboration, however, by jointly pushing plans for a regional economic conference of the River Plate republics.

See ARGENTINA under *History*; PAN AMERICANISM, PAN AMERICAN UNION, TIN

**BOLLWORM.** See ENTOMOLOGY, ECONOMIC

**BONAIRE ISLAND.** See CURAÇAO

**BOND PRICES.** See FINANCIAL REVIEW

**BOOKS.** See LITERATURE, ENGLISH AND AMERICAN, the articles on foreign literatures, as FRENCH LITERATURE; the bibliographies under the various topics, COPYRIGHT, LIBRARY PROGRESS

**BOOTLEGGING.** See ALCOHOLIC LIQUORS. For bootlegging of coal, see PENNSYLVANIA. See also SMUGGLING

**BORDER PATROL.** See IMMIGRATION, EMIGRATION, AND NATURALIZATION

**BORNEO.** See BRITISH MALAYA; NETHERLANDS INDIES under *Area and Population*.

**BOTANY.** *Physiology.* The prize of The American Association for the Advancement of Science, given annually for a notable contribution to science, was awarded this year to Prof. Dennis R. Hoagland, Dr. D. I. Arnon, and their associates at the University of California for their paper on the manner in which the roots of plants take in nutrients. These investigators reached the conclusion that the absorption of mineral salts by the roots is a dynamic process, the necessary energy being supplied by the protoplasm of the roots. In order to take in the mineral nutrients, the roots must be actively absorbing oxygen.

Many papers along physiological lines have been published during the year. These have dealt with

such topics as the carbohydrate mechanism, the structure of chloroplasts, the process of photosynthesis, the role of auxins and hormones, the stimulating effect of vitamins, the growth of excised roots, and photoperiodism. New data on these various topics have been accumulated and published in the *Annals of Botany*, *Botanical Gazette*, *New Phytologist*, *Plant Physiology*, *Contributions from the Boyce Thompson Institute*, *Bulletin of the Torrey Botanical Club*, the *American Journal of Botany*, *Journal of Agricultural Research*, and other botanical publications. Swingle (*Bot. Rev.* 6: 301) has given an extensive review of regeneration and vegetative propagation, discussing the results obtained on studies not involving the application of growth substances, as well as those which do.

A series of papers (*Amer. Assoc. Adv. Sci. Pub.* 14), presented in a symposium on *The Cell and Protoplasm* by several zoologists and botanists, has been published. These papers give a general background for the present state of our knowledge. From the botanical standpoint, the walls of the plant cells, the structure of viruses, and vitamins are discussed.

Soil-less gardening still attracts a great deal of attention. Gericke, one of the first men responsible for its recent development, has published a book (Prentice Hall, Inc.) describing his various experiments and methods. Laurie has also published a book (McGraw-Hill) along the same general line. Both books give practical instructions for the successful growing of plants in a nutrient culture. The history of the culture of plants in nutrient solutions has been reviewed by Shive (*Scient. Monthly* 51: 233). His article serves as a very good historical background and emphasizes the important part that the subject has played in the development of plant physiology.

*Ecology.* Many contributions have been published along various ecological lines in the 1940 volumes of the *Journal of Ecology*, *Ecological Monographs*, *New Phytologist*, and elsewhere. The studies have involved such topics as the influence of environmental factors on tree growth, the natural establishment of white pine, the regeneration of longleaf pine in abandoned areas, the succession of plants on abandoned and eroded farmland, the occurrence of grasslands and relic prairie areas in central Wisconsin.

*Genetics and Cytology.* Many papers dealing with such topics as the mutations caused by X-rays, the effect of colchicine in changing the chromosome number and the structure of chromosomes, and the inheritance of various characters, have appeared in the *Annals of Botany*, *Journal of Heredity*, *Hereditas*, *American Journal of Botany*, and other publications. Chemicals have been used to induce mutation in species of *Aspergillus*. Interesting results on the effect of colchicine in producing polyploids in cotton, lily, and other plants have been obtained. Tetraploids in dioecious plants of *Melandrium* and different species of *Amaranthus* have resulted from the colchicine treatment. Other papers have dealt with such subjects as root-knot resistance in beans and the occurrence of natural hybrids between species.

Dermen (*Bot. Rev.* 6: 599) has reviewed the very extensive recent literature on colchicine polyploidy and technique. Allen (*Bot. Rev.* 6: 227) has summarized the data on the genotypic basis of sex-expression in Angiosperms.

*Evolution.* Campbell has published an extensive



volume on *The Evolution of the Land Plants* (Stanford Univ. Press), a topic in which he has been interested for many years. His book deals with the liverworts, mosses, ferns, and seed plants, all of which are grouped under the general name of Embryophyta. He reviews the extensive data on the development of individual groups of the land plants and the possible lines of their evolution, considering in detail the many theories concerning their origin which have been presented.

**Mycology and Plant Pathology.** *Insect Transmission of Plant Diseases* has been treated fully in an extensive volume by Leach (McGraw-Hill). The important role of insects in relation to certain plant diseases caused by bacteria, fungi, and viruses, is very completely considered. Reed (*Amer. Jour. Bot.* 27: 135) has summarized extensive data on physiologic specialization in the oat smuts; 29 distinct races of loose smut and 14 of covered smut have been differentiated. Papers have appeared on the life history of several of the water molds, a group of organisms which has been largely neglected until recent years. Christenberry (*Elisha Mitchell Sci. Soc. Jour.* 56: 333) has described the species of Mucorales in the Southeastern United States, 54 species belonging to 6 families being listed in his work. Raper (*Elisha Mitchell Sci. Soc. Jour.* 56: 241) has described the formation and organization of the pseudoplasmodia in a member of the slime mold group.

**Taxonomy.** In the *Bulletin of the Torrey Botanical Club* for May several papers on *The Concept of the Genus* in botany have been published. The history of the generic concept, the conservative view-point in the delimitations of genera, and changing concepts as the result of modern studies, are topics considered. Hall in *The Genus Tulipa* (Royal Hort. Soc., London) has prepared a very complete monograph on this genus of great important horticultural value. The main center for the occurrence of the species of tulips is in Asia Minor, a few extending into Europe, as well as farther east in parts of Asia. Hall recognizes 72 species, which he groups into two main sections. The text is accompanied by 40 fine color plates. Ownbey (*Ann. Mo. Bot. Gard.* 27: 371) has studied the genus *Calochortus*, which belongs to the lily family. The species are widely distributed throughout the Western United States, a few extending east of the Rocky Mountains. Three sections of the genus are recognized and these are divided into 12 subsections. The basal chromosome number of the sections differs, in one being 7, in another 9, and in another 10 chromosomes. A few polyploids are known. Hybridization apparently is very rare in nature among the species. The author describes 57 species and 13 varieties. Larisey (*Ann. Mo. Bot. Gard.* 27: 119) has monographed the species of the genus *Baptisia*, a member of the legume family. This genus is found in the Eastern United States, extending well into the South and as far west as Texas. The author recognizes 30 distinct species, 6 being described as new, and 11 varieties. Further, there are at least 8 clear-cut cases of hybrids recorded and several others are suspected. It is evident that, under favorable natural conditions, hybridization commonly occurs between species of *Baptisia*. A further series of papers on the botany of the Maya area of Central America (*Carnegie Inst. Wash. Pub.* 522) has appeared. These are based on the materials collected by the 1936 Michigan-Carnegie Botanical Expedition to British Honduras. Species belonging to seven large families

are treated by specialists of each. An extensive monograph by Clausen, Keck, and Hiesey (*Carnegie Inst. Wash. Pub.* 520) on their *Experimental Studies on the Nature of Species* has appeared. This work deals particularly with the effect of environment on Western North American plants which have been transplanted to new areas and their behavior observed. Hiesey (*Bot. Rev.* 6: 181) has published a review of the papers dealing with the environmental influence and transplant experiments.

Jaeger (Stanford Univ. Press) has prepared an excellent manual on the *Desert Wild Flowers* found in the two main desert areas of California. The book is a very useful one for identifying the plants in these regions, the text being accompanied by good line drawings and valuable photographs. Steyermark (*Mo. Bot. Gard., Field Mus. Nat. Hist., Chicago*) has prepared an excellent *Spring Flora of Missouri*. The book will serve also for surrounding areas. Good drawings of many of the species accompany the text. Fassett has written *A Manual of Aquatic Plants* (McGraw-Hill). The territory covered is from the Atlantic Coast to Minnesota and Missouri. Keys and illustrations of the higher aquatic plants are given. A special feature is a key based on vegetative characters.

**Microtechnique.** Two up-to-date books on methods of preparing plant cells and tissues for study have been published. Johansen (McGraw-Hill) has written a very complete book which will serve not only as a laboratory guide but as a general book of reference on methods. The book by Sass (McGraw-Hill) is more elementary in character and is primarily adapted for use as a laboratory manual.

**Textbook.** Transeau, Sampson, and Tiffany have written a *Textbook of Botany* (Harper & Bro.). This general text gives more than the usual amount of attention to physiological and ecological topics. A special feature is the introduction of four color plates.

GEORGE M. REED

**BOUNDARIES, State.** See SUPREME COURT **BOUNDARY DISPUTES.** See INTERNATIONAL LAW and the following countries under *History*: BULGARIA; ECUADOR; FRENCH INDO-CHINA; GUATEMALA; HUNGARY; MANCHOUKUI; MONGOLIA; RUMANIA; SLOVAKIA; THAILAND.

**BOWLING.** Honors in bowling in 1940 went almost exclusively to the mid-west. The only easterner to gain distinction in championship tournaments was Fred Fischer of Buffalo who won the all-events crown in the American Bowling Congress. In the A.B.C. bowl-fest in Detroit, the five-man team title was awarded to the Monarchs of Chicago; Herbie Frietag and Joe Sinke of Chicago won the doubles and Ray Brown of Terre Haute, Ind., took the individual honors.

In the Women's International Bowling Congress at Syracuse, Chicago produced all the victors. The winning entrants included the Logan Square Buicks team of five, Tess Morris and Dorothy Miller in the doubles, Sally Twyford in the individual and Tess Morris in the all-events.

The A.B.C. classic at Detroit's State Fair Grounds attracted 30,000 bowlers from 731 cities and 100,000 spectators during its 60-day run. The tournament produced two perfect games. George Pallage of Akron rolled 300 on April 15 and his feat was duplicated a week later by Angelo (Mike) Domenico of Canton, O.



More than 6000 women entered the I.B.C. competition for a cash prize total of \$33,000.

**BOXING.** The defeat of stout-hearted Henry Armstrong and the cool destruction of opponents by Joe Louis were outstanding features in the prize ring in 1940. Armstrong pitched forward on his face as the bell ended the 15th and final round of his bout with Fritz Zivic at Madison Square Garden on October 4 for the welterweight championship of the world. He lost therewith the last of his three championship titles, crowns which he had at one time worn simultaneously, the only man to achieve that distinction in the whole history of boxing.

The heavyweight championship was defended four times during the year by Joe Louis, but there were no million dollar gates. When Louis knocked out Arturo Godoy in 1:24 of the eighth round of their bout June 20 at the Yankee Stadium, the gross receipts amounted to \$149,505, which was the biggest gate of the year. Previously Louis had defeated Godoy in a 15-round decision in February, an undertaking in which the champion was not particularly impressive. He was much more effective in his fight with Johnny Paycheck in March, winning the encounter by a knockout in the second round. His last bout of the year was with Al McCoy in Boston in which he forced his opponent to quit under the impetus of a terrific beating. In all Louis earned \$129,312 during the year, making a total of earnings of \$1,722,908 from the time he first entered the prize ring in 1934.

For action, Armstrong took the year's honors. He successfully defended his welterweight crown against Joe Ghouly, Pedro Montanez, Paul Junior (twice), Ralph (Ripper) Zannelli, and Phil Furr before the ill-starred night of October 3 when Fritz Zivic, Pittsburgh cyclone, hammered his way to the title in a smashing victory. Besides these tilts, Armstrong flattened Jenkins in six rounds when the lightweight champion sought the welterweight crown in July.

After becoming the title-holder, Zivic won on a foul from Al Davis in October.

Davis began the year by losing on points to Lou Ambers in an over-the-weight match in February. The National Boxing Association later declared Ambers's title void, and recognized Sammy Angott as champion when he outclassed Davey Day in May. Nevertheless, Lew Jenkins's three-round knockout of Ambers in May gave him what many fans regarded as a serious claim to the lightweight title. In November, Jenkins successfully defended his alleged title by putting Pete Lello to sleep in two rounds.

In the middleweight class, Ceferino Garcia managed to keep his title in a bout with Armstrong only to lose it to Ken Overlin who thereafter retained the crown against the challenge of Steve Belloise in two battles in Madison Square Garden.

Billy Conn, intent on entering the heavyweight division, nevertheless retained his light-heavyweight title in a championship fight with Gus Lesnevich.

In the featherweight class, there were three claimants to the crown, with Harry Jeffra and Petey Scalzo attracting the most attention. Lou Salica pounded his way to general recognition as the bantamweight king. Little Dado was more or less regarded as the flyweight champion.

**BRAZIL.** A republic of South America, comprising 20 States, the Federal District, and one Territory. Capital, Rio de Janeiro.

**Area and Population.** Area, 3,286,170 square

miles; population, estimated at 45,002,176 in 1940 (30,635,605 at 1920 census). Immigrants in 1939 included 15,120 Portuguese, 1975 Germans, 1414 Japanese, and 1004 Italians. United States citizens residing in Brazil Jan. 1, 1940, numbered 4086. There are strong infusions of Negro and Indian blood in the northern States. Estimated populations of the chief cities in 1937 were: Rio de Janeiro, 1,801,784 (1,896,998 in 1940); São Paulo, 1,217,330; Recife (Pernambuco), 510,102; São Salvador (Bahia), 363,726 (1935); Porto Alegre, 352,068; Belem (Para), 303,740. Portuguese is the official and principal language, but Italian and German are widely used.

**Defense.** Military training is compulsory for all males from 21 to 45 years of age, the first year in the ranks and the rest in the reserve. The army's peace strength in 1939 was 112,320, air force, 2700. Trained army reserves numbered 258,300. The navy consists of 2 battleships and 3 cruisers, all laid down in 1907 but extensively refitted, 8 or more destroyers and torpedo boats, 3 river monitors, 4 submarines, and 6 minelayers.

**Education and Religion.** About 70 per cent of the adult inhabitants are illiterate. In 1936 there were 30,000 primary schools, 447 high schools, 383 domestic schools, 328 normal schools, 874 special schools, and 248 superior schools conferring degrees, with an aggregate enrollment of 3,064,440. The State university is at Rio de Janeiro and there are three private universities at Porto Alegre, Belo Horizonte, and Curitiba. Roman Catholicism is the predominant religion.

**Production.** Agriculture, stock-raising, and manufacturing are the chief occupations. Brazil ranks first in coffee production, second in cacao, and third in sugar and tobacco. Coffee accounted for 40 per cent of the value of all 1939 exports, raw cotton 21 per cent. The value of all agricultural production was estimated at 8,550,000,000 milreis in 1937; industrial production, 12,000,000,000 milreis. Coffee production in 1939-40 was estimated at 22,561,300 bags (of 132 lb.), cotton, 1,525,000 bales (of 500 lb.). Yields of other chief crops in 1938-39 were (in metric tons): Sugar, 1,131,342; castor beans, 170,707; corn, 6,020,700 (1937-38); rice, 1,327,000 (1937-38); potatoes, 338,900 (1937-38); cacao, 136,100 (1937-38); cotton seed, 1,060,000.

Mineral and metallurgical production in 1939 was valued at 584,007,000 milreis, of which gold (4350 kilograms) accounted for 110,400,000 milreis. Output (in metric tons) included: Coal, 1,045,975; laminated iron, 98,649; pig iron, 160,016; steel, 112,174; cement, 497,793; manganese (exports), 189,003 long tons. Salt, diamonds, monazite, chrome, and other minerals are produced. The forests yield rubber, carnauba wax, oil seeds, and hardwoods. The chief manufacturing industries are cotton weaving, sugar refining, flour milling, meat packing, and the fabrication of machinery, paper, textile products, electric power, and tobacco products.

**Foreign Trade.** Exports in 1939 totaled 5,615,519,000 milreis (5,096,890,000 in 1938); imports, 4,983,632,000 (5,195,570,000). The leading exports in 1939 were (in milreis): Coffee, 2,234,280,000; raw cotton, 1,159,420,000; hides and skins, 245,345,000; cacao, 224,586,000. Of the imports the United States supplied 33.6 per cent in 1939 (24.2 in 1938); Germany, 19.2 (24.9); United Kingdom, 9.3 (10.4); Argentina, 8.4 (11.8). The United States took 36.2 per cent of the 1939 exports (34.3

in 1938); Germany, 12 (191); United Kingdom, 9.6 (8.8); France, 6.3 (6.4). See **TRADE, FOREIGN.**

**Finance.** Actual ordinary budget returns for 1939 were: Revenues, 3,795,000,000 milreis; expenditures, 4,335,000,000, deficit, 540,000,000; new bond issues, 633,000,000. Under the extraordinary public works and national defense budget, revenues were 558,000,000 milreis, expenditures, 516,000,000. The 1940 budget estimates placed total revenues at 4,209,417,000 and expenditures at 4,421,842,000 milreis. On Dec. 31, 1939, the internal funded debt was 5,081,000,000 milreis; floating debt, 2,541,000,000 milreis. On Apr. 2, 1940, the Minister of Finance reported the foreign debt equivalent to £256,000,000 (Federal, £155,000,000, State, £77,000,000; municipal, £24,000,000). The total included £156,000,000 in sterling obligations, £89,000,000 in dollars, £10,000,000 in francs, and £1,000,000 in florins (See *History* for resumption of debt payments.) The official exchange rate for the milreis was \$0.059 for 1939 (\$0.056 in 1938); curb rate, \$0.048 in 1939 (\$0.05 in 1938).

**Transportation, etc.** Brazil's railway mileage in 1939 was about 21,200, highway mileage, 129,057 (see **ROADS AND STREETS**). Financial returns of all railways for 1938, considered as a group, showed a combined net deficit of 32,172,000 milreis; they transported 174,026,000 passengers and 33,479,000 tons of freight. Work went forward during 1940 on the joint Bolivian-Brazilian line that will link Santos and the Brazilian railway network with Santa Cruz de la Sierra (see **BOLIVIA**). Among important highways under construction in 1940 were the São Paulo-Jundiaí highway and sections of the great eastern trunk road that will eventually link Porto Alegre in the south with Para in the north.

Regular mail and passenger air lines cover approximately 50,000 miles of routes; they include Pan American Airways, the Condor (German) Syndicate, and the Rio de Janeiro-Santiago (Chile) service of the Deutsche Luft Hansa, which was resumed Mar. 18, 1940, after a six-months' interruption. The French transatlantic air service was interrupted by France's defeat in June. Ala Littoria's new Rome-to-Rio service was reported discontinued after Italy's entrance into the European War. In September, Pan American Airways opened a cut-off route between Para and Rio de Janeiro that reduced flying time between Miami and Rio to three days. Routes of the Brazilian military airmail service extended 9269 miles in 1938. The Brazilian merchant marine on June 30, 1939, included 305 vessels of 487,820 tons.

**Government.** The Constitution of Nov. 10, 1937, provided for the reorganization of Brazil along the lines of a corporative State (see **YEAR BOOK**, 1937, p. 102). Actually President Getúlio Vargas continued to rule as a personal dictator. He became provisional President Nov. 3, 1930, after leading a successful military revolt. Under the Constitution of July 16, 1934, he was elected constitutional President the following day for a four-year term. The 1937 Constitution extended his term for six years from 1938. For 1940 developments, see *History*.

#### HISTORY

**Internal Politics.** Little change in the political situation occurred during 1940. President Vargas continued his personal rule without creating the governmental organs called for by the 1937 Constitution, but made progress with his nationalistic

program of social reform and economic development.

Another of the sporadic conspiracies against the Vargas regime was reported crushed on March 25. The Federal Interventor for the State of São Paulo closed a leading newspaper, *O Estado de São Paulo*, and arrested the editors of the paper, most of the State's former Deputies in the National Congress closed by Dr. Vargas, and other prominent figures affiliated with the political groups opposing the President's rule. At the same time precautionary measures were taken in Rio de Janeiro. The police alleged that 45 machine guns were found in the offices of the suspended newspaper. However the Security Tribunal in Rio de Janeiro found evidence against the 41 prisoners insufficient and they were exonerated. *O Estado de São Paulo* was permitted to resume publication with governmental control of its editorial policies.

Other indications of unrest were the arrest of several army officers in Porto Alegre, capital of Rio Grande do Sul, and the roundup in Rio de Janeiro in mid-April of about 50 alleged Communists charged with plotting a revolution. On April 27 it was announced that 64 "Communists" had been sentenced to three to seven years at hard labor. These developments were followed by reports that President Vargas was considering the advisability of restoring a genuinely constitutional regime. On January 4 he had established a new Press and Propaganda Department under which the worst aspects of the press censorship were eliminated. During a visit to Montevideo early in February, Foreign Minister Oswaldo Aranha was reported to have attempted unsuccessfully to effect a rapprochement between President Vargas and Gen. J. A. Flores de Cunha, former political leader of Rio Grande do Sul, who had broken with the President and taken refuge in Uruguay (see **YEAR BOOK**, 1937, p. 103). The arrest of 10 Integralistas (Fascists) at Petropolis on October 12 was followed by a new drive against the movement.

In a sensational speech delivered June 11 President Vargas outlined his ideas concerning Brazil's future political course. Speaking immediately following Italy's declaration of war upon France and President Roosevelt's denunciation of that act, Vargas tacitly defended the policies of the European dictatorships by asserting that "vigorous peoples fit for life must follow the route of their aspirations." He said the world was "marching toward a future different from all we know in economic, political, and social organization," that "old systems and antiquated formulas have entered a decline," and that it was necessary to "remove the debris of old ideas and of sterile ideals," including "improvident liberalism" and the "sterile demagoguery of political democracy." This frank espousal of pro-Fascist principles aroused severe criticism in democratic circles in Brazil and in most of the other American republics. Similar ideas were expressed by Minister of Government Francisco Campos in a book, *Estado Nacional*, published in October.

**Economic Developments.** Pressing his program for rapid industrialization of Brazil under government direction, President Vargas sought the co-operation of the United States Steel Corp. in establishing a \$44,000,000 steel mill to exploit the rich Itabira iron ore deposits. The plan was approved by the corporation's technical experts, but rejected by its finance committee. The President then appointed a National Steel Plan Executive Commission to carry the scheme forward.

On September 26 a Brazilian mission in Washington obtained from Jesse H. Jones, Federal Loan Administrator, a pledge of a \$20,000,000 4-per cent loan from the United States Export-Import Bank for the construction of the mill. Constituting a first claim against the plant, the loan was guaranteed by the Brazilian Government and was repayable in 20 semi-annual installments starting three years from the first advance. It was conditional upon the investment of milreis to the value of \$25,000,000 in the enterprise by the Brazilian Government and affiliated interests. The Export-Import Bank reserved the right to concur "in the selection of the managerial officers of the mill company, the engineers, and contractors, and the purchase of materials."

Through the government's initiative, a United States drilling company brought in several small oil wells in the Bahia field, giving Brazil its first local petroleum supply. By a decree of July 24 the President expropriated the Brazil Railway Co., a large French-owned holding company controlling important railway, colonization, industrial, and hotel enterprises. The company also held large blocks of Brazilian Federal and State securities. It was accused of mismanagement, corruption, embezzlement, and insolvency. A private corporation operating the Para docks was taken over by the government in April to secure payment of a debt amounting to \$25,000,000.

It was announced in August that a stoker developed by a United States concern had solved the problem of making the low-grade Brazilian coal available for general commercial use, thus reducing the country's long dependence upon high-grade coal imported from Britain and Germany. A contract for the construction of an airplane factory at Lagoa Santa to build planes for the government was approved by a decree law of May 6, 1940.

Other economic legislation facilitated the tourist trade, reserved to Brazilians the exclusive right to exploit mineral deposits, provided for compulsory insurance in certain fields and stipulated that all reinsurance should be handled by the government-controlled National Reinsurance Institute. A decree of March 8 authorized resumption of partial interest and amortization payments on Brazil's foreign indebtedness, effective Apr. 1, 1940, to Mar. 31, 1944. Instead of the debt service payments of £23,630,000 annually called for under the original loan agreements, the decree fixed payments at £4,140,000 for each of the first two years, at £4,170,000 for the third year, and at £4,550,000 for the fourth year. The debt situation was then to be re-examined. The service of Brazil's foreign debt was suspended Nov. 10, 1937.

The spread of the European War during 1940 cut Brazil off from important export markets and resulted in the accumulation of additional surpluses of coffee, cotton, cacao, rice, and other products. Heavy price declines had severe repercussions upon Brazil's internal economy. The government made strenuous efforts to open new outlets for these products in the United States, the other American republics, South Africa, Japan, and elsewhere. The United States loan and the influx of some \$35,000,000 of investment capital brought in by European refugees had a stimulating influence upon the national economy. At the year end it was reported that Brazil was almost clear of foreign exchange difficulties and that manufacturing and real estate were booming.

An experimental three-year minimum wage law

and a law establishing the eight-hour day with overtime for Sunday and night work were promulgated May 1. An ambitious public works program designed to facilitate the settlement and exploitation of the hinterland was carried forward, especially after President Vargas's 10,000-mile trip through the Amazon region in October. In August arrangements were made to end the labor shortage at the Ford rubber plantations and other Amazonian enterprises by moving farm laborers from the northeast drought region.

**Brazilianization.** The Vargas regime continued its efforts to stamp out German, Italian, and Japanese political activity and propaganda among colonists of German, Italian, and Japanese origin (see preceding YEAR BOOKS). Seventy-eight Japanese schools in the State of São Paulo were closed for alleged violation of the Brazilian school laws. German activities proved more difficult to curb. Investigations by reliable correspondents revealed that Nazi and Fascist agents and propagandists were actively working among the large Brazilian-German and Brazilian-Italian colonies to secure Brazil's national disintegration and economic subjugation as a prelude to political domination. Terrorism, economic pressure, bribery and corruption, and indoctrination of Nazi-Fascist principles were the methods used. Important elements of the Brazilian press, radio, and moving picture industries were said to be in German pay. There was danger of a revolution supported by "fifth column" elements that would replace President Vargas with a completely Nazified regime. For a comprehensive survey of the situation, consult the series of articles by Russell B. Porter in the *New York Times* of June 26-July 2, 1940, inclusive.

**Foreign Relations.** Brazilian sympathies were reported to be strongly pro-Ally, particularly after the German invasions of additional neutral countries during 1940. However many army officers and some other influential Brazilian elements were said to be pro-Nazi, as well as the bulk of the population of German origin. With Germany master of Europe and a British victory seemingly remote, Brazil faced the prospect of having its products permanently barred from that continent unless the government co-operated with Berlin in political as well as economic matters. This situation led President Vargas to follow a policy of strict neutrality toward European affairs. At the same time he affirmed Brazil's adherence to the Pan American principles of continental solidarity against overseas economic, military, and ideological threats.

To calm the alarm aroused throughout the Americas by his speech of June 11 (see above), President Vargas on June 15 cabled President Roosevelt that his remarks were "in no sense contradictory" to the Charlottesville, Va., address of Mr. Roosevelt on June 10. His loyalty to the inter-American mutual defense policy was demonstrated when the Uruguayan Government appealed for aid in crushing the Nazi revolt plot discovered on May 29. The Vargas Government not only sold Uruguay 5000 rifles and ammunition but offered military assistance in suppressing the threatened uprising. It was revealed that Brazil had made Uruguay a similar offer of naval assistance the preceding December when the German pocket battleship *Graf Spee* refused to leave Montevideo harbor within the time limit fixed by Uruguayan authorities.

The United States steel loan and the growing collaboration between the United States and the British Empire served to offset Axis intrigues and

propaganda in Brazil. General Pedro Aurelio de Goes Monteiro, chief of staff of the Brazilian Army, made another inspection of United States defense preparations in October in company with the Argentine chief of staff. Some irritation towards Britain developed toward the year end as a result of the removal of 22 Germans from the Brazilian freighter *Iatpe* by a British cruiser only 18 miles from the Brazilian coast on December 1, and the detention at Gibraltar of a Brazilian steamer bound for Brazil from Italy with German war materials purchased by the Brazilian Government in 1938. However an Anglo-Brazilian trade and financial accord was concluded June 20 and in mid-November a British economic mission visited Rio de Janeiro to further mutual trade and iron out difficulties created by the blockade.

A commercial accord signed with Argentina on January 23 after a four-day visit to Buenos Aires by Foreign Minister Aranha provided for reciprocal reduction of tariffs and other measures to promote mutual trade. Finance Minister Pinedo of Argentina returned this visit in October. On October 6 he signed an Argentine-Brazilian accord providing "in principle" for the exchange of surpluses between the two countries and for guarantees against the raising of tariffs in one country against the products of new industries developed in the other. A trade agreement with Italy concluded in January called for purchases of Italian merchandise by Brazilian Federal, State, or municipal authorities to the amount of 200,000,000 lire annually, to be balanced by Italian purchases of Brazilian goods.

See ARGENTINA and URUGUAY under *History*; COFFEE; FASCISM; INDUSTRIAL CHEMISTRY; NAVAL PROGRESS; PAN AMERICANISM; PAN AMERICAN UNION.

**BREMEN, State of.** See GERMANY under *Area and Population*.

**BRETHREN, German Baptist (Dunkers or Dunkards).** A religious organization founded in Schwarzenau, Germany, in 1708 by a group of Pietists and established in Germantown, Pa., in 1719 under the leadership of Peter Becker. There are four denominations of Brethren in the United States, the largest and oldest group being the Church of the Brethren, or Conservative Dunkers, with headquarters at Elgin, Ill. For statistics, see RELIGIOUS ORGANIZATIONS.

**BRIDGES.** Bridge design and construction were extremely active during 1940, due largely to the rapid extension and improvement of the highway system of the country. Besides conspicuous large bridges, there were innumerable minor interesting and notable structures of both steel and concrete. These minor structures included many for separation of grades at intersections of railways with highways and intersections of highways, some of these being complicated structures involving special features in design or imposing special conditions in construction to minimize interference with traffic. The financing of many of these highway bridge projects was assisted by Federal aid, and traffic on some of the larger bridges is subject to toll in order to produce revenue for retiring the bridge bonds. A bill to relieve the railways from the entire cost of altering any of their bridges over navigable streams was vetoed by the President in June, although such alterations are to facilitate navigation and are of no benefit to the railways concerned.

But on the other hand from new bridge construc-

tion, a survey of the national highway system in relation to the defense program has disclosed that large numbers of old bridges are unsafe or at best inadequate for modern traffic and military requirements. On the railway system, also, there are many bridges inadequate to carry safely the loads of modern locomotives and trains. Thus there must be a program for bridge strengthening and replacement, as well as a program for new construction. Awards in 1940 for the handsomest bridges built in 1939 included: (1) large bridges, the White-stone suspension bridge of 2300-ft. span in New York City; (2) smaller bridges, the Valley River footbridge of girder type at Murphy, N C; (3) movable bridges, the 127-ft. double-leaf bascule bridge at Alpena, Mich.

**Notable Steel Bridges.** Four more bridges over the Mississippi River were opened in 1940: at Rock Island, Ill., July 17; at Baton Rouge, La., August 10; at Natchez, Miss., September 26, and at Greenville, Miss., October 5. All carry highways, but the Baton Rouge bridge also carries the Louisiana & Arkansas Railway. A fifth bridge, at Jefferson Barracks, 12 miles below St. Louis, was begun.

**Rock Island Bridge.** five steel bowstring arches with floor system suspended from the arch ribs; two channel spans of 540 ft., two of 395 ft. on the Iowa side, and one of 395 ft. on the Illinois side; viaduct approaches, two 22-ft. separated roadways and two 4-ft. walks outside the trusses; cost, \$2,500,000. **Baton Rouge Bridge.** three continuous cantilevers form five spans of 490, 858, 650, 858, and 490 ft.; two 22-ft. roadways between the trusses, and two railway tracks carried outside. **Natchez Bridge.** continuous cantilevers form five spans of 560, 875, 875, 798, and 560 ft., counting from east end, the 875 ft. spans are the longest on the Mississippi; total length, 3668 ft., or 8136 ft. with approaches; cost, \$3,450,000. **Greenville Bridge.** cantilever main span of 840 ft., with two anchor arms or side spans of 640 ft.; cost, \$4,200,000. **Jefferson Barracks Bridge.** cantilever main span of 805 ft., with anchor arms of 670 ft., or 2145 ft. in all, exclusive of approaches consisting of truss and girder spans.

A new bridge over the Ohio River at Owensboro, Ky., opened in June, 1940, is of the cantilever type, with four successive spans of 343 ft. (anchor arm), 629 ft., 751 ft., and 278 ft. (anchor arm); 22-ft. concrete roadway; total length, 4623 ft.; cost, \$2,300,000.

Of special interest is the *Niagara Falls Bridge*, to replace the steel arch structure wrecked by ice in January, 1938. It consists of a steel arch span of 960 ft., with the arch ribs seated 55 ft. above normal water level, or 29 ft. above those of the seats of the old bridge arches. The deck, 220 ft. above the water, will have two 22-ft. roadways, separated by a 4-ft. strip, and a 10-ft. sidewalk on the upstream side. Total length of bridge, 1450 ft.; to be completed in September, 1941.

Two steel arch spans of 456 ft. are included in the highway bridge being built over the Susquehanna River at Havre de Grace, Md., and a 240-ft. steel arch is the main item of a bridge 1248 ft. long over the Alabama River at Selma, Ala. This latter bridge, with ten concrete arches of 41½- to 154½-ft. span at each end, has a total length of 1248 ft.; it has two 20-ft. roadways and two 5-ft. walks.

Among outstanding steel bridges of 1940 the following may be noted: (1) *Shasta Bridge*. Since

the reservoir formed by the Shasta Dam, in California, will submerge a part of the Southern Pacific Railway, the line has been relocated at a higher level and will cross the Pit River arm of the reservoir by a double-deck cantilever bridge carried by the highest masonry bridge piers ever built, the highest of the two rising 358 ft above the river bed and being 95 × 90 ft at its base. The main span is 630 ft., with two anchor arms of 497 ft. and three side spans of 282 ft. On the lower deck is the double-track railway, and on the upper deck a 40-ft roadway with two narrow walks (2) *Thomas A. Edison Bridge*, over the Raritan River at Perth Amboy, N.J., opened in September for the New Jersey State Highway Department. It includes the largest, deepest and heaviest plate girders ever built for bridges; for the main span of 200 ft., each of the two girders is 260 ft long (cantilevering 60 ft beyond one pier), 20½ ft. deep at the piers and 12 ft at the middle and ends, with a weight of 198 tons. Next to it is a 250-ft span over the ship channel, and then eight spans of 200 ft., all carrying two separated 24-ft roadways, with approaches, the total length is 4388 ft and the cost \$4,670,000 (3) *Potomac River Bridge*, at Ludlow Ferry, between Morgantown, Md., and Dahlgren, Va., for the Maryland State Roads Commission. Cantilever type, with 800-ft main span and two 366-ft anchor arms, truss spans of 118 to 350 ft and steel trestle approaches make a total length of nearly two miles, of which 33 per cent is trestle. The foundations include the longest steel piles ever driven, 194 ft. The bridge has two 24-ft roadways and was opened to traffic on Dec. 14, 1940 (4) *Lorain County*, Ohio, dedicated two new four-lane bridges over Black River for an improved highway system. One has a continuous-truss structure 1700 ft long, covering a central span of 400 ft, two of 300 ft, two of 250 ft, and one of 200 ft. It has a four-lane 42-ft undivided roadway. The other structure was a bascule bridge, noted below (5) *Narragansett Bay Bridge*, a toll bridge between Rhode Island and Conanicut Island, completed in 1940. The 640-ft cantilever channel span, with 135-ft headway for vessels, has two anchor or side spans of 256 ft, and adjacent spans of 270 ft; total length, 7000 ft; cost, \$3,000,000; it carries a 22-ft roadway and a 3-ft sidewalk (6) *Haarc de Grace Bridge*, a highway toll bridge over the Susquehanna River. Total length, 7600 ft., including two steel arch spans of 456 ft; cost, \$2,500,000.

**Movable Bridges.** Besides the novel concrete floating draw span of the Lake Washington pontoon bridge (noted below), two steel draw spans of different types were built in 1940. A bridge over the Passaic River at Newark, N.J., has a vertical-lift span of 325½ ft moving between steel towers and operated by cables. This span, weighing 650 tons without its floor, was floated into position by barges in September. It is 40 ft above water when lowered and 135 ft when raised. The bridge was opened on Jan. 27, 1941. The draw span in the Erie Ave. bridge over the Black River at Lorain, Ohio, is a double-leaf bascule 333 ft between centers of its trunnion bearings. It is the longest highway draw span of its type, and is exceeded only by a railway bascule bridge of 338 ft. span at Sault Sainte Marie. It has two 22-ft roadways, separated by a 3 ft. strip, and has two 7-ft. sidewalks.

**Suspension Bridges.** A startling event in bridge history was the sudden destruction of the 2800-ft. suspension span over the Narrows at Tacoma,

Wash., by a fierce wind on November 7. The bridge had only been in service a few weeks, but its floor or deck had been found to be excessively flexible, partly due to its relatively light stiffening girders and floor framing. The wind set up longitudinal waves of considerable height as well as lateral tilting and twisting of the deck, the motion culminating in the entire floor system and the stiffening girders of the main span tearing loose from the suspenders and falling into the water. The main and suspender cables were left practically intact. By good fortune, nobody was hurt. Experiments had been started to find some way of stiffening the bridge and checking the extreme oscillation of the floor. Somewhat similar troubles, but on a much smaller scale, had occurred on the new Whitestone Bridge of 2300 ft span in New York, but had been overcome by means of diagonal stay cables radiating from the tops of the towers to the longitudinal stiffening girders. Stay cables for the same purpose have been applied also to two other bridges, the Deer Isle Bridge of 1080 ft span, in Maine, and the Thousand Islands Bridge of 800 ft span over the St. Lawrence River.

The new Wabash River Bridge of 350 ft main span at Hutsonville, Ill., is one of the five suspension bridges of the self-anchoring type in the United States. In this type, the ends of the cables are attached to the ends of the stiffening trusses or girders, instead of to the usual massive masonry anchorages buried in the ground. Another feature of this bridge is that each cable consists of nine separate strands, instead of having all the strands bunched together to form a single large cable.

**Pontoon Bridge.** The floating highway bridge across Lake Washington, near Seattle, which was opened to traffic on July 12, differs radically from other pontoon bridges and is the first of its type. Instead of the usual series of boats or pontoons connected by timber spans which carry the floor and allow for free passage of water, the Lake Washington bridge consists of a continuous line of concrete pontoons rigidly connected end to end and held in position by anchor cables on both sides. Each pontoon is 59 ft wide, 350 ft. long and 14½ ft. deep, with its deck 7 ft. above the water and providing a 45-ft. roadway and two 4-ft walks. The total length is 6561 ft. For navigation, there is a 200-ft channel which is opened and closed by a pontoon 378 ft. long which is moved in and out, telescoping a forked pontoon, by means of power operated cables.

**Concrete Bridges.** Of the many arch, girder, and rigid-frame concrete bridges built in 1940, few were of such size or design as to receive the attention accorded to the larger steel bridges. Nevertheless, many of them were of highly attractive appearance, and many formed parts of complicated grade-separation projects. In bridges of the girder type, a development is the use of hollow box girders instead of the conventional web girders, thus making it practicable to use longer spans. Some bridges of this type on California highways have spans up to 120 and 130 ft.

A handsome concrete arch bridge built over Russian Gulch by the California Division of Highways, in 1940, is an example of many such structures. It has a span of 240 ft., with two graceful arch ribs on which stand vertical columns supporting the deck framing and floor. The longest concrete arch in the world is said to be the 672-ft span on the Esla Bridge, in Spain, completed in July, 1940, on a railway between Zamorra and Corunna.

The Ohio State Highway Department replaced an old steel truss bridge by two concrete arch spans of 150 ft. each, carrying spandrel columns which support a deck having two 24-ft roadways separated by a 4-ft. central strip, while outside are two 3-ft. sidewalks. With its concrete girder approach spans the bridge is 514 ft. long.

On super-highways extending out of Toronto, Canada, twin bridges of girder type have been built in place of a single wide bridge with separated roadways. Each bridge has a 34-ft. three-lane roadway. Another novel structure is a bridge composed of four precast concrete slabs or girders placed side by side to form the floor and span of a three-span structure; each slab is 85 ft. long, weighs 135 tons, and also carries one line of rails fastened to the concrete by anchor bolts. The two outside girders have brackets to support a station platform, the structure carrying the Canadian National Railways over a double or divided road. The five concrete arches of 250-ft. span for the new Waterloo Bridge over the Thames, in London, were reported as completed in 1940, but the work may have been damaged or halted by the war.

**Foreign Bridges.** War conditions have resulted in damage and destruction of a vast number of bridges in European countries. Three bridges in other foreign countries may be noted: (1) *Hooghly River* highway cantilever bridge at Calcutta, India. Steel erection is in progress, main span 1500 ft., with anchor arms or side spans of 325 ft. It is unusually wide, having a 71-ft. roadway (with double-track electric street-car line) between the trusses, and two 15-ft. walks outside. (2) *Hawkesbury River* truss bridge in Australia, for the New South Wales Government Railways. Work is in progress on the foundations for a bridge having eight truss spans of 348 ft., with floor 40 ft. above high water. This structure will replace one built in 1889 which is inadequate for present train loads. (3) *Brisbane River Bridge* at Brisbane, Queensland, Australia, opened in 1940. A highway bridge of cantilever type with main span of 924 ft. and two anchor-arm spans of 270 ft. In length of span of Australian bridges it ranks second to the 1000-ft. steel-arch bridge at Sydney, New South Wales.

**Bridge Design and Construction.** The increasing use of welding in place of riveting has influenced both the design and the construction work of steel bridges. And there has been marked increase in the use of the rigid-frame type of structure, both in steel and concrete. In this type, the supports or columns are formed as integral parts of the span, resembling a horseshoe with flattened top. Some of the first all-welded rigid-frame bridges in the United States are included in the approaches to the new Main Ave. bridge at Cleveland, Ohio. Each of these bridges consists of two parallel frames  $26\frac{1}{2}$  ft. apart, with the girder or top member 130 ft. long and welded to two supporting columns 70 ft. apart, the girders extending 30 ft. beyond them to rest on the abutments.

Besides new construction, there has been interesting and difficult work in the alteration, strengthening, and improvement of existing bridges. For example, the stringing of new cables for the Ohio River suspension bridge at Portsmouth, Ohio, which has a main span of 700 ft. and side spans of 350 ft. The bridge had been closed to traffic on account of the discovery of broken wires in the original cables. Owing to the construction of the Bonneville Dam on the Columbia River, the water level was raised and thus necessitated the raising

of a cantilever highway bridge by 45 ft. This was done by means of jacks on the piers. The bridge, built in 1926, has a central span of 705 ft. and anchor-arm side spans of 211 ft. See FOUNDATIONS.

E. E. RUSSELL TRITMAN.

**BRIDGES DEPORTATION CASE.** See COMMUNISM.

**BRITAIN, Battle of.** See EUROPEAN WAR under *The Battle of Britain*.

**BRITISH CAMEROONS.** See CAMEROONS, BRITISH.

**BRITISH COLUMBIA.** Canada's most westerly province. Area, 366,255 square miles, population (1939 estimate), 774,000 compared with (1931 census) 694,263. Chief towns (1931 census figures in parentheses): Victoria, capital (39,082), Vancouver (246,593), New Westminster (17,524), North Vancouver (8510), Trail (7573), Nanaimo (6745), Prince Rupert (6350), Kamloops (6167). Vital statistics (1939). 12,344 living births, 7511 deaths, and 7862 marriages. Education (1938). 169,902 students in schools and colleges of all kinds.

**Production.** The gross value of agricultural production for 1939 totaled \$43,828,000. Chief field crops (1939). Oats 6,111,000 bu., wheat 1,875,000 bu., potatoes 96,900 tons, roots 56,000 tons, hay and clover 315,000 tons, alfalfa 160,000 tons, fodder corn 70,000 tons, grain hay 113,000 tons. Apple crop (1940) 2,026,100 barrels. Livestock (1939). 314,700 cattle, 168,900 sheep, 68,300 horses, 49,800 swine, 4,783,000 poultry. The fur production in 1938-39 was valued at \$1,117,000 (\$814,532 in 1937-38). Forestry output (1938) was equal to 598,402 M cu. ft. valued at \$42,894,803. The 1939 fish catch (208,610 tons) was worth \$17,699,000, of which salmon accounted for \$12,995,000.

Mineral production (1939) was valued at \$65,216,745 of which gold (626,970 fine oz.) accounted for \$22,659,323, lead (378,440,666 lb.) \$11,992,784, zinc (279,041,497 lb.) \$8,563,784, copper (73,253,403 lb.) \$7,392,734, silver (10,648,031 fine oz.) \$4,311,175, coal (1,537,905 tons) \$9,464,061. Manufacturing (1938, including the Yukon): 1785 factories, 42,213 employees, \$90,471,828 net value of products. During 1939 a total of 11,993,815 net registered tons of shipping entered the port of Vancouver.

**Government.** Finance (1939-40) revenue, \$32,826,438, expenditure, \$33,043,243 (including \$3,596,841 for direct relief). On Oct. 31, 1939, the gross public debt was \$188,193,050 (including \$40,119,668 of treasury bills) against which the sinking funds amounted to \$36,131,705. The King is represented by a lieutenant-governor (appointed by the governor-general in council) who is aided by a ministry which is responsible to the legislature and resigns when it fails to retain the confidence of that body. In the legislature there are 48 members (31 Liberals, 8 Conservatives, 7 C.C.F.'s, and 2 others were elected on June 1, 1937), elected for a five-year term by adult suffrage. Six senators (appointed for life) and 16 elected commoners represent British Columbia in the Dominion parliament at Ottawa. Lieutenant-Governor, Eric W. Hamber (appointed May 1, 1936); Premier, T. D. Pattullo (Liberal).

**History.** It was announced during May, 1940, that the special session of the legislature adjourned after the passage of two measures which gave the

provincial government power to take over and operate the fuel-oil and gasoline business of British Columbia, including specific powers for the expropriation of existing oil companies. See CANADA.

**BRITISH EAST AFRICA.** See KENYA, NYASALAND, TANGANYIKA TERRITORY, UGANDA, ZANZIBAR

**BRITISH EMPIRE.** The world's largest empire, comprising an area of 13,353,952 square miles and a population of about 500,775,000. It consists of

1. The United Kingdom of Great Britain and Northern Ireland. See GREAT BRITAIN, IRELAND, NORTHERN.

2. Self-governing Dominions—AUSTRALIA, CANADA, NEWFOUNDLAND (temporarily administered as a crown colony), NEW ZEALAND, UNION OF SOUTH AFRICA

3. IRELAND (EIRE), a sovereign, independent state, associated for certain purposes with the United Kingdom and the self-governing dominions, which are sometimes referred to collectively as the British Commonwealth of Nations

4. INDIA AND BURMA

5. Self-governing colonies—CEYLON and SOUTHERN RHODESIA

6. Crown colonies and protectorates—ADEN, BAHAMAS, BARBADOS, BASUTOLAND, BECHUANALAND, BERMUDA, BRITISH GUIANA, BRITISH HONDURAS, BRITISH SOLOMON ISLANDS, BRITISH SOMALILAND, CYPRUS, DOMINICA, FALKLAND ISLANDS, FIJI, GAMBIA, GILBERT AND ELLICE ISLANDS, GIBRALTAR, GOLD COAST, GRENADA, HONG KONG, JAMAICA, KENYA, LEIWARD ISLANDS, MALTA, MAURITIUS, NIGERIA, NORTHERN RHODESIA, NYASALAND, ST. HELENA, ST. LUCIA, ST. VINCENT, SEYCHELLES, SIERRA LEONE, STRAITS SETTLEMENTS, SWAZILAND, TRINIDAD AND TOBAGO, UGANDA, ZANZIBAR

7. Protectorates of a special nature—BRITISH NORTH BORNEO, BRUNEI, FEDERATED MALAY STATES, SARAWAK, UNFEDERATED MALAY STATES

8. Mandates held by the United Kingdom—BRITISH CAMEROONS, PALESTINE, TANGANYIKA TERRITORY, TRANS-JORDAN, TOGOLAND (British sphere)

9. Mandates held by Dominions—NAURU (Australia), NEW GUINEA (Australia), SOUTH-WEST AFRICA (Union of South Africa), WESTERN SAMOA (New Zealand)

10. Dependencies of Dominions—LABRADOR (Newfoundland), ASHMORE AND CARTIER ISLANDS, PAPUA, NORFOLK ISLAND, AUSTRALIAN

ANTARCTIC TERRITORY (Australia); UNION ISLANDS or TOKELAU and ROSS DEPENDENCY (New Zealand)

11. Territories held under condominium—ANGLO-EGYPTIAN SUDAN (United Kingdom and Egypt), NEW HEBRIDES (United Kingdom and France).

See the separate articles covering each of the above countries except those included in the preceding table, and some included under the tables of *Area and Population* of the articles on AUSTRALIA, BRITISH MALAYA, NEW ZEALAND, and WINDWARD ISLANDS

**BRITISH GUIANA.** A British crown colony in northern South America. Area, 89,480 square miles, population (1938 estimate), 337,521, of whom 142,736 were East Indian immigrants. During 1938 there were 10,016 births and 8704 deaths. Capital, Georgetown, 67,584 inhabitants in 1938. Education (1938) 237 primary schools had 53,373 pupils enrolled

**Production and Trade.** Sugar, rice, rum, coconuts, coffee, limes, timber, gold, diamonds, and bauxite are the main products. There are deposits of manganese, mica, and vegetable pitch. Livestock (1938) 134,951 cattle, 32,662 sheep, 26,418 swine, 12,279 goats, 7344 donkeys, and 2678 horses. Trade (1939) imports, \$10,724,621 (flour, cotton goods, wearing apparel, sulphate of ammonia were the chief items); exports, \$14,505,552, of which sugar accounted for \$8,131,239, bauxite, (476,013 tons) \$2,889,368, gold (38,473 oz), \$1,060,616, rice, \$582,546; rum, \$430,107; diamonds, \$424,860. Shipping (1938) 3472 vessels totaling 1,808,602 tons entered and cleared.

**Government.** Finance (1938) revenue £1,302,520, expenditure £1,312,177, funded public debt (Dec 31, 1938) £4,467,300. The British Guiana (Constitution) Orders in Council of 1928 and 1935 provide for the government of the colony, and for the introduction of a legislative council of 30 members (the governor as president, 2 ex-officio, 8 nominated official, 5 nominated unofficial, and 14 elected) which is to be dissolved every five years, unless previously dissolved, and a general election held. A governor, aided by an executive council, heads the executive and administrative branch of the government. Governor, Sir W. E. F. Jackson (appointed Jan. 19, 1937).

**History.** British Guiana was one of the British colonies in which the United States was authorized to establish air and naval bases by the Anglo-American accord of Sept 2, 1940. The base sites chosen by an American board of inspection and approved by the British authorities were announced November 18 as follows: (a) a patrol plane squadron base, with airfield, on the bank of the Demerara River 25 miles from its mouth; (b) a seaplane base near Suddie on the west bank of the mouth of the Essequibo River. The American consulate at Georgetown, closed seven years before as an economy measure, was ordered reopened July 27, 1940, due to Washington's concern over the colony's future.

Plans for the trial settlement of European refugees in the interior, announced in 1939 (see YFAR Book, 1939), were delayed in 1940 by the difficulty encountered in raising private funds for the undertaking. The British Government had agreed to build a motor highway to the interior if a privately-financed initial settlement proved successful.

It was announced in May that £52,000 had been allotted to British Guiana from £350,000 appropri-

Country (Capital)	Sq. ms.	Population	Location
Basutoland (Maseru)	11,716	562,311 <sup>1</sup>	South Africa
Bechuanaland (Mafeking <sup>2</sup> )	275,000	262,756 <sup>1</sup>	South Africa
Gambia (Bathurst)	4,068	199,520 <sup>1</sup>	West Africa
Gilbert and Ellice Is. (Ocean Is.)	216	35,000 <sup>4</sup>	Oceania
Mauritius (Port Louis)	807	415,492 <sup>4</sup>	East Africa
St. Helena (Jamestown)	81	4,633 <sup>4</sup>	West Africa
Seychelles (Victoria)	156	31,486 <sup>4</sup>	East Africa
Solomon Islands (Tulagi)	11,458	94,066 <sup>4</sup>	Oceania
Swaziland (Mbabane)	6,704	156,715 <sup>1</sup>	South Africa
Tonga or Friendly Is. (Nukualofa)	385	33,785 <sup>7</sup>	Oceania

<sup>1</sup> 1936 census. The total for Basutoland is exclusive of 101,273 absentee natives working in the Union of South Africa at the time of the census. <sup>2</sup> In Cape Province. <sup>3</sup> 1931 census. <sup>4</sup> 1938 estimate. <sup>5</sup> Includes dependent islands (87 sq. mi., pop., 11,744). <sup>6</sup> Includes the dependent island of Ascension (34 sq. mi., pop., 159), the islands of Tristan da Cunha, Gough, Nightingale, and Inaccessible became dependencies of St. Helena on Jan. 12, 1938. <sup>7</sup> 1938 census.



ated by the British Government for immediate development purposes in the British West Indies (q.v.). The colony contributed toward the British war effort by raising two detachments of volunteers for service overseas and forming three volunteer units for local defense purposes. A self-sufficiency program to lessen the colony's dependence upon foreign sources of supply was carried forward as a result of the disruption of normal trade by the war.

See **BRITISH WEST INDIES** under *History*.

**BRITISH HONDURAS.** A British crown colony in Central America. Area, 8598 square miles; population (1938 estimate), 57,767. During 1938 there were 2052 births, 1178 deaths, and 447 marriages. Capital, Belize (16,687 inhabitants in 1931).

**Production and Trade.** Mahogany, chicle, bananas, grapefruit, cedar logs, coconuts, and copra are the important products. Forest products represented about 80 per cent of the exports by value. Trade (1939): Imports, \$3,532,059; exports, \$2,519,674 (mahogany, \$1,062,993; chicle, \$722,874; bananas, \$186,702). Shipping entered and cleared the port of Belize during 1938 totaled 519,481 tons. There is an airplane service for passengers and freight to Honduras, Guatemala, and other southern points.

**Government.** Finance (1938): \$1,740,602 for total revenue and \$1,872,413 for total expenditure; public debt (Dec. 31, 1938), \$3,337,210. The control of the government is in the hands of a governor who is aided by an executive council. There is a legislative council consisting of the governor as president, 5 official and 8 unofficial members (2 nominated and 6 elected). Governor and Commander-in-Chief, J. A. Hunter (appointed Nov 18, 1939).

**History.** The British Colonial Office early in 1940 agreed to open an area in the foothills of the Maya Mountains in British Honduras to settlement by refugees who left Germany, Austria, and Czechoslovakia previous to the outbreak of the European War. In an agreement reached with the Refugee Industrial Settlement of New York, the government undertook to provide a house and about 10 acres of land to each family in return for a \$600 family entrance fee. Nearly 100 homes were completed before the end of 1940. The settlers planned to engage in wood carving, cabinet making, forestry, tobacco growing, embroidery, and lace-making on a co-operative basis. Legislation passed during 1940 levied an additional war surtax on incomes, ranging from 25 to 75 per cent on incomes over \$3000. Also see **GUATEMALA** and **BRITISH WEST INDIES** under *History*.

**BRITISH MALAYA.** The British possessions and dependencies in Malaya, with their areas, latest populations and capitals, are shown in the accompanying table.

The combined population of the Federated Malay States, Straits Settlements, and the Unfederated Malay States at the end of 1939 was 5,444,833, including 2,332,058 Chinese, 2,259,331 Malays, 744,283 Indians, 30,319 Europeans (including the military which was later increased), and 19,046 Eurasians. Populations of the chief cities were: Singapore, 520,164 (1937); George Town, 149,408 (1936); Kuala Lumpur, 136,068 (1937); Johore Bahru, 97,634; Ipoh, 64,343 (1937); Malacca, 43,258; Taiping, 38,719; Seremban, 27,839; Klang, 27,498; Alor Star, 25,000; Kuching, 25,000.

**Production.** The principal products in 1939 were

rubber (419,000 metric tons shipped), tin (54,000 metric tons), copra (146,800 metric tons, net exports), rice (340,000 tons), palm oil (60,700 metric tons, net exports), iron ore (1,260,000 metric tons, metal content), tea (1,553,094 lb). Other products: Sugar, areca nuts, timber, resin, palm-kernel oil, phosphate, and manganese. The 1939 area of British Malayan (including Brunei and British Borneo) tappable rubber amounted to 1,852,934 acres. Of the world's total shipments of rubber during 1939, British Malaya shipped 36.6 per cent.

<i>Division</i>	<i>Sq. M.</i>	<i>Population</i>	<i>Capital</i>
British North Borneo	29,500	299,000 <sup>1</sup>	Sandakan
Brunei	2,226	35,963 <sup>1</sup>	Brunei
Federated Malay States	27,540	2,125,274 <sup>2</sup>	Kuala Lumpur
<i>Negeri Sembilan</i>	2,580	285,976	Seremban
<i>Pahang</i>	13,820	212,755	Pekan
<i>Perak</i>	7,980	954,084	Taiping
<i>Selangor</i>	3,160	672,459	Kuala Lumpur
Sarawak	50,000	600,000 <sup>1</sup>	Kuching
Straits Settlements	1,356	1,372,568 <sup>3</sup>	Singapore
<i>Labuan</i>	35	8,717	Victoria
<i>Malacca</i>	640	228,307	Malacca
<i>Penang</i>	390	405,702	George Town
<i>Singapore</i>	291	729,842	Singapore
Unfederated Malay States	22,276	1,847,227 <sup>1</sup>	
<i>Johore</i>	7,500	709,870	Johore Bahru
<i>Kedah</i>	3,660	481,242	Alor Star
<i>Kelantan</i>	5,750	399,299	Kota Bharu
<i>Perlis</i>	316	55,446	Kangar
<i>Trengganu</i>	5,050	201,370	Kuala Trengganu

<sup>1</sup> 1938 estimate    <sup>2</sup> 1939 estimate    <sup>3</sup> Includes Dindings    <sup>4</sup> Includes Province Wellesley    <sup>5</sup> Includes Cocos (Keeling) and Christmas Islands

**Trade.** Federated Malay States, Straits Settlements, and Unfederated Malay States (1939): Imports, \$624,552,000; exports, \$748,505,000 (\$5 averaged \$0.5125 in 1939). Singapore is one of the most important oil-shipping centers of the East. During 1939 some 766,000 tons of liquid fuel and 488,852 tons of gasoline and benzene were imported. Of these amounts 224,754 tons of liquid fuel and 356,736 tons of gasoline and benzene were re-exported. The 1939 trade of British North Borneo, Brunei, and Sarawak (not included in above figures): Imports, U.S. \$15,914,000; exports, U.S. \$26,073,000. During 1939 a total of 12,930 ships aggregating 31,647,614 net tons entered and cleared the port of Singapore.

**Finance.** Federated Malay States budget (1940): Balanced at \$68,698,983. Straits Settlements budget (1941): Revenue, \$46,294,000 (\$43,300,000 in 1940); expenditure, \$57,292,000 (\$61,000,000). Unfederated Malay States (actual 1938-39 figures for Kedah and Perlis, actual 1938 figures for Johore, Kelantan, and Trengganu): Revenue, \$30,729,206; expenditure, \$31,730,903. British North Borneo, Brunei, and Sarawak (actual 1938 figures): Revenue, \$8,661,313; expenditure, \$7,610,238. The average exchange value for the Straits dollar (\$) was \$0.4698 for 1940; \$0.5174, 1939, \$0.5692, 1938.

**Government.** The Governor of the Straits Settlements also serves as High Commissioner for the Federated and Unfederated Malay States and Brunei and as Agent for British North Borneo and Sarawak. The Straits Settlements constitute a crown colony; it is administered by the Governor with the aid of executive and legislative councils. The other Malay States are all protectorates with different degrees of British control. British Residents advise the rulers of each of the Federated and Unfederated Malay States. The Federated Malay States have, in addition, a Federal Council



and their policy in Federal matters is co-ordinated by the High Commissioner through the Federal Secretary. British North Borneo is administered by the British North Borneo Company under a royal charter. The Sultan of Brunei in 1906 agreed to place the administration in the hands of a British Resident. Sarawak has a British hereditary ruler or rajah, Sir Charles Vyner Brooke, but a Special Commissioner represents the Governor of the Straits Settlements. Governor at Singapore in 1940, Sir Thomas Shenton Whitelegge Thomas.

**History.** British Malaya assumed far-reaching importance to the British war effort during 1940. Following the defeat of France and Japan's threatening advance in southeastern Asia, the defenses of the great fortress and naval and air base at Singapore were hurriedly strengthened. During the latter half of the year large reinforcements arrived from India, China, and Australia, including a number of Australian air units. Shipments of heavy bombers came from the United States and the Near East. On November 13 London authorities appointed Air Chief Marshal Sir Robert Brooke-Popham to the newly established post of Commander in Chief in the Far East, with headquarters at Singapore. He assumed command of Empire forces in Malaya, Burma, Hong Kong, and the East Indies.

The local defense resources of Malaya were mobilized also. Compulsory service for Europeans in the Straits Settlements and Federated Malay States was adopted early in the summer and male British-Europeans were not permitted to leave the colonies without a special permit. Later a local defense corps, modeled on the Home Guard in Britain, was organized in each of the Malay States; it was composed of white British subjects over 41 years of age and non-European British subjects and British-protected persons from 18 to 55 years old who had had training in the use of arms.

According to the Governor of the Straits Settlements, British Malaya's financial contribution to the British war effort during the first year of the conflict averaged about £1 per capita for the entire population. The Malayan governments turned over about £2,500,000 while popular contributions included £470,000 for the purchase of bombers and £200,000 to war charities. Later in the year the Straits Settlements and Federated Malay States floated war loans of \$25,000,000 and \$20,000,000, respectively (£5,250,000 in all). The money subscribed was turned over to the British Government for war purposes. A far greater contribution was made through rapidly expanding sales of rubber and tin to the United States, bringing the British Treasury more than £60,000,000 annually in dollar exchange which was urgently needed for the purchase of British war supplies in America.

Economic control measures were adopted to insure the most effective utilization of the region's material and financial resources in support of Britain. In connection with the food control program, a rice pool was established August 1, covering all rice imported into Singapore. Exchange control was tightened to conserve needed foreign exchange. Quotas were imposed on exports of rice, milk, and other foods. War taxes were increased in most of the States.

Rapidly rising prices, combined with agitation by alleged Communists and other subversive elements, provoked recurrent strikes and labor disturbances. On July 18, the authorities introduced compulsory arbitration of labor disputes and a

number of alleged agitators, mostly Chinese, were deported or imprisoned. On November 22, the press attaché of the Japanese Consulate at Singapore was convicted of espionage and sentenced to three years' imprisonment.

On Jan. 23, 1940, the Rajah of Sarawak, Sir Charles Vyner Brooke, issued a decree disqualifying his 27-year-old nephew, Anthony Brooke, as heir presumptive to the throne.

See GREAT BRITAIN and JAPAN under *History*.  
**BRITISH NEW GUINEA.** Same as Papua.  
See AUSTRALIA under *Overseas Territories*.

**BRITISH NORTH BORNEO.** See **BRITISH MALAYA**.

**BRITISH SOLOMON ISLANDS PROTECTORATE.** See **BRITISH EMPIRE**.

**BRITISH SOMALILAND.** See **SOMALILAND, BRITISH**.

**BRITISH SOUTH AFRICA.** See **SOUTH AFRICA, UNION OF**.

**BRITISH WEST AFRICA.** See **CAMEROONS, BRITISH**; *Gambia* under **BRITISH EMPIRE**; **GOLD COAST**; **NIGERIA**; **SIERRA LEONE**.

**BRITISH WEST INDIES.** The colonial possessions of Great Britain in the West Indies, consisting of three main groups of islands. (1) Bahamas, (2) Jamaica and adjacent islands, and (3) other islands scattered throughout the Lesser Antilles (Leeward Islands, Windward Islands, Barbados, Trinidad, and Tobago). Bermuda, British Guiana, and British Honduras (qq v.) are excluded. The area and population of the British West Indies, by main island groups, are shown in the accompanying table. The inhabitants are for the most part Negroes.

<i>Island group</i>	<i>Sq. mi.</i>	<i>Pop. (1939)</i>	<i>Capital</i>
Bahamas	4,404	67,726	Nassau
Jamaica and dependencies			
Jamaica	4,450	1,173,645	Kingston
Turks & Caicos Isl.	166	5,300	Grand Turk
Cayman Islands	104	6,800	Georgetown
Leeward Islands*	423	101,063 <sup>b</sup>	St. John
Windward Islands*	820	265,500 <sup>b</sup>	St. George's
Barbados	166	193,082	Bridgetown
Trinidad and Tobago	1,980	464,889	Port of Spain
<b>Totals . .</b>	<b>12,513</b>	<b>2,278,005</b>	

\* The island of Dominica was transferred from the Leeward Islands to the Windward Islands, effective Jan. 1, 1940. <sup>b</sup> 1938 figures.

Agriculture is the main occupation in virtually all of the islands, the chief crops being sugar (exports estimated at 502,086 tons for 1939-40), cacao, coconuts, cotton, citrus fruit, vegetables, and in Jamaica bananas. The tourist business, manufacturing for local consumption, and (in Trinidad) the production of petroleum and asphalt are the other leading sources of income. There is no unified governmental system, the island groups listed above constitute separate colonies, each with a governor appointed by the Crown and with varying degrees of popular representation in their legislative bodies. See the separate article on each colony and its main subdivisions.

**History.** On Feb. 20, 1940, the British Government made public a summary of the report of the Royal Commission headed by Lord Moyne which was appointed on Aug. 5, 1938, to investigate social and economic conditions in the British West Indies, British Guiana, and British Honduras and submit recommendations for measures to improve them. The need for such action was indicated by the development of unrest, labor troubles and mi-

nor disorders in a number of the West Indian colonies (see JAMAICA and TRINIDAD AND TOBAGO in 1938, 1939, and 1940 YEAR BOOKS).

The British Government published at the same time a White Paper setting forth its policy with respect to both the British West Indies and the colonial empire as a whole. In the White Paper the government accepted the Royal Commission's proposal for the establishment of a central organization headed by a comptroller and staffed with technical officers to plan the co-ordinated development of welfare services throughout the British West Indies. It also accepted a recommendation for the appointment of an inspector-general of agriculture for the West Indian colonies. These activities were to be financed from the British Government's Exchequer on a scale approximating the Commission's recommendations. (The Commission called for an annual grant of £1,000,000 for a period of 20 years, to be spent for social services and development alone.) A special sum of £350,000 was set aside for an immediate start on employment-creating projects in Jamaica and British Guiana and on other parts of the program. The government announced that it was consulting the West Indian Administrations on the Commission's other recommendations with a view to prompt action.

The other recommendations included: Improvement of educational, public health, and housing facilities; legislation freeing unions of legal responsibility for damages resulting from strikes, permitting peaceful picketing, and providing for compulsory registration of trade unions and audit of their funds; action by colonial governors and legislatures to improve wages and conditions of labor, etc.; reorientation of the agricultural system in the direction of permanent mixed farming; a land settlement program; improvement of shipping and other communications; and measures to make the colonial legislatures more representative, with universal adult suffrage as the object of policy. The Commission rejected proposals for political federation of the British West Indies, but urged union of the Leeward and Windward Islands as "a practical test of the advantages of federation."

It recommended that the colonial governments "adopt a much more positive policy of bringing their point of view before the mass of the people" and urged "an organized attempt to prevent any further extension of color prejudice."

In July Sir Frank Stockdale, an experienced official of the British Colonial Office, was appointed to the newly created post of Comptroller for Development and Welfare in the West Indies. The post of Inspector-General of Agriculture went to A. J. Wakefield, former Director of Agriculture in Tanganyika. Other experts were named to the Comptroller's staff.

In a move to protect the interests of the West Indian colored populations in connection with possible changes in the status quo of that region, British West Indians in New York City organized an emergency committee on the eve of the Havana Conference (see PAN AMERICANISM). They sent a representative to Havana to insist on the Caribbean peoples' right to self-determination and self government, and this was tacitly recognized in the program adopted by the conference. Subsequently a permanent West Indies National Council, headed by W. A. Domingo of Jamaica, was formed on which most of the British West Indian colonies, including those of British Guiana and British Honduras, were represented.

The West Indies National Council joined with the Jamaican People's National party in a campaign to prevent racial discrimination, segregation, importation of foreign unskilled labor, and foreign interference in local economic and political matters in connection with the leasing of United States bases in British West Indian possessions. The Council supported the British cause in the European War and most of its members were said to favor eventual self-government for the West Indian colonies as units of the British Empire. All of the governments and populations of the individual colonies rallied loyally to the support of the British cause.

For the Moyne Commission's recommendations concerning individual colonies and their respective war contributions, see BARBADOS, BRITISH GUIANA, BRITISH HONDURAS, JAMAICA, LEEWARD ISLANDS, and WINDWARD ISLANDS under *History*. For details of the U.S. naval and air bases, see ANTIGUA, BAHAMAS, BRITISH GUIANA, JAMAICA, ST. LUCIA, and TRINIDAD under *History*.

**BROADCASTING STATIONS.** The tables on page 93 list the larger broadcasting stations, the facsimile broadcasting stations, and high frequency broadcasting stations of the United States. For an account of the number of stations licensed and other events of the year, see FEDERAL COMMUNICATIONS COMMISSION. See also RADIO, RADIO PROGRAMS.

**BROOKINGS INSTITUTION.** An organization devoted to public service through research and training in the social sciences. Established in Washington, D.C., in 1927, it maintains as operating units the Institute of Economics, the Institute for Government Research, and a division of training in which only those who have had at least two years of graduate work are accepted as research fellows.

In carrying out its purpose to aid constructively in the development of sound national policies without regard to the special interests of any group, whether political, social, or economic, the Institution conducted during 1940 several significant investigations. The resulting studies were published under the following titles: *Capital Expansion, Employment and Economic Stability; Federal Control of Expenditures, Labor Relations in the Automobile Industry; The Federal Financial System, Wartime Control of Prices; Union Policies and Industrial Management, Productivity, Wages, and National Income, Federal Regulatory Action and Control; Government and Economic Life (Vol. 2), How Nazi Germany Has Mobilized and Controlled Labor.*

The Institution is supported from endowment funds and annual grants. The officers of the board of trustees for 1940-41 were: Chairman, Dwight F. Davis; vice chairman, Dean G. Acheson; president, Harold G. Moulton; treasurer, Henry P. Seidemann, and secretary, Elizabeth H. Wilson. Headquarters are at 722 Jackson Place, Washington, D.C.

**BROOKLYN INSTITUTE OF ARTS AND SCIENCES.** One of America's oldest and largest institutions for informal education, located in Brooklyn, N.Y. Its public activities are conducted at four centers: The Institute at the Academy of Music, the Central Museum, the Children's Museum, and the Botanic Garden. Founded in 1824, the Institute was incorporated in its present form in 1890. Total membership is about 7000 and is open to everyone.

UNITED STATES RADIO BROADCAST STATIONS HAVING POWER OF 50 KW (Sept 1, 1940)

State	City	Call Letter	Licensee	Frequency (kc)
California	Los Angeles	KFI	Earle C. Anthony, Inc.	640
California	Los Angeles	KNX	Columbia Broadcasting System, Inc.	1050
California	San Francisco	KPO	National Broadcasting Co., Inc.	680
Colorado	Denver	KOA	National Broadcasting Co., Inc.	830
Connecticut	Hartford	WTIC	Travelers Broadcasting Service Corp.	1060
District of Columbia	Washington	WJSV	Columbia Broadcasting System, Inc.	1460
Georgia	Atlanta	WSB	Atlanta Journal Co.	740
Illinois	Chicago	WBBM	Columbia Broadcasting System, Inc.	770
Illinois	Chicago	WENR	National Broadcasting Co., Inc.	870
Illinois	Chicago	WGN	WGN, Inc.	720
Illinois	Chicago	WLS	Agricultural Broadcasting Co.	870
Illinois	Chicago	WMAQ	National Broadcasting Co., Inc.	670
Illinois	Chicago	WHO	Central Broadcasting Co.	1000
Iowa	Des Moines	WHAS	Courier-Journal and Louisville Times Co.	820
Kentucky	Louisville	WWL	Loyola University	850
Louisiana	New Orleans	KWKH	International Broadcasting Corp.	1100
Louisiana	Shreveport	WEZ	Westinghouse Electric & Mfg. Co.	990
Massachusetts	Boston	WJR	WJR, The Goodwill Station	750
Michigan	Detroit	WCCO	Columbia Broadcasting System, Inc.	810
Minnesota	Minneapolis	KSTP	KSTP, Inc. (construction permit authorized)	1460
Minnesota	St. Paul	KMOX	Columbia Broadcasting System, Inc.	1090
Missouri	St. Louis	WOR	Bamberger Broadcasting Service, Inc.	710
New Jersey	Newark	KOB	Albuquerque Broadcasting Co.	1180
New Mexico	Albuquerque	WABC	Columbia Broadcasting System, Inc.	860
New York	New York	WEAF	National Broadcasting Co., Inc.	660
New York	New York	WJZ	National Broadcasting Co., Inc.	760
New York	Rochester	WHAM	Stromberg-Carlson Telephone Mfg. Co.	1150
New York	Schenectady	WGY	General Electric Co.	790
North Carolina	Charlotte	WBT	Columbia Broadcasting System, Inc.	1080
Ohio	Cincinnati	WCKY	L. B. Wilson, Inc.	1490
Ohio	Cincinnati	WLW	The Crosley Corp.	700
Ohio	Cleveland	WTAM	National Broadcasting Co., Inc.	1070
Pennsylvania	Philadelphia	WCAU	WCAU Broadcasting Co.	1170
Pennsylvania	Pittsburgh	KDKA	Westinghouse Electric & Mfg. Co.	980
Tennessee	Nashville	WSM	National Life & Accident Insurance Co.	650
Texas	Dallas	KRLD	KRLD Radio Corp.	1040
Texas	Dallas	WFAA	A. H. Belo Corp.	800
Texas	Fort Worth	WBAP	Carter Publications, Inc.	800
Texas	San Antonio	WOAI	Southland Industries, Inc.	1190
Utah	Salt Lake City	KSL	Radio Service Corp. of Utah	1130
Virginia	Richmond	WRVA	Larus & Brother Co., Inc.	1110

FACSIMILE BROADCAST STATIONS (JULY 1, 1940)

Licensee and Location	Call Letters	Frequency (kc)	Power
Bamberger Broadcasting Service, Inc., New York, New York	W2XUP	25250	100w
A. H. Belo Corporation, Dallas, Texas	W5XGR	25250	100w
The Cincinnati Times-Star Co., Cincinnati, Ohio	WRXVC	25175	100w
Courier-Journal and Louisville Times Company, N. E. of Eastwood, Kentucky	W9XWT	25250	500w
The Crosley Corporation, Cincinnati, Ohio	W8XUJ	25025	1kw
William G. H. Finch, New York, New York	W2XBF	43740	1kw
The National Life and Accident Insurance Company, Inc., Nashville, Tennessee	W4XIH	25250	1kw
The Pulitzer Publishing Company, St. Louis, Missouri	W9XZY	25100	100w
Radio Pictures, Inc., Long Island City, New York	W2XR	43580	500w
Sparks-Withington Company, Jackson, Michigan	W8XUF	43900	100w
Star-Times Publishing Company, St. Louis, Missouri	W9XSP	25250	100w
Symons Broadcasting Co., Spokane, Washington	W7XSW	25150	100w
United Broadcasting Company, Cleveland, Ohio	W8XE	43620	100w
WBEN, Incorporated, Buffalo, New York	W8XA	43700	100w
WBNS, Incorporated, Columbus, Ohio	W8XUM	25200	100w
WOKO, Inc., Albany, New York	W2XWE	25050	500w

HIGH FREQUENCY BROADCAST STATIONS (JAN 1, 1941)

[Construction Permit Only]

Licensee and Location	Call Letters	Frequency (kc)	Service Area (Sq. Mi.)
Bamberger Broadcasting Service, Inc., Newark, New Jersey, New York, N. Y.	W71NY	47,100	8,500
Baton Rouge Broadcasting Co., Inc., Baton Rouge, La.	W45RG	44,500	8,100
Capitol Broadcasting Company, Inc., Schenectady, N. Y.	W47A	44,700	6,589
Evansville On the Air, Inc., Evansville, Ind.	W45V	44,500	8,197
The Evening News Association, Detroit, Mich.	W45D	44,500	6,820
William G. H. Finch, New York, N. Y.	W55NY	45,500	8,500
Frequency Broadcasting Corporation, Brooklyn, N. Y.	W59NY	45,900	8,500
General Electric Company, Schenectady, N. Y.	W57A	45,700	6,600
Howitt-Wood Radio Co., Inc., Binghamton, N. Y.	W49BN	44,900	6,500
The Journal Company, Milwaukee, Wis.	W55M	45,500	8,540
Don Lee Broadcasting System, Los Angeles, Calif.	K45LA	44,500	6,944
Marcus Loew Booking Agency, New York, N. Y.	W63NY	46,300	8,500
Metropolitan Television, Inc., New York, N. Y.	W75NY	47,500	8,500
National Broadcasting Company, Inc., New York, N. Y.	W51NY	45,100	8,500
National Broadcasting Company, Inc., Chicago, Ill.	W63C	46,300	10,800
The National Life and Accident Insurance Company, Nashville, Tenn.	W47NV	44,700	16,000
Radio Service Corporation of Utah, Salt Lake City, Utah	K47SL	44,700	623
The Travelers Brdcastg. Service Corp., Hartford, Conn.	W53H	45,300	6,100
Walker & Downing Radio Corporation, Pittsburgh, Pa.	W47P	44,700	8,400
WBNS, Incorporated, Columbus, Ohio	W45CM	44,500	12,400
WCAU Broadcasting Company, Philadelphia, Pa.	W67PH	46,700	9,300
WDR, Inc., Hartford, Conn.	W65H	46,500	6,100
WGN, Inc., Chicago, Ill.	W59C	45,900	10,800
The Yankee Network, Inc., Boston, Mass.	W39B	43,900	31,000
Zenith Radio Corporation, Chicago, Ill.	W51C	45,100	10,760

The Institute at the Academy of Music presents an adult education program annually of concerts, lectures, forums in every major field of the arts and sciences, and courses of instruction in art, photography, and foreign languages. Approximate attendance at these events for the season 1939-40 was 230,000. The Institute's Museums possess collections in art, ethnology, and natural science. The Central Museum reference library contains more than 27,000 volumes as well as many pamphlets and complete sets of rare periodicals. It includes the Stewart Culin Library on Ethnology and the Charles Edwin Wilbour Library on Egyptology. Attendance at both Museums for the year 1940 totaled 513,800. The Institute's Botanic Garden comprises more than 50 acres and plant houses containing tropical and sub-tropical species. The Botanic Garden reference library has over 25,000 volumes and pamphlets. Botanic Garden attendance for the year 1940 totaled 1,687,564.

In 1940 the permanent funds of the Institute amounted to \$4,335,000 and the funds to meet current expenses, to \$881,000. Under a general reorganization plan adopted in April, 1938, James G. McDonald was named president of the Institute. Other officers are: Edward C. Blum, chairman of the board of trustees; Julius Bloom, associate director of the Institute at the Academy of Music; Laurance P. Roberts, director of the Museums; Mrs. William Lloyd Garrison, 3d, curator-in-chief of the Children's Museum; C. Stuart Gager, director of the Botanic Garden. Executive offices are located in the Academy of Music, 30 Lafayette Avenue, Brooklyn.

**BROWDER, Earl.** See COMMUNISM; ELECTIONS, U.S. NATIONAL

**BRUNEI.** See BRITISH MALAYA

**BRUNSWICK.** See GERMANY under *Area and Population*.

**BUDGET.** For national budgets, see BUDGET, BUREAU OF THE; PUBLIC FINANCE; the countries under *Finance*. For family budget studies, see LIVING COSTS AND STANDARDS

**BUDGET, Bureau of the.** The Bureau of the Budget became a part of the Executive Office of the President at the beginning of the fiscal year 1940. Created by the Budget and Accounting Act of 1921 as a Bureau in the Treasury Department to assist the President in the performance of the duties imposed upon him by the Act, it was transferred by Reorganization Plan I to the Executive Office of the President, wherein are lodged the five agencies assisting the President in the overall management and central direction of the executive branch of the Federal Government. The functions of the Bureau and of the other Divisions of the Executive Office were further defined by Executive Order on Sept. 8, 1939. In actively assuming its new role in the Executive Office of the President, the staff of the Bureau has been expanded and its internal structure crystallized into five major Divisions under the Director and Assistant Director—Estimates, Legislative Reference, Administrative Management, Fiscal, and Statistical Standards (formerly the Central Statistical Board).

The best-known function of the Bureau of the Budget is the formulation of the Budget document which the President annually submits to Congress. In this document are set forth in summary and in detail the proposed fiscal program of the Government for the coming year, with comparative figures as to past and current programs. After the budgetary program becomes operative through ap-

propriations made by Congress (see UNITED STATES under *Legislation*), the Bureau takes up the task of supervising and controlling its execution by a continuous review of expenditures and operations of the various agencies.

The Bureau is also concerned with the improvement of administrative management and organization in the Federal agencies and establishments. It assisted the President in the development of Reorganization Plans III, IV, and V, which were approved by the Congress during 1940. Toward the end of the year, particular attention was given to problems of national defense organization. Continuous effort is being directed toward the improvement of fiscal and budgetary administration in the Federal Government. A step in this direction was the issuance of an Executive Order in August, 1940, having to do with the improvement of financial reporting and budgetary control.

An additional responsibility of the Bureau of the Budget is to keep the President informed of the progress of activities of the agencies of the Government with respect to work proposed, work actually initiated, and work completed. This activity has become particularly important with respect to the defense program. The Bureau likewise assists the President by clearing and co-ordinating the reports of departments and agencies on proposed legislation and by making recommendations as to action on legislative enactments; it also clears proposed Executive orders and proclamations. Efforts to improve and co-ordinate the statistical services of the various Federal establishments are also centered in the Bureau.

In addition to these activities, the Bureau of the Budget, as a staff arm of the President, is frequently called upon for assistance in analyzing and collecting information on a wide variety of administrative problems that arise in day-to-day operations in the Federal Government. See also PUBLIC FINANCE.

HAROLD D. SMITH

**BUHL FOUNDATION.** See BENEFACTIONS under *Foundation Activities*.

**BUILDING.** Home building activity in the fall and winter of 1940 as reported by the Federal Housing Administration (q.v.) closely approached the spring peak. The FHA stated that one half of all the new single-family homes built in 1940 were financed under its program, and were required to measure up to its standards. During the first 11 months of 1940 new home mortgages selected for appraisal numbered 202,039 and amounted to \$930,-158,830 a gain of 31 per cent in number and 26 per cent in amount over the same period of 1939. Property modernization and improvement loans insured by the FHA in 1940 set a new high record, totaling \$280,000,000 as compared with \$233,067,349 of 1939.

Production of single-family homes in the United States during 1940 was close to the average number built annually during the 1920-29 decade, and will be the highest in 12 years, according to a report from the FHA. The total number of single-family homes built approached the 1920-29 annual average of 427,000. In 1928, the last year in which the current volume was exceeded, the total number of single-family homes built was 436,000. In 1933, the year before passage of the National Housing Act, only 39,000 single-family homes were built.

Rents and vacancies in apartment houses for the United States as a whole, have remained, so re-

ports the Federal Home Loan Bank Board, practically unchanged over almost three years, evidence that the newly built dwelling units could be absorbed without inroads into the occupancy and rent structure. Local statistics compiled by the Department of Labor for 32 industrial cities by and large confirm the movement of national indices. However, a number of cities reported lower rents and higher vacancies for apartments due to local overbuilding in this type of dwelling and to the movement of families from apartments in central districts to single-family houses in suburbs.

In slum sections of New York, Philadelphia, Chicago, and other large cities, tenement houses and old buildings were torn down, and there were erected through Federal aid large, modern, low-rent apartment houses. Late in 1940 there was increased industrial building activity, particularly by plants engaged in the manufacture of aircraft and war equipment and others engaged in shipbuilding. The calling out of the National Guard and the drafting of men for service in the army necessitated the putting up of barracks in many parts of the country, and modernizing others that had not been used since the World War.

The defense program, according to F. W. Dodge Corporation's construction outlook, will dominate 1941 construction and industrial production. Increased industrial production will bring about increased employment, purchasing power, and national income, which in turn will tend to increase demand for private construction. As to construction facilities, contractors have not been employed to capacity within the past ten years, so they should be able to handle a program substantially larger than that of 1940. As to building costs, after considering various economic phases, it is assumed that during most, if not all, of 1941 they will be kept within moderate bounds. The table at the foot of this page gives the value of construction contracts for 1939, with estimates for 1940 and 1941.

The building industry in 1940 set a new peak during the past decade according to Dun & Bradstreet, Inc. Building permits for the entire year 1940 for 215 cities in the United States had a total valuation of \$1,362,666,270, or 9.8 per cent more than the \$1,240,813,598 for the preceding twelve

months. With all sections except in the Middle Atlantic and West Central sharing in the rise, the volume of contemplated construction during last year reached the highest figure since 1930. Excluding New York City, the gain over the previous year amounted to 13.4 per cent. The record of building permit values for the twelve months of 1940 and 1939 for 215 cities, as compiled by Dun & Bradstreet, Inc., follows:

<i>Divisions</i>	<i>1940</i>	<i>1939</i>	<i>Change %</i>
New England	\$85,642,592	\$75,147,690	+14.0
Mid Atlantic	339,352,325	352,777,147	-3.8
South Atlantic	169,014,746	137,831,366	+22.6
East Central	304,116,397	252,001,589	+20.7
South Central	138,391,942	134,326,658	+3.0
West Central	68,898,089	71,509,577	-3.7
Mountain	32,302,140	26,505,722	+21.9
Pacific	224,948,039	190,714,209	+18.0
Total U S	\$1,362,666,270	\$1,240,813,598	+9.8
New York City	\$222,116,804	\$235,069,542	-5.5
Outside N Y C	\$1,140,549,466	\$1,005,744,416	+13.4

Permit valuations for 20 leading cities during the twelve months of 1940 and 1939 are given below

<i>City</i>	<i>1940</i>	<i>1939</i>
New York, N Y	\$222,116,804	\$235,069,542
Detroit, Mich	81,138,722	61,664,099
Los Angeles, Cal	74,300,510	74,790,441
Washington, D C	42,717,450	38,619,876
Chicago, Ill	39,928,116	42,280,686
San Francisco, Cal	32,042,968	24,950,593
Baltimore, Md	30,994,323	16,183,696
Philadelphia, Pa	30,471,690	32,612,370
Houston, Tex	24,253,838	25,373,545
Cleveland, Ohio	21,874,000	18,305,000
Cincinnati, Ohio	21,797,975	15,201,430
Seattle, Wash	19,488,770	11,615,600
Oakland, Cal	16,672,853	11,083,083
Miami Beach, Fla	16,240,535	11,505,870
Miami, Fla	15,214,518	16,825,532
Pittsburgh, Pa	15,156,577	10,532,253
Atlanta, Ga	14,558,861	10,007,831
San Diego, Cal	14,236,535	8,241,862
Indianapolis, Ind.	13,739,728	11,625,905
St. Louis, Mo.	13,543,312	11,538,044

See ARCHITECTURE; BUSINESS REVIEW, FEDERAL HOUSING ADMINISTRATION; HOUSING AUTHORITY, U.S.

CHAS. H. HUGHES

#### VALUE OF TOTAL CONSTRUCTION CONTRACTS—37 EASTERN STATES

<i>Classification</i>	<i>1939 Actual</i>	<i>*1940 Estimate</i>		<i>1941 Estimate</i>	
	<i>Million Dollars</i>	<i>Million Dollars</i>	<i>Change % from 1939</i>	<i>Million Dollars</i>	<i>% Change from 1940</i>
Commercial Buildings	247	320	+ 30	370	+ 16
Manufacturing Buildings	175	380	+117	440	+ 16
Educational Buildings	201	145	- 28	160	+ 10
Hospital & Institutional	85	75	- 10	90	+ 20
Public Buildings	110	85	- 23	95	+ 12
Religious Buildings	38	45	+ 18	45	+ 0
Social & Recreational	82	70	- 15	80	+ 14
Misc Non-Residential	29	80	+176	120	+ 50
Total Non-Residential	965	1200	+ 24	1400	+ 17
Public	416	450	+ 8	550	+ 22
Private	549	750	+ 37	850	+ 13
Apartment and Hotels	386	320	- 17	350	+ 9
1 & 2 Family Houses	912	1130	+ 21	1200	+ 6
Other Shelter	17	80	+370	150	+ 87
Total Residential	1335	1530	+ 15	1700	+ 11
Public	191	260	+ 36	550	+112
Private	1144	1270	+ 11	1150	- 9
Public Works & Utilities	1251	1120	- 11	1300	+ 16
Public	1102	970	- 12	1100	+ 13
Private	149	150	+ 1	200	+ 33
Total Construction	3551	3850	+ 8	4400	+ 14
Public	1709	1680	- 2	2200	+ 31
Private	1842	2170	+ 18	2200	+ 1

\* Based on ten months data, compiled by F. W. Dodge Corp

**BULGARIA.** A Balkan monarchy. Capital, Sofia. King in 1940, Boris III, who succeeded to the throne Oct. 3, 1918

**Area and Population.** Including 2982 square miles of Southern Dobruja, with a population of 378,344, annexed from Rumania on Sept 7, 1940, Bulgaria has an area of 42,797 square miles and a population estimated at 6,720,000. Estimated population of Sofia (with suburbs) in 1937, 350,000; of other cities in 1936: Plovdiv (Philippopolis), 125,000; Varna, 75,000; Ruse (Ruschuk), 51,000, Burgas, 30,000

**National Defense.** The military restrictions imposed upon Bulgaria by the Treaty of Neuilly in 1919 were removed July 31, 1938. As of November, 1940, there were an estimated 350,000 men under arms, not including the air force of 3200 men, and 320,000 trained reserves. The defense force was relatively weak in modern armaments, but this deficiency was being made up rapidly with German aid

**Education and Religion.** At the 1934 census 20.4 per cent of the males and 42.8 per cent of the females were illiterate. Schools of all classes numbered 7782, with 1,086,849 students, in 1937-38 (including 5335 elementary schools with 659,633 pupils). The 1934 census showed 5,128,890 members of the Orthodox Church of Bulgaria, 821,298 Moslems, 48,398 Jews, 45,704 Roman Catholics, 23,476 Armenian-Gregorians, and 8371 Protestants

**Production.** About four-fifths of the population live by agriculture and fishing. The National Bank estimated national income for 1939 at 51,800,000,000 leva, divided as follows (in millions):

Agriculture, 29,000; manufacturing, 4150; salaries and pensions, 4500; commerce, 3700; artisans, 3150; real estate, 2900; transportation and communications, 1700; banking and insurance, 1500. Production of cereals in 1940 was estimated at 3,400,000 metric tons (3,560,000 in 1939), leaf tobacco, 40,000 tons, rose oil, 1600 kilograms, cotton, about 14,000 tons, beet sugar, 30,000 tons; raw silk, 19,200 tons (1939). Other production in 1938 was (in metric tons): Lignite, 1,941,000; coal, 145,000; cement, 194,000; salt, 77,000

**Foreign Trade.** A law published June 1, 1940, established a Foreign Trade Administration to organize and control both imports and exports and direct commercial policy. Imports in 1939 were valued at 5,196,747,000 leva (4,934,193,000 in 1938); exports, 6,064,754,000 (5,578,341,000). Of the 1939 imports, Germany supplied 65.5 per cent, with Italy, Poland, Bohemia-Moravia, and Rumania next in order. Germany took 67.8 per cent of Bulgaria's 1939 exports (58.9 in 1938), with Italy, Poland, the United States, and Bohemia-Moravia following in order. See TRADE, FOREIGN

**Finance.** Ordinary budget returns for 1939: Receipts, 8,281,292,506 leva; expenditures, 8,001,462,279; surplus, 279,830,227. The separate State railways budget showed actual receipts of 1,937,869,572 leva; expenditures, 1,771,464,013. For 1940, ordinary budget estimates were: Receipts, 8,472,018,000 leva, expenditures, 8,461,754,000. Total public debt on June 30, 1939, was 21,751,213,181 leva (foreign, 12,945,525,685; internal, 8,805,687,496). Nominal average exchange value of the lev in first half of 1939 was \$0.0121 (\$0.0124 in 1938).

**Transportation.** In 1939 Bulgaria had 2129 miles of railway line, all State-owned, 16,354 miles of highways; and air lines connecting with the principal European cities. The State railway budget for 1940 balanced receipts and expenditures at

2,185,600,000 leva. A new Sofia-Moscow air line was opened in March, 1940. Freight handled at Danube and Black Sea ports of Bulgaria in 1939 was estimated at 990,000 metric tons.

**Government.** The Constitution of 1879 remained suspended from the Georgiev coup d'état of May 19, 1934, through 1940. All political parties were dissolved in 1934 and the formation of new ones was prohibited. King Boris ruled as virtual dictator after overthrowing Premier Georgiev's dictatorship on Jan 22, 1935. The parliaments elected in March, 1938, and in December, 1939-January, 1940, were deprived of practically all legislative powers. The former political parties were not permitted to present candidates or otherwise participate in the electoral campaigns. Deputies were elected on a personal basis and government manipulation of the electoral machinery produced pro-government majorities. See *History* for 1940 developments.

### HISTORY

**Southern Dobruja Recovered.** Bulgaria utilized the Balkan crisis precipitated by the Soviet Government's forcible annexation of Bessarabia and Northern Bukovina from Rumania (qv) late in June, 1940, to win back Southern Dobruja, which was taken from Bulgaria by Rumania after the Second Balkan War of 1913. Under the agreement signed in Craiova, Rumania, between Rumanian and Bulgarian delegations on September 7, Bulgaria received 2982 square miles of territory with 378,344 inhabitants, including about 78,000 Rumanians. An exchange of these Rumanians for some 91,000 Bulgarians remaining under Rumanian jurisdiction was provided for.



Courtesy of New York Times

### TRANSFER OF SOUTHERN DOBRUJA

The provinces of Durostor and Caliacra forming Southern Dobruja (the striped area), restored to Bulgaria by Rumania under the treaty of Sept 7, 1940. Rumania annexed Southern Dobruja after the Second Balkan War of 1913.

The transfer was peacefully negotiated as a result of German and Italian diplomatic pressure upon Rumania, coupled with Rumania's fear that the Bulgarians would seize all of the Dobruja by force if the claim to the southern sector was not granted. Clashes between Rumanians and Bulgarians in the territory multiplied preceding the negotiations and Rumania on July 19 agreed to the formation of a mixed commission to investigate the treatment of the Bulgarians in the disputed region. Bulgarian civil officials entered Southern Dobruja on September 15 and Bulgarian troops occupied it in four stages between September 21 and 31. Compulsory exchange of minority populations was scheduled for completion within three months. Bulgaria undertook to pay Rumania a blanket sum of 450,000,000 leva as compensation for improvements made in Southern Dobruja by the Rumanians and in settlement of all other claims. Rumania agreed to pay Bulgarians in both Northern and Southern Dobruja for losses from requisitioning by the Rumanian army.

All these provisions of the transfer agreement were approved by a special session of the Bulgarian National Assembly on September 21. In a manifesto issued the same day King Boris asserted that the cession had eliminated seeds of future quarrels. However, resentment was subsequently expressed in Bulgaria at the alleged unfriendly treatment accorded Bulgarian evacuees from Northern Dobruja leaving Rumania under the population exchange agreement. Extreme nationalist circles in Bulgaria began to advocate the annexation of Northern Dobruja.

**Other Territorial Claims.** Ten days after the Dobruja treaty was signed, the Sofia press began a campaign for the satisfaction of Bulgaria's territorial claims on Greece (see *YEAR BOOK*, 1939, p. 99). Later the Sofia Government made formal representations to Athens on the matter, without securing satisfaction. The Bulgarians attempted to utilize the Italian invasion of Greece to obtain their objective. Eleven hours after the Italian invasion began, King Boris on October 28 indicated that Bulgaria was ready to abandon its previous policy of "peace and neutrality" if a favorable opportunity for intervention in Greece presented itself. This policy was balked by the Greek repulse of the Italian invasion and by warnings from Turkey and Yugoslavia that they would fulfill their obligations under the Balkan Pact and join in the military defense of Greece if Bulgaria attacked that country. The establishment of British air bases in Greece within bombing range of Bulgarian cities was another deterrent.

The question of the Bulgarian claims against Yugoslavia was allowed to lie dormant by the government pending an adjustment with Greece. However the issue was brought up in the National Assembly at Sofia early in December by a government deputy, causing a strain on Yugoslav-Bulgarian relations. The controlled press in Belgrade took the position that Bulgaria had renounced her claims in 1928 and that no discussion of the matter was possible.

**The German Menace.** The Sofia Government expressed its gratitude to the Reich for Hitler's aid in the Dobruja deal. It ardently hoped that German collaboration would enable Bulgaria to regain the lost territories from Greece and Yugoslavia in the same fashion. But it was even more desirous of avoiding the fate of Rumania, Hungary, and Slovakia, which had accepted Hitler's aid only to be-

come his vassals. Nor had it any desire to become the battleground of all the warring European nations. Consequently Bulgaria extended its close co-operation with Germany in both economic and diplomatic affairs during 1940, but withstood pressure both from Berlin and from pro-Nazi elements in Bulgaria to join the Rome-Berlin-Tokyo alliance.

During a conference with Hitler on November 17 King Boris was reported to have side-stepped the German offer of an alliance by stating that his government could not accept unless Russia also entered the Axis bloc or specifically approved Bulgaria's adhesion. Russia, however, opposed Bulgaria's entry into the Axis and Turkey on November 22 increased her military preparations along the Bulgarian frontier. The Turks threatened to enter the war if Bulgaria permitted German troops to pass through its territory to attack Greece. These dangers were enhanced by the concentration of large numbers of German troops in Rumania along the Bulgarian frontier in December. Despite a German offer of November 19 to aid Bulgaria's recovery of her former Aegean outlet, Boris and his Ministers affirmed their determination to remain neutral and to avoid the establishment of "foreign regimes" in Bulgaria. On December 26 it was reported that Boris had dismissed 27 high-ranking army officers who urged entry into the war on the side of the Axis.

Nevertheless Germany by the end of 1940 had established virtually complete economic domination of Bulgaria. On June 20 a German-Bulgarian cultural and educational convention was signed. In July several thousand Bulgarian peasants and workmen were sent to Germany to relieve the labor shortage. A new German scientific institute was opened at Sofia in October. In December a German purchasing combine contracted to purchase the unsold remainder of Bulgaria's 1939 tobacco crop plus about half the 1940 crop—a total of 40,000,000 to 50,000,000 kilograms valued at 3,000,000,000 to 4,000,000,000 leva. Numerous German officials, business men and "tourists" entered Bulgaria during the year and it was suspected that Berlin was organizing a "fifth column" to align Bulgaria with the Reich at the proper time. Significantly, it was intimated in Sofia late in December that Bulgaria would be unable to resist if German troops demanded a right-of-way through the country.

**Relations with Russia.** In its struggle to resist German domination, the Sofia Government depended primarily upon the clashing interests of Russia and Germany in the Balkans. The rapprochement between Sofia and Moscow initiated in 1939 (see *YEAR BOOK*, 1939, p. 100) was carried farther during 1940. Their collaboration was marked by the establishment of a direct Sofia-Moscow air service in January, the conclusion on January 5 of a three-year trade pact, and Soviet diplomatic support of Bulgaria in her negotiations with both Rumania and Germany. The Communist party in Bulgaria was given much more freedom than in previous years, and it used this opportunity to agitate vigorously for a Soviet-Bulgarian mutual assistance pact that would bring Bulgaria within the Soviet orbit. Such a pact was proposed to the Sofia Government by the Secretary General of the Soviet Commissariat of Foreign Affairs during a conference with King Boris on November 25. Boris rejected this proposal, as well as a Turkish move to form a neutral bloc comprising Bulgaria, Turkey, and Yugoslavia to bar further German and Soviet encroachments in the Balkans.

**British Overtures.** The British Government also made a bid to keep Bulgaria neutral. A government spokesman said in the House of Commons on November 26 that if Bulgaria did not actively or passively assist Britain's enemies, the British Government would strive to insure the integrity and independence of Bulgaria in any eventual peace settlement to which it might be a party. Previously the British Government had indicated that it approved Bulgaria's demand for the return of Southern Dobruja.

**Military Preparations.** Anticipating possible involvement in the war, the government rushed its rearmament program at full speed during 1940. The new mechanized army, equipped mainly with German and British armaments, paraded through Sofia on May 6. A bill for the compulsory military service of all men between 17 and 65 was introduced by the Minister of War on May 25. A supplementary arms appropriation of 900,000,000 leva was voted by the National Assembly September 23. Anti-aircraft equipment from Germany made its appearance in Bulgaria in large quantities in October. A number of reserve divisions were called up for active service late in the year. See above under *National Defense*.

**Internal Politics.** The parliamentary elections held in December, 1939, and January, 1940, increased the Kiosseivanov Government's strength in the National Assembly to 140 out of 160 seats. The Opposition groups retained only 20 of the 56 seats formerly held. Eleven of these new deputies were Communists. The elections were followed by the resignation of Premier Kiosseivanov, who had headed eight successive cabinets since 1935. The King accepted his resignation in order to avoid a split in the government ranks between the adherents of Kiosseivanov and Ivan Bagrianov, majority leader and Minister of Agriculture. The new ministry formed February 16 was headed by Prof. Bogdan Philov, with Ivan Popov holding the important Foreign Affairs portfolio.

The new National Assembly, composed of deputies elected as individuals from nominees hand-picked by the government, convened on February 24 and approved the King's address affirming a policy of peace and neutrality. Although controlling a large majority in the National Assembly, the government was harassed by the rapid growth of Communist influence. Communist propaganda called for a military alliance with Soviet Russia and vigorously opposed the government's pro-German policy. In response to Communist appeals, the King amnestied more than 3000 political prisoners on October 2, the 22d anniversary of his accession to the throne. The government found it necessary on December 28 to launch an intensive campaign to explain its foreign policy to the people. On December 29 Foreign Minister Popov informed parliament that Bulgaria's foreign policy would not be influenced by Communist propaganda.

The government also resisted the clamor of Nazi elements for the transformation of Bulgaria into a totalitarian State on the German model. However some steps were taken in this direction. Government pressure forced the Bulgarian Grand Lodge of Freemasons to dissolve on July 27. A decree issued October 8 barred all national and secret organizations receiving material or ideological support from abroad, placed severe restrictions upon the civil rights of Jews, and barred all anti-national propaganda. This measure was approved by the National Assembly December 20 after a stormy

debate. It was aimed in part at Communist propaganda.

A strike of industrial workers, attributed to anti-national propaganda, was broken on June 26 by an order calling the strikers to the colors. About 150 ringleaders of the strike were arrested and interned in the provinces. Labor unrest was fanned by rapidly rising prices for necessities and the introduction of rationing. This was attributed partly to a bad harvest and partly to German demands for increased shipments of foodstuffs.

See BALKAN ENTENTE; COMMUNISM; FASCISM; JEWS; LABOR CONDITIONS; and GERMANY, GREAT BRITAIN, GREECE, ITALY, RUMANIA, TURKEY, UNION OF SOVIET SOCIALIST REPUBLICS, and YUGOSLAVIA under *History*.

**BUNA.** See CHEMISTRY, INDUSTRIAL; RUBBER.

**BUND, German-American.** See DIES COMMITTEE; FASCISM.

**BUREAUS, Federal.** See under the descriptive word of each title, as CUSTOMS, BUREAU OF.

**BURIAL ASSOCIATIONS.** See CO-OPERATIVE MOVEMENT.

**BURMA.** A British dependency. Total area, 261,610 square miles comprising Burma proper, with Chin Hills and Kachin Hills Tracts (192,158 sq. mi.), Shan States (62,335 sq. mi.), and unadministered territory (7117 sq. mi.). Total population (Dec 31, 1937, estimate), 15,797,000 compared with (1931 census) 14,667,146 (84.3 per cent Buddhists, 5.2 per cent Animists, 4 per cent Mohammedans, 3.9 per cent Hindus, and 2.3 per cent Christians). Chief cities (1931 populations): Rangoon (capital), 400,415; Mandalay, 147,932; Moulmein, 65,506. Education (1938-39): 8039 recognized schools and colleges (611,938 students) and 19,020 unrecognized schools (213,295 students).

**Production and Trade.** The chief agricultural products are rice, sesamum, maize, jewar (Indian millet), cotton, beans, groundnuts, and grain. A net area of some 17,677,587 acres was sown in 1937-38. The output of rice (rough) from 12,522,900 acres in 1938-39 was 8,173,100 metric tons. Forest reserves covered 31,374 square miles and the output of teak, by lessees, during 1937-38 reached 283,857 tons. Rubber produced in 1939 totaled 7200 metric tons. Mineral production (1939), in metric tons, included petroleum 1,092,000, tin 6000 (metal content), lead 81,600 (1938), zinc, tungsten concentrates 3342 long tons, silver, rubies, jadestone, wolfram, gold, and copper. Trade (1939): imports, Rs224,640,000; exports, Rs529,200,000 (rupee averaged \$0.3328 for 1939).

**Communications.** Railways (1938-39) 2069 route miles, 4,240,394 tons of freight and 18,920,308 passengers carried. The Irrawaddy and its navigable arms form an important artery of commerce. Highways extended 10,530 miles. The Burma Road from the railroad at Lashio in northern Burma to Chungking, China, was an important avenue of supply for the Chinese in their war against Japan.

**Government.** Finance (1938-39 actual): revenue, Rs164,200,000; expenditure, Rs153,800,000. Budget (1940-41): revenue, Rs160,306,000; expenditure, Rs164,660,000. The Government of India Act provided for the separation of Burma from India on Apr. 1, 1937. Executive power is vested in a governor (appointed by the Crown) who is advised by a council of ministers of not more than 10 members. There is a legislature, having power over Burma's internal affairs, consisting of a senate of 36 members (18 elected by the house of



representatives and 18 appointed by the governor) and a house of representatives of 132 members elected by popular suffrage. Large areas in the northern and eastern hill districts were excluded from the legislature's control and placed under the jurisdiction of the governor. Col Sir Reginald Hugh Dorman-Smith was appointed Governor, Dec. 24, 1940, succeeding Sir Archibald D. Cochran.

**History.** Burma was drawn closer to the vortex of the war in eastern Asia during 1940. Japan succeeded in cutting Chinese supply routes through French Indo-China and concentrated her attention on closing the Burma Road to the Chungking Government's vital war trade. Japanese agents fanned the political and religious dissensions that had been chronic in Burma for several years (see preceding YEAR BOOKS). In January and April there were new outbreaks of large-scale rioting between Hindus and Moslems in Rangoon. The nationalist movement for immediate autonomy and eventual independence continued to harass British authorities intent upon mobilizing Burma's resources to aid the Empire's war effort. The cabinet was reorganized on January 20, Premier Maung Pu having eliminated Home Minister U Ba Pe on grounds of disloyalty. After the collapse of France in June, the British Parliament authorized the Governor of Burma to govern without reference to London in the event of the severance of communications with England.

The British Government on July 3 went a step beyond the political promises made in 1939 (see 1939 YEAR BOOK, pp 101-2) and agreed to consider dominion status for Burma when the war had been won. A representative Burman was invited to serve as one of the governor's counselors. This action was in answer to a message from Premier Pu stating that his government's policy of giving the utmost help to Britain could be fully effective only if Burma were granted the same rights as the dominions in respect to defense and foreign relations. The pledge to consider dominion status did not satisfy the extreme Burmese nationalists, who formed a "freedom bloc" under the leadership of ex-Premier Ba Maw. Dr. Maw was arrested on August 6 and sentenced on August 29 to a year's imprisonment on undisclosed charges. At Japanese instigation, the nationalist Misch movement issued a manifesto to the British governor and to the government in London demanding the stoppage of shipments of war supplies to China through Burmese territory.

The Japanese also continued to foment labor disturbances in Burma to hamper shipments to China. By pressure upon the British Government, they succeeded in closing the Burma Road from mid-July to mid-October (see CHINA, GREAT BRITAIN and JAPAN under *History*). The entrance of Japanese troops into French Indo-China also raised the danger of a Japanese military invasion. Beginning in August, the British authorities were reported to be building frontier defenses and installing anti-aircraft defenses at Lashio and other towns in northern Burma.

**BURMA ROAD.** See BURMA, CHINA, FRENCH INDO-CHINA, and JAPAN under *History*.

**BURNS.** See ACCIDENTS; MEDICINE AND SURGERY.

**BUSES.** See AUTOMOBILES; RAPID TRANSIT.

**BUSINESS REVIEW.** Industrial activity in the United States declined during the first four months of 1940, but the trend was reversed in the

latter part of the year and the volume of production rose to a new high record level in the closing months. The initial recession, which carried the revised index of industrial production of the Federal Reserve Board from 122 in January down to 111 in April, represented the usual reaction from the period of active forward buying and inventory accumulation that marked the outbreak of the European war in the fall of 1939. When it became apparent that commodity prices would remain stable and that exports to Europe were not going to increase by leaps and bounds, business men generally became more conservative and displayed a desire to cut down inventories. The German invasion of the Low Countries and the defeat of France, however, made certain the adoption of a very intensive and ambitious national defense program by the United States. By June, the initial effects of the new armaments program already became apparent in industry, many business men launching plans for new capacity and adding to inventories in anticipation of huge Government purchases. During the later months of the year, the placing of billions of dollars of Government defense contracts was the major influence on the course of business activity.

National defense expenditures during the first six months of 1940 averaged only \$145,000,000 per month. By December, such outlays had risen to \$470,000,000 for the month. By the end of 1941, according to the official estimates, national defense spending is to approach a billion dollars monthly. During the closing weeks of the year, therefore, a wide range of industries felt the stimulus not only of actual Government contracts, but of anticipatory plant construction and preparations for such contracts that were expected in 1941. The effects of the national defense program were felt not only by the numerous concerns receiving the contracts, but also by thousands of smaller enterprises that received orders as sub-contractors to provide materials and supplies for the original contractors, while many concerns with excess productive capacity were diverting their facilities to the production of armaments. Manufacturers of railway equipment, for example, took on large orders for tanks and other implements of war. The Office of Production Management and other special agencies of the Government organized during the year to foster defense production were making earnest efforts to mobilize the entire industrial capacity of the nation for defense work as far as feasible.

By the closing months of the year, industry began to reflect the impact of the huge defense program, which called for the expenditure of upwards of \$25,000,000,000, apart from the cost of aid to Britain, within a period of two years or so. The durable goods group of industries expanded their output by leaps and bounds, whereas consumer

DURABLE AND NON-DURABLE MANUFACTURES  
INDICES OF PRODUCTION

	Durable		Non Durable	
	1939	1940	1939	1940
January	98	135	104	113
February	97	124	104	110
March	96	118	104	106
April	93	113	103	107
May	90	119	104	110
June	97	131	106	114
July	101	132	106	112
August	105	135	108	112
September	114	146	111	112
October	129	150	115	116
November	133	155	117	120
December	140	164	118	123
Year	108	135	108	113

goods lines increased their output far more slowly. Because the armament orders went largely to concerns whose productive capacity was already fully employed, a huge volume of industrial construction and machinery purchases became necessary.

The effect of the defense program upon durable and non-durable goods manufacturers is shown by the preceding table, comparing indices of manufactures of each of these two classes compiled by the Board of Governors of the Federal Reserve System.

The course of industrial production during 1940, with comparisons with previous years, was reflected as follows in the revised index of the Federal Reserve Board:

#### INDEX OF INDUSTRIAL PRODUCTION FEDERAL RESERVE BOARD

*Adjusted for seasonal variations, monthly average 1935-39 = 100*

Months	1935	1936	1937	1938	1939	1940
January	83	95	116	86	102	122
February	85	92	117	84	101	116
March	85	94	120	84	101	113
April	82	99	120	82	97	111
May	82	101	121	80	97	115
June	84	103	119	81	102	121
July	84	105	120	86	104	121
August	87	107	120	90	104	121
September	89	108	115	92	113	125
October	93	109	107	95	121	129
November	94	113	95	100	124	132
December	96	116	87	101	126	137

#### *Annual Indices (unadjusted)*

1922	73	1929	110	1936	103
1923	88	1930	91	1937	113
1924	82	1931	75	1938	88
1925	91	1932	58	1939	108
1926	96	1933	69	1940	122
1927	95	1934	75		
1928	99	1935	87		

By the end of the year, the industries affected by the armament program were confronted by a basic question as to future policy. There was considerable pressure from Washington for the inauguration of ambitious construction programs to expand capacity. Congress had taken steps to encourage the expansion of armament capacity by amending the Revenue Act to permit amortization of such plant within five years through depreciation

charges against taxable income, disregarding Treasury regulations requiring the spreading of depreciation over a much longer period. However, in such industries as iron and steel it was argued that too much time would be required to construct the new productive capacity, and that the added facilities would constitute a disrupting factor when the defense emergency was over. Resort to priority rules to assure an adequate supply for defense purposes, if necessary, was held the preferable course of action in the iron and steel and other industries. As the scope of defense requirements mounted steadily, especially when a rapid increase in aid to Britain was envisaged, it became apparent that both new construction and priorities would be required in time to meet the vast armament requirements. See NATIONAL DEFENSE ADVISORY COMMISSION, RECONSTRUCTION FINANCE CORPORATION.

The course of industrial activity may be traced from the comparisons of indices for six major industries shown at the foot of this page.

**New Construction.** While residential construction expanded further during the year and approached the 1929 level in the value of contracts awarded, a far more spectacular recovery occurred in industrial and military construction. Key industries, such as aircraft, machine tool, and heavy machinery manufacture, embarked upon large-scale plant expansion programs. Also, the Government rushed work on new army cantonments, military airports, and other defense works. As a result, the total value of non-residential construction contracts by the end of the year had recovered above the 1930 level, despite the continued very restricted volume of commercial building. The Government shifted its interest from slum clearance to the provision of special defense housing, to prevent serious residential shortages in communities in which defense activities were centered. See BUILDING; CONSTRUCTION INDUSTRY.

**Iron and Steel.** Except for a dip in production during the spring and early summer months, the iron and steel industry operated close to capacity levels during 1940. The launching of the enlarged national defense program brought a new steel buying wave during the late summer and early fall,

#### INDICES OF ACTIVITY IN CHIEF INDUSTRIES

	Freight car loadings <sup>b</sup>	Iron and steel <sup>a</sup>	Bituminous coal <sup>a</sup>	Construction <sup>b</sup>	Automobiles <sup>a</sup>	Manufactured Food Products <sup>a</sup>
1929	107	135	135	117	139	101
1930	92	98	118	92	87	100
1931	74	62	96	63	62	90
1932	55	33	78	28	36	79
1933	58	55	84	25	50	83
1934	62	62	90	32	71	88
1935	64	82	94	37	102	89
1936	75	114	110	55	116	98
1937	78	123	112	59	125	103
1938	62	68	88	64	65	101
1939	70	114	99	72	93	108
1940	76	144	114	82	113	113
	1939 1940	1939 1940	1939 1940	1939 1940	1939 1940	1939 1940
January	69 78	96 147	100 119	86 75	107 129	105 112
February	67 73	93 118	95 103	73 63	102 129	104 113
March	66 69	91 106	106 109	69 62	96 120	106 113
April	60 70	86 99	37 120	67 64	88 103	106 112
May	62 72	79 118	62 122	63 64	77 101	107 112
June	67 75	94 154	97 116	63 74	86 106	108 115
July	69 75	103 156	103 121	67 85	77 87	105 110
August	70 76	111 158	108 122	73 90	84 76	111 114
September	77 77	128 164	114 119	73 93	92 109	111 110
October	80 77	161 165	123 98	76 95	96 130	109 117
November	82 83	161 166	119 112	83 103	91 133	110 116
December	78 84	167 181	106 113	86 120	121 134	112 118

<sup>a</sup> New Federal Reserve Index, 1935-39 = 100. <sup>b</sup> Federal Reserve Index, 1923-25 = 100.

and operations hovered close to capacity through the final months of the year. A good deal of productive capacity previously retired was returned to active operation, and several major concerns in the industry announced plans for the construction of new open hearth and finishing capacity. Largely due to Government opposition, the industry refrained from advancing its price structure despite the active demand for its products and some increases in costs. See IRON AND STEEL.

**Automobiles.** The expansion in purchasing power brought a sharp increase in automobile sales during 1940, so that production was higher than in any previous year except 1929 and 1937. A total of 4,692,338 cars and trucks was produced in the United States and Canada during the year, which compared with 3,732,718 units produced in 1939. Sales of 1941 model cars were stimulated by fears of price increases, possible artificial restrictions on production in 1941 due to priorities, and expectations that model changes would be few for the 1942 season, in order to permit the diversion of machine tool capacity to defense work. Automobile plants took on a growing volume of defense business late in the year. The Packard Motor Car Company undertook to produce the Rolls-Royce aircraft engine for both the United States and British Governments, while the General Motors Corporation perfected its liquid-cooled Allison engine and also embarked upon other defense work. See AUTOMOBILES.

**Other Industries.** A number of other industries felt the stimulus of the national defense pro-

gram. The demand for lumber increased sharply, chiefly for cantonment construction, and cotton and woolen mills received large orders from the armed services.

Consumer goods industries that were not recipients of defense orders showed smaller increases in production. The table in the preceding column compares the output of a number of industries for 1940, as compared with 1939.

**Minerals.** Mineral production was stepped up sharply during the later months of the year because of the national defense program. This was particularly true of metals, in view of the major role they play in armament manufacture. The Government imposed licensing requirements upon exports of a number of metals, both to conserve supplies for domestic needs and to prevent the flow of strategic materials to the Axis countries.

Domestic consumption of petroleum and its products increased to a new record level during the year, but exports were lower. The industry assured the defense authorities of its ability to produce all the petroleum products needed for the defense program, including greatly increased quantities of aviation gasoline that were to be produced with the aid of new facilities that the industry was constructing for this purpose.

The Reconstruction Finance Corporation (q v) undertook to finance the building up of substantial stocks of strategic imported metals within the United States. The Metals Reserve Company, established for this purpose, acquired large stock piles of tin from the Far East, copper from Chile and other Latin American producing countries, and manganese from Cuba and other available sources.

Indices of domestic minerals production computed by the Federal Reserve Board compared during 1939 and 1940 as shown in the table at the foot of this page. (See also COAL, IRON, ETC.)

**Wholesale and Retail Trade.** The volume of distribution increased to an all-time record level in terms of physical volume, but not dollar value, during 1940. This reflected the rise in national income due to increased armament spending and industrial activity. Moderate increases occurred also in farm income (see AGRICULTURE) and distri-

#### PRODUCTION IN LEADING INDUSTRIES

	1939	1940
Flour milling, <sup>a</sup> (1,000 bbl)	103,674	110,316
Cotton Textiles <sup>b</sup>		
Cotton used, (1,000 bales)	7,167	8,038
Spindle Activity, (million spindle hours)	92,500	98,183
Petroleum Refining, output <sup>c</sup>		
Gasoline, (1,000 bbl)	611,043	611,359
Fuel Oil, (1,000 bbl)	305,944	316,218
Tire Production, <sup>d</sup> (1,000 units)	57,613	59,353
Paint Sales, <sup>e</sup> (\$1,000)	379,277	396,623
Shoes <sup>f</sup>		
Production, (1,000 pairs)	424,136	398,766
Average Price	\$1.75	\$1.85
Tobacco Production <sup>g</sup>		
Cigarettes, (billions)	172.4	180.7
Manufactured Tobacco (million lb)	302.8	304.3
Copper Refining, from domestic Ore, <sup>h</sup> (tons)	818,289	1,013,710
Furniture Production, <sup>i</sup> value, (\$1,000)	405,000	450,000
Motion Pictures, <sup>j</sup> cost of production (\$1,000)	165,000	160,000
Number of features	455	530
Radio, Net Sales, <sup>k</sup> (1,000 sets)	10,538	11,600
Value, (\$1,000)	337,000	400,000

<sup>a</sup> Russell-Pearshall, <sup>b</sup> U.S. Bureau of Census, <sup>c</sup> U.S. Bureau of Mines, <sup>d</sup> Rubber Manufacturers Association, <sup>e</sup> U.S. Department of Commerce, <sup>f</sup> Tanners Council, <sup>g</sup> U.S. Treasury, collections report, <sup>h</sup> Copper Institute, <sup>i</sup> Seidman & Seidman-Furniture Industry, <sup>j</sup> Film Daily Yearbook, <sup>k</sup> Radio Today

#### MONTHLY INCOME PAYMENTS\*

		[Million Dollars]			
	1939	1940		1939	1940
January	5,703	6,093	July	5,695	6,103
February	5,247	5,604	August	5,400	5,787
March	5,727	5,987	September	6,010	6,467
April	5,654	5,965	October	6,195	6,680
May	5,432	5,689	November	5,804	6,231
June	5,918	6,288	December	6,890	7,367
			Year	70,100	74,300

#### INDICES OF MINERAL PRODUCTION\*

	Bituminous Coal		Anthracite Coal		Crude Petroleum		Iron Ore		Zinc		Lead		Copper	
	1939	1940	1939	1940	1939	1940	1939	1940	1939	1940	1939	1940	1939	1940
January	100	119	103	111	105	116	60	132	101	119	114	114	113	147
February	95	103	96	78	105	118	68	142	100	130	106	116	108	140
March	106	109	78	84	106	120	77	151	100	124	98	117	97	141
April	37	120	124	83	108	118	79	149	100	123	95	118	98	144
May	62	122	107	82	108	116	85	152	98	119	104	124	98	143
June	97	116	89	113	109	116	98	155	96	118	102	117	102	143
July	103	121	90	129	112	114	102	159	98	129	102	120	103	150
August	108	122	115	112	79	108	108	159	100	125	108	117		144
September	114	119	120	105	112	114	119	155	104	131	107	108		132
October	123	98	112	91	116	115	133	157	116	131	111	119		140
November	119	112	97	94	120	115	155	180	127	134	109	107		141
December	106	113	88	105	118	109	122	169	130	135	112	112		141
Year	99	115	101	99	108	115	112	155	106	126	106	116		142

\* New Federal Reserve Index.

butions of profits by corporations. Estimates of monthly income, prepared by the Department of Commerce, compared with those of 1939 are shown in the table on page 101.

Department store sales during the year averaged 4.4 per cent higher than in 1939. The Federal Reserve Board's indices of department store sales and inventories compared as follows with those of the preceding year:

#### INDICES OF MONTHLY DEPARTMENT STORE SALES AND STOCKS

[1923-25 = 100, adjusted for seasonal variation]

	1939		1940	
	Sales	Stocks	Sales	Stocks
January	88	67	92	68
February	87	68	90	71
March	88	68	89	70
April	88	67	89	69
May	85	66	89	68
June	86	67	91	67
July	86	67	92	68
August	89	67	98	69
September	91	68	97	70
October	90	69	94	71
November	95	71	100	72
December	96	68	101	71
Year	90	68	94	69

**Commodity Prices.** Commodity prices declined slowly during the early months of the year, when the disappointing level of exports to the belligerent countries and a desire to reduce inventories led to a curtailment of current buying. The sweep of the German armies across western Europe brought a sharp decline during the summer months, by which time the bulge in the price level incident to the outbreak of the war had been virtually wiped out. The imminent defeat of Great Britain expected at that time occasioned special caution among purchasers in primary markets, as the end of the war was expected to bring a sharp drop in exports, a flood of imports, and a severe downward readjustment in prices of those commodities, trade in which had been disrupted by the conflict. When it became evident that the war would be prolonged, however, and the American defense effort got under way, the price level stiffened and retraced all the ground lost during the first six months in the closing weeks of the year.

Agricultural prices were stabilized through loans made by the Commodity Credit Corporation (q v) to farmers. Owing to the national elections, there was a tendency to liberalize these loans, particularly in the case of corn. The higher corn loan, in turn, led to a curtailment of livestock production and strength in meat prices late in the year.

A major factor tending to stabilize prices of manufactured goods was the activity of the price stabilization division of the Advisory Commission to the Council on National Defense. Leon Henderson, head of this division, repeatedly intervened to discourage price increases in strategic industries. When prices rose in the pulp and paper industry, Mr. Henderson issued a report on prospective supply and demand which halted the rise. Threats of action under the anti-trust laws also were made repeatedly by Mr. Henderson and other Government spokesmen. As time wore on, the Government adopted an increasingly firm attitude in opposing price increases, finally going so far as to threaten price fixing and the taking over of needed supplies at fixed prices under the authority given by the Selective Service Act. Industrialists generally showed a readiness to co-operate with the Government in keeping prices stable, recognizing the danger of a

repetition of the World War spiral of price and wage increases, but insisted that a measure of flexibility should be retained for the price structure to cover circumstances where unavoidable advances in costs made individual increases necessary. At the same time, business men warned that should sweeping wage increases occur, such as those urged by a number of C I O union leaders, it would not be possible to avoid price increases for many products, regardless of the attitude adopted by the Government. Also, the adoption of defense priorities in major industries was expected to produce price increases because of competitive bidding among non-defense consumers for the limited supplies that would then remain available for them.

The index of wholesale prices of the Bureau of Labor Statistics fluctuated as follows during the year:

#### WHOLESALE PRICE MOVEMENT

[1926 = 100]

	Combined Index	Farm Products	Foods	Other Commodities
1929	95.3	104.9	99.9	91.6
1930	86.4	88.3	90.5	85.2
1931	73.0	64.8	74.6	75.0
1932	64.8	48.2	61.0	70.2
1933	65.9	51.4	60.5	71.2
1934	74.9	65.3	70.5	78.4
1935	80.0	78.8	83.7	77.9
1936	80.8	80.9	82.1	79.6
1937	86.3	86.4	85.5	85.3
1938	78.6	68.5	73.6	81.7
1939	77.1	65.3	70.4	81.3

	Combined Index 1939	1940	Farm products only 1939	1940
January	76.9	79.4	67.2	69.1
February	76.9	78.7	67.2	68.7
March	76.7	78.4	65.8	67.9
April	76.2	78.6	63.7	69.4
May	76.2	78.4	63.7	67.9
June	75.6	77.5	62.4	66.2
July	75.4	77.7	62.6	66.5
August	75.0	77.4	61.0	65.6
September	79.1	78.0	68.7	66.2
October	79.4	78.7	67.1	66.4
November	79.2	79.6	67.3	68.2
December	79.2	80.0	67.6	69.7
Year	77.1	78.6	65.3	67.7

#### MAJOR WHOLESALE COMMODITY PRICES\*

[End of December]

	1939	1940
Wheat, #2 hard, K City, bu	\$ 1.00	\$ 0.84½
Beef, Steers, cwt	14.50	18.00
Pork loins, cwt	12.00	14.50
Butter, 92 score, cwt	30	33
Potatoes, Long Island, cwt *	1.80	.75
Sugar, raw, cwt	2.80	2.90
Cotton, ¾", middling, lb	11.36	10.43
Wool, territory, lb **	1.04	1.08
Silk, raw, lb	4.50	1.99
Rubber, sheets, lb	15½	20½
Hides, light native, lb ***	19	13½
Coal, bituminous, ton	2.60	2.50
Petroleum, crude, bbl ****	1.02	1.02
Southern pine, 1,000 bd ft *****	25.16	32.54
Linseed Oil, lb	.108	.088
Copper, electrolytic, lb	.12½	.12
Zinc, E. St. Louis, lb	.057½	.07½
Lead, pig, lb	.055	.055
Pig Iron, basic, ton	22.50	22.50
Steel sheets, cwt *****	1.95	2.10
Sulphuric acid, ton	16.50	16.50
Print Cloths, 38½", 64 × 60, yd	.05½	.05½

\* Journal of Commerce, basis New York unless otherwise indicated.

• Average \*\* Boston \*\*\* Chicago \*\*\*\* Kansas—Oklahoma  
\*\*\*\*\* Kansas City \*\*\*\*\* Pittsburgh

Retail prices held reasonably stable during the year, although moderate advances occurred in clothing and certain other items in the later months.

Labor union leaders recognized that the cost of living, remaining little changed, did not justify increases in wages, and based their demands rather upon increased productivity per man-hour and larger reported profits.

The movement of major groups of retail prices during 1940, compared with 1939, was as follows, according to the cost of living indices compiled by the National Industrial Conference Board:

## INDICES OF RETAIL PRICES

[1923 = 100]

Mon.	Food <sup>a</sup>		Clothing		Fuel and Light		Total Cost of Living <sup>a</sup>	
	1939	1940	1939	1940	1939	1940	1939	1940
Jan	77.1	76.3	72.7	73.0	85.9	85.8	84.7	84.6
Feb	76.3	77.8	72.4	73.2	85.9	86.0	84.4	85.1
March	76.1	76.9	72.3	73.2	85.8	85.8	84.3	84.8
April	75.8	77.4	72.2	73.2	85.2	85.4	84.2	85.0
May	75.7	78.1	72.1	73.1	84.0	84.1	84.1	85.2
June	75.3	79.1	72.0	73.1	83.4	84.2	83.8	85.5
July	75.9	78.4	71.9	73.1	83.8	84.5	84.2	85.4
Aug	75.3	77.4	71.9	73.0	84.0	84.8	84.0	85.1
Sept	79.2	78.2	72.2	73.1	84.4	85.3	85.4	85.6
Oct	78.6	77.4	72.6	73.1	85.2	85.9	85.3	85.5
Nov	77.8	77.2	72.9	73.1	85.6	86.3	85.1	85.5
Dec	76.4	78.2	72.9	73.0	85.6	86.5	84.6	85.8
Year	76.6	77.7	72.3	73.1	84.9	85.4	84.5	85.3

<sup>a</sup> Revised series, based on U S Department of Labor on 1935-39 = 100 basis

**Industrial Earnings.** The increased volume of sales produced larger profits in most industries, particularly those concerned with the manufacture of producers' goods and armaments. While there was some tendency for wage costs to rise, particularly because of greater resort to overtime work, the larger volume of production permitted an offsetting cut in unit costs. However, the two revenue acts of 1940 brought about a sharp increase in the normal corporate income tax and the imposition of an excess profits tax which cut sharply into the earnings of many concerns directly affected by the armament program. As a result, earnings in many cases did not come fully up to expectations in the final quarter of the year, except in the case of such industries as railroads and iron and steel manufacture which, because of their large investment in fixed plant, were not as hard-hit by the excess profits tax as others. The public utilities and many consumer goods enterprises, moreover, suffered a decline in net income for the year because, while receiving little direct benefit from the armament program, they were comparatively vulnerable in many instances to higher corporate income and excess profits taxes.

**Commercial Failures.** The high level of business activity again held commercial failures down to relatively low levels. The number of failures and the liabilities involved compared as follows during 1940 and the preceding year:

## COMMERCIAL FAILURES • BY DIVISIONS OF INDUSTRY

Industry	Number		Current Liabilities (thousands of dollars)	
	1939	1940	1939	1940
Manufacturing	2,919	2,621	71,152	67,585
Wholesale Trade	1,534	1,316	23,942	20,405
Retail Trade	9,050	8,329	67,378	57,329
Construction	646	760	11,031	13,311
Commercial Services	619	593	9,017	8,054
Total	14,768	13,619	182,520	166,684

<sup>a</sup> Dun & Bradstreet

Some progress was made during the year toward consummating the many railroad reorganizations that have been pending for years, but, owing to the

complicated procedure involved, only one, the Chicago & Eastern Illinois Railway, was brought to actual completion by the end of 1940. See RAILWAYS. Progress on public utility holding company simplifications and integrations under the provisions of the Public Utility Holding Company Act of 1935 also was quite slow, particularly because of the increasingly strict stand taken by the Securities and Exchange Commission in passing upon all proposals for conforming with the law emanating from public utility holding companies. Despite many requests from the public utility industry that the application of the Public Utility Holding Company Act of 1935 be suspended during the duration of the defense emergency, to avoid interference with the expansion of power capacity, the SEC insisted upon proceeding with the enforcement of this law and favoring the most strict interpretation of the obscure provisions governing geographical integration of operating subsidiaries of holding companies.

**World Business Trends.** The war brought sweeping changes in business conditions outside the United States also. The continent of Europe was virtually cut off from intercourse with the outside world by the British blockade. Most of the continent became an armed camp, suffering from shortages of foodstuffs and other raw materials and organized chiefly for the production of war supplies for the German military machine. In Great Britain, the more effective German attacks on British shipping and the air raids forced stricter rationing of foodstuffs and other consumers' goods, while every effort was made to maintain military production at a maximum. By the end of the year, however, it became apparent that Britain could continue to fight effectively only with the help of the United States, for liquid resources were rapidly depleted. Efforts were made also to expand arms production in British Empire countries, but owing to their limited previous industrialization only a bare start could be made in this direction.

Japan suffered a further decline in living standards, as the drain of the war with China and restrictions on trade with the United States added to the economic burdens on that country.

The vast cost of the war produced conditions favorable to commodity price inflation in a number of European countries. In France and other countries occupied partly or wholly by Germany, the heavy costs of military occupation were being paid for largely by paper money emissions, which made for price increases despite strict control measures imposed by the government. In Great Britain also the enormous cost of the war was being financed in part by the sale of bonds to the banks, laying the basis for inflationary price increases later. In Italy and Japan similarly, there was a marked tendency for commodity prices to rise despite rigid control measures adopted by the government, owing to the expansion of purchasing power through enormous government spending.

The loss of the continental European market and the need for Great Britain to conserve her rapidly dwindling foreign exchange resources imposed a serious burden upon Latin America. Exports of these countries declined, while they were forced to turn to the United States for many manufactured products formerly purchased in Europe. As a result, their trade balances with the United States became highly adverse, and it became necessary to impose new import restrictions and, in the case of Argentina particularly, there was a considerable

loss of gold to this country. The United States, as part of its hemisphere defense policy, offered to aid Latin American nations during the emergency, and made loans to several countries through the Export-Import Bank (q.v.) and the Stabilization Fund. Consideration was given to the formation of a hemisphere cartel which would store commodities produced in the western hemisphere and sell them abroad whenever feasible, the storage of these products being financed by the United States in the interim. This project was strongly opposed by commercial banks and others who charged that it was tantamount to the adoption of totalitarian trade methods before the need for them had been demonstrated. A measure of relief was given to Latin America by United States purchases of various products for strategic reserves.

Active consideration was given in official circles to far-reaching measures for expanding trade between the United States and other western hemisphere countries, so that the latter would become less dependent upon European outlets, particularly in the event of a German victory and the consequent prospective utilization of economic dependence by the Axis powers to effect political penetration. However, little concrete progress on such a program was registered in 1940.

A review of the agricultural situation is to be found under AGRICULTURE and of labor under LABOR CONDITIONS. See BANKS AND BANKING, COMMODITY EXCHANGE ADMINISTRATION; FINANCIAL REVIEW; LIVING COSTS, MANUFACTURES, CENSUS OF; MARKETING; TRADE, FOREIGN, and separate articles on the branches of industry, as ELECTRICAL INDUSTRIES, GARMENT INDUSTRY, INSURANCE, RAILWAYS.

JULES I. BOGEN.

**BUSINESS SCHOOLS.** See SCHOOLS.

**BUTTER AND BUTTERFAT.** See DAIRY-ING.

**BYELO RUSSIAN SOVIET SOCIALIST REPUBLIC.** Same as WHITE RUSSIAN SOVIET SOCIALIST REPUBLIC.

**CAA.** Civil Aeronautics Authority. See AERONAUTICS.

**CABINET, U.S.** See UNITED STATES under Administration.

**CADMIUM.** This by-product of zinc smelting was priced at 80¢ per lb throughout 1940, compared with an average of about 60¢ per lb in 1939. The principal uses of the metal are in bearings, batteries for submarines, plated hardware, and as pigments in red and yellow lithopones. The importance of Mexican production of cadmium in the United States market was demonstrated in 1940 by the labor strike in Mexico.

H. C. PARMELEE.

**CALIFORNIA.** Area, 158,297 square miles, including (1930) water, 2645 square miles. Population, April 1, 1940 (census), 6,907,387, 1930, 5,677,251. Sacramento, the capital (1940), 105,958; Los Angeles, 1,504,277; San Francisco, 634,536; Oakland, 302,163. California's gain in population (1930-40) came to 21.7 per cent, a rate surpassed in but two States, Florida and New Mexico. Los Angeles gained, in the decade, 258,744 inhabitants, a greater number than any other city in the Union, save New York.

**Agriculture.** The harvest of 1940 covered 5,755,000 acres of California's main field crops; but this did not include acreage in orchards and

vineyards, the sources of much of the agricultural return. The year's indicated crop of oranges, 48,-287,000 boxes, was estimated as having a value, to the growers, of \$49,010,000. Lemons yielded about 13,430,000 boxes (estimated at \$18,936,000), grapes, 2,186,000 tons (\$33,986,000); peaches, 22,418,000 bu (\$11,609,000); pears, 9,543,000 bu. (\$5,426,000). Among field crops, tame hay, on 1,565,000 acres, made 4,657,000 tons (\$37,256,000); cotton, on 348,000 acres, with a large average yield of 723 lb to the acre, the Union's highest for 1940, produced 525,000 bales (\$25,462,000); barley, 1,197,000 acres, 33,516,000 bu. (\$12,401,000); potatoes, 75,000 acres, 22,740,000 bu. (\$16,900,000); dry beans, 374,000 acres, 5,492,000 100-lb bags (\$17,216,000); wheat, 758,000 acres, 11,370,000 bu. (\$8,755,000); rice, 118,000 acres, 8,968,000 bu. (\$5,560,000); sugar beets, 173,000 acres, 2,791,000 tons (the crop of the previous year had a farm value of \$13,346,000). The value of truck crops for 1940, combined, attained \$84,811,000.

**Mineral Production.** California's yearly production of native minerals, as given in the *Minerals Year Book* of 1940, totaled \$489,948,802 for 1938. Petroleum, natural gas, and gasoline derived from natural gas furnished nearly four-fifths of this total, gold made up much of the remainder; cement, clay products, and borates also counted as considerable factors.

The yield of the petroleum wells declined to 224,354,000 bbl approximately, for 1939, from 249,749,000 (value, \$257,250,000) for 1938. The drop was attended by a diminution of the export market, but a stronger domestic demand offset this and cut into the stock of petroleum on hand. Efforts at effectual curtailment of output continued despite a popular vote against a measure for compulsory regulation. The production of the great Kettleman Hills district dropped, for 1939, by some 6,000,000 bbl, but four new fields were discovered in Kern and Fresno counties. The yield of natural gas, 370 billion cu ft, almost equaled that of 1938. Of 1938's total, 315,168 million cu ft was delivered to consumers and was valued at \$88,225,000 at points of consumption. Gasoline extracted from natural gas attained 606,631,000 gal for 1939, as against 660,890,000 (value, \$41,085,000) for 1938. Producers' shipments of cement rose to 11,293,989 bbl (\$15,889,395) for 1939, from 10,539,010 bbl (\$15,689,210) for 1938. Clay products (except pottery and refractories) totaled \$6,636,860 for 1938. The output of borates (including a small component from Nevada) rose to 249,976 short tons (\$5,882,302) for 1939, from 219,513 tons (\$4,570,316) for 1938. A well dug for petroleum, near Brawley, struck in November, 1940, a huge initial flow of 1,000,000 cu ft a day of carbon dioxide gas.

The production of gold, silver, copper, lead, and zinc was valued at \$52,528,081 for 1940 and \$52,918,012 for 1939. Approximate totals for output and value (each with definite totals for 1939 subjoined) were: Gold, 1,408,700 oz (1,435,264 oz), \$49,304,500 (\$50,234,240); silver, 2,235,000 oz (2,599,139 oz), \$1,589,333 (\$1,764,264); copper, 13,366,000 lb (8,360,000 lb), \$1,510,358 (\$869,440).

**Manufacturing.** Yearly production of manufactured goods in California totaled \$2,796,221,903 for 1939; \$2,899,865,426 for 1937. Other totals for 1939 (each with that for 1937 subjoined) - 12,329 (10,861) manufacturing establishments employed 275,477 (302,189) persons for wages of \$365,110,474 (\$389,132,068), paid for materials, etc., and

contract work \$1,654,318,758 (\$1,808,268,678), and added to material, by process of manufacture, \$1,141,903,145 (\$1,091,596,748).

**History.** The Legislature held a succession of sessions in 1940, mainly by reason of Governor Olson's efforts to wear down its opposition to his demands for poor-aid on what the economizers thought a too liberal scale. The first special session voted \$12,200,000 as a supplementary appropriation to meet the need for the next three months, this fell far short of what Olson wanted, and he vetoed the bill. It was promptly enacted (February 23) over his veto. One of the act's secondary provisions set a top to the State's doles, at \$58 a month for a family; another, after the manner of the Federal Hatch Act, prohibited certain abuses of political activity. The appropriation's insufficiency for the scale of spending necessitated cuts in the dispensations to the 370,000 dependents on poor-aid and reduction in the number of the State Relief Administration's force of 6500. Another enactment of this session made changes in the law on taxation of gifts and inheritances, rendering the wife's share, transferred to the husband, taxable, as well as (under previous law) the transfer of the husband's share to the wife. A second special session met on May 2 and voted about \$25,000,000 to supply poor-aid for ten months. The year's third special session convened on September 14, to add a relatively small sum for the same purpose and to give statutory authorization to a State Council of Defense, already created by the Governor, for furthering Federal defensive preparations. Another enactment excluded candidates of the Communist party from the ballot.

The Legislature's resistance to Olson's demands for more appropriations toward poor-aid reflected a widespread dread of additional taxation and a suspicion that the dispensations were serving political uses. A movement to initiate by popular petition a vote for the recall of the Governor was carried on in the earlier part of the year. A Legislative committee spent months investigating suspected abuses in the operation and personnel of the State Relief Administration. Among the results of this investigation was the discharge of 18 State relief employees for refusal to tell whether they were Communists. Relations between the Legislature and the Governor were further impaired by the discovery that a dictograph had been secretly set, in February, so as to divulge talk, at Sacramento, in the hotel rooms of Speaker Garland of the Assembly, investigation by special committee of the Assembly led to the resignation of State Motor Vehicle Director Howard R. Philbrick, who assumed responsibility for the attempted espionage. Olson denied all personal knowledge of the dictograph intrigue. M. Stanley Mosk, executive Secretary to the Governor, reportedly signed a check for \$236, out of the Governor's secret-service fund, to the order of a concern called Sound Laboratories, and this check was allegedly cashed, upon Philbrick's assurance, by the hotel, the cash being paid to a public employee, who hired the room where the receiving end of the dictograph was installed. Lieut.-Col. C. F. Henderson, a member of the Governor's staff, reportedly admitted providing a sound-machine.

Governor Olson changed the membership of the State Board of Prison Directors; acting on a disclosure that 41 prisoners at San Quentin State Prison had been flogged in March, 1939, and on his own subsequent investigation, he rid the Board

of all but one of its members and filled the vacancies with his own appointees. These soon disagreed on the penal policy and two of them demanded in September the resignation of a third.

Parts of the State remained beset by troubles with pauper migrants, disturbances in the field of organized labor, heavy costs of poor-aid, and Communist and other ultra-liberal activity. The U. S. Supreme Court held, April 22, that Shasta County's ordinance to restrain picketing in strikes—one of similar ordinances in numerous agricultural counties—clashed with the Constitutional right of free speech and was invalid; this affected labor on the Shasta Dam, where members of the A. F. L. were engaged on work sought by members of the C. I. O. A strike of ship clerks started late in 1939, ended on Jan. 3, 1940, in an agreement to negotiate a limited list of issues with employers, the strike had interrupted shipping for 54 days and caused great loss in business. The recipients of poor-aid, totaling over 100,000 "cases," conducted widespread public demonstrations in March, against the Legislature's failure to make on their behalf the full appropriations demanded by the Governor. Machinery coming into use in wide variety—for topping and harvesting sugar beets, cracking nuts, picking hops, and performing other former manual operations—threatened to cut down the need for the largely unionized farm labor in the State. The San Francisco salmon-packers announced, May 4, the abandonment of the summer's Alaskan fishing in Bristol Bay, they had failed to reach an agreement with the Alaska Fishermen's Union. The Associated Farmers continued under investigation by the LaFollette Committee of the U. S. Senate, which brought to view the organization's receipt of support from chambers of commerce, railroads, and canning interests and its devices for circumventing labor-leaders' plans (as by Mendocino County's ordinance for the licensing of labor unions). Though much investigated, the Associated Farmers remained in great measure the masters of the agricultural labor situation; they had the firm adherence of farmers who had seen their own or their neighbors' perishable crops spoil while organized workers failed to handle them.

Concurrent floods of the Sacramento and San Joaquin rivers at the end of February did damage said to approach \$10,000,000. An earthquake in the Imperial Valley, May 19, killed seven persons, injured about 100, and did damage put at \$2,000,000. See **FLOODS, RECLAMATION, BUREAU OF**.

**Decisions in the Six Labor Cases.** The State Supreme Court (October 14) overthrew in a number of points the State's labor code and divers local laws, as previously enforced or interpreted, its decision, supported by a majority of four, opposed by three members, granted contentions of labor unions that had appealed from lower courts in six cases. The opinion (by Justice Douglas L. Edmonds) indicated that the Court had to follow principles laid down by the U. S. Supreme Court in recent decisions. See also **SUPREME COURT, under Amendment XIV**.

**San Francisco.** The U. S. Supreme Court ruled against San Francisco (April 22) in a suit brought to settle the Secretary of the Interior's proceedings against the city's contract with the Pacific Gas and Electric Company for the commercial distribution of electric current from the city's Hetch Hetchy water system (See **SUPREME COURT, under Public Domain**.) A plan that sought to give the system of distribution more of the municipal

character, yet to preserve the company's services as far as possible and to avoid the need for municipal outlay in acquiring the needed distributing facilities was presented to Ickes on October 1, later on the city prepared to rent from the company its facilities for distributing electricity, under an arrangement said to satisfy Ickes.

The Golden Gate Exposition, despite receipts short of costs in 1939, reopened in May, 1940. Its second season brought substantial further attendance and returns, greatly helping to meet the total expense of the enterprise (see FAIRS) The city issued \$945,000 of bonds in June for the development of airport facilities. The affairs of a number of bridges, interurban railroads, and ferries running over the waters near San Francisco were in course of adjustment the Golden Gate ferries ceased profitless competition with the great bridge over their route and quit operation to Oakland, May 16; the Southern and the Interurban Railway companies took proceedings for the abandonment of electric lines serving surrounding communities such as Berkeley; a plan for the reorganization of the San Francisco Bay Toll Bridge Company, owning and operating the structure between San Mateo and Hayward, was condemned by the Federal Securities and Exchange Commission on the ground that proposed bonded debt greatly exceeded the property's going value and prospects The California Toll Bridge Authority purchased the Carquinez and Antioch bridges, issuing therefor \$6,444,000 of revenue bonds at low interest and designing to do away with the toll charges in seven years San Francisco's Funston Avenue approach to the Golden Gate Bridge, made at a cost of \$1,500,000 and giving access to the westerly parts of the city, was opened on April 1

San Francisco's relative freedom from strikes in 1940 was credited to the Employers' Council, a collective bargaining group

**Los Angeles.** The persistent contest of the Los Angeles Times against its conviction of contempt of court for editorial criticisms of justice dealt in some Californian courts was carried to the U S Supreme Court after the State Supreme Court had sustained the original conviction The case aroused general interest in the world of journalism, as one involving the constitutionally assured freedom of the press The questioned editorials, "Sit-Strikers Convicted," "Probation for Gorillas," and "The Fall of an ex-Queen" were charged with tending to interfere with the administration of justice

After nearly 16 years of litigation the Standard Oil Company of California paid the Federal Government \$7,138,297 and resigned control of 1232 acres valued at \$20,000,000 or more, in accordance with U S District Judge Yankwich's decision on the parties' rights in the Elk Hills petroleum field

See PORTS AND HARBORS; WATERWORKS

**Elections.** At the general election (November 5) the popular vote cast for Roosevelt (Dem.), 1,877,618, and Willkie (Rep.), 1,351,419, approximated the ratio of ten to seven; the Republican minority cast about 60 per cent more votes than in 1936. U.S. Senator Hiram Johnson was re-elected as candidate of both parties. The Democrats kept a bare majority of the State's U.S. Representatives, losing a seat that they had won in 1938 Among eight propositions adopted by the popular vote were laws doing away with pledges of property, etc., given to assure old-age assistance to persons not wholly destitute of the means of support, giving the Legislature more powers to legislate

for the government of institutions for felons; and permitting the State to own shares in mutual water companies, under particular circumstances.

**Officers.** California's chief officers, serving in 1940, were: Governor, Culbert L. Olson (Dem.), Lieutenant Governor, Ellis E. Patterson; Secretary of State, Paul Peek; Treasurer, Charles G. Johnson; Comptroller, Harry B. Riley; Attorney General, Earl Warren, Superintendent of Public Instruction, Walter F. Dexter.

**CAMBODIA.** See FRENCH INDO-CHINA.

**CAMERAS.** See PHOTOGRAPHY.

**CAMEROON, French.** A West African territory, part of the former German protectorate of Kamerun, confirmed as a mandate of France by the League of Nations in 1922 Area, 162,934 square miles; population (Jan. 1, 1938, estimate), 2,516,623. Capital, Yaoundé (20,000 inhabitants) The main products are groundnuts, maize, palm and palm-kernel oil, cacao, gold, diamonds, hides, timber, and ivory. Livestock (1939) 900,000 oxen, 25,000 asses Communications 3105 miles of roads, 314 miles of railways. Trade (1938) imports, 215,212,000 francs, exports, 251,959,000 francs Budget (1938) revenue, 139,439,747 francs; expenditure, 118,328,574 francs (franc averaged \$0.0288 for 1938) High Commissioner, Henri Brunot

**History.** With the apparent support of both the European and native population, High Commissioner Brunot aligned French Cameroon behind Gen Charles de Gaulle's "Free French" movement late in August, 1940 An order from the Vichy Government dismissing him from his post was ignored See FRANCE under History, EUROPEAN WAR under Effects of the Fall of France

**CAMEROONS, British.** A British mandated territory in western Africa Area, 34,081 square miles; population (1938), 831,103 The important products are palm kernels, palm oil, cocoa, rubber, and bananas Trade (1938) imports, £296,520, exports, £337,694 Finance (1938) £100,249 for revenue and £188,427 for expenditure During 1938 some 421 vessels aggregating 570,632 tons entered and cleared the ports of Victoria and Tiko The territory is attached to various provinces of Nigeria Administrator, the Governor of Nigeria.

**CANADA.** A Dominion of the British Commonwealth of Nations, comprising nine provinces and two territories (See separate articles on the provinces and territories.) Capital, Ottawa.

**Area and Population.** The land area, the census population of June 1, 1931, and the estimated population on June 1, 1939, are shown by provinces and territories in the accompanying table.

AREA AND POPULATION OF CANADA

Provinces and Territories	Land Area, sq miles	Population	
		1931	1939
Prince Edward Island	2,184	88,038	95,000
Nova Scotia	20,743	512,846	554,000
New Brunswick	27,473	408,219	451,000
Quebec	523,534	2,874,255	3,210,000
Ontario	363,282	3,431,683	3,752,000
Manitoba	219,721	700,139	727,000
Saskatchewan	237,975	921,785	949,000
Alberta	248,800	731,605	789,000
British Columbia	359,279	694,263	774,000
Yukon Territory	205,346	4,230	4,000
Northwest Territories	1,258,217	9,723	10,000
Total	3,466,556	10,376,786	11,315,000

The total estimated population on June 1, 1940, was 11,422,000. The Indian population in 1931 was



122,920. Of the white population in 1931, 5,381,071 were of British origin (English, 2,741,419; Scottish, 1,346,350; Irish, 1,230,808; other, 62,494) and 2,927,990 of French origin.

In 1931, 4,804,728 inhabitants resided in rural districts and 5,572,058 in urban communities. Populations of the chief cities in 1931 were: Montreal, 818,577 (1,294,792 in 1940); Toronto, 631,207 (648,309 in 1938); Vancouver, 246,593; Winnipeg, 218,785 (215,814 in 1936); Hamilton, 155,547, Quebec, 130,594; Ottawa, 126,872; Calgary, 83,761 (83,407 in 1936); Edmonton, 79,197 (85,774 in 1936); London, 71,148; Windsor, 63,108, Verdun, 60,745 (64,144 in 1939); Halifax, 59,275; Regina, 53,209 (53,354 in 1936); Saint John, 47,514; Saskatoon, 43,291 (41,734 in 1936).

Immigrants entering in Canada during 1939 numbered 16,994, of whom 5649 came from the United States, 3544 from the United Kingdom, and 7801 from other countries. Living births in 1939 numbered 229,063 (203 per 1000); deaths, 108,874 (9.6 per 1000); marriages, 103,608 (9.2 per 1000). The 1939 birth rate was highest in the province of New Brunswick (25 per 1000) and lowest in British Columbia (15.9 per 1000).

**Education and Religion.** Illiteracy rate, 1931 census, 7.2 per cent of all over five years of age. Of 2,502,510 pupils enrolled in educational institutions in 1937-38, 2,251,711 were in provincially controlled schools, 118,560 in privately controlled schools, 46,818 in courses of university standard, 20,847 in university and college preparatory courses, and 45,831 in other university courses.

The principal religious groups in Canada at the 1931 census were Roman Catholics, including 186,654 Greek Catholics, 4,285,388; United Church (Methodists, Congregationalists, and Presbyterians), 2,017,375; Anglicans, 1,635,615; Presbyterians (not included in United Church), 870,728; Baptists, 443,341; Lutherans, 394,194; Jewish, 115,614. Of the 2,927,990 Canadians of French origin in 1931, 2,849,096 were Roman Catholics.

**National Income.** The official preliminary estimate of national income for 1940 placed it at \$4,800,000,000, as contrasted with \$4,409,000,000 in 1939. The net value of production in 1938 was \$2,975,000,000 and the gross value \$5,432,000,000. Manufactures accounted for 38.78 per cent of the net value, agriculture, 24.94 per cent, mining, 12.59 per cent. The average per capita net value of production in 1938 was \$265.38. The Secretary-Treasurer of the Associated Credit Bureau of Canada stated before the organization's annual convention in 1940 that "93 per cent of the people of Canada had an income of \$2000 or less annually, 6 per cent had from \$2000 to \$5000, and only 1 per cent had more than \$5000." He estimated that about 25 per cent of the peoples' income was diverted to municipal, provincial, and Federal governments.

**Agriculture.** Cash income from the sale of farm products in 1940 was officially estimated at \$715,000,000 (\$703,000,000 in 1939). The gross value of farm production in 1939 was \$1,170,943,000 and the net value about \$815,663,000. Of the gross value, field crops accounted for \$634,130,000, dairy products, \$217,716,000; farm animals, \$170,837,000; fruits and vegetables, \$55,911,000; poultry products, \$55,483,000; tobacco, \$19,248,000. The preliminary estimate of the gross value of field crops in 1940 was \$648,286,000, compared with the revised estimate of \$669,672,000 for 1939. The acreage and production of the principal field crops in 1939 and 1940 are given in the accompanying table.

CANADIAN FIELD CROPS, 1939 AND 1940

Crops	Area		Production	
	1939 1,000 acres	1940* 1,000 acres	1939 1,000 bu	1940* 1,000 bu
Wheat	26,756	28,726	489,623	547,179
Oats	12,790	12,298	384,407	387,805
Barley	4,347	4,341	103,147	105,454
Rye	1,102	1,035	15,307	14,294
Peas	76	81	1,307	1,347
Beans	73	97	1,527	1,471
Buckwheat	335	326	6,848	6,717
Mixed grains	1,218	1,220	44,072	43,602
Flaxseed	307	406	2,169	3,406
Corn for husking	183	186	8,097	6,789

\* Preliminary

The root and fodder crops for 1940 were estimated (preliminary) as follows: Potatoes, 42,058,000 cwt.; turnips, etc., 39,153,000 cwt.; hay and clover, 14,156,000 tons, alfalfa, 2,584,000 tons; fodder corn, 4,176,000 tons, sugar beets, 847,000 tons. The livestock census of June 1, 1940, showed 5,882,000 swine, 8,565,000 cattle, 3,452,000 sheep, and 2,858,000 horses. The 1939 wool clip was estimated at 17,888,000 lb.

**Manufacturing.** Statistics for 1938: Establishments, 25,200; capital invested, \$3,485,583,018; number of employees, 642,016 (25.9 per establishment); salaries and wages, \$705,668,589, cost of materials, \$1,807,478,028; value added in manufacture, \$1,428,286,778; gross value of production, \$3,337,681,366 (\$132,051 per establishment and \$5183 per employee). Production of leading manufactures in 1939 were (estimates, in metric tons): Cement, 908,000; rayon, 6438, pig iron and ferroalloys, 845,000, steel ingots and castings, 1,407,000. The gross value of production of the paper and pulp industry in 1939 was \$208,152,000; it included 2,926,600 tons of newsprint worth \$120,858,600. Output of chemicals was valued at \$157,407,000. Production of power by central electric stations in 1939 was 28,352,000,000 kw-hr. Also see YEAR BOOK, 1939, p. 112.

**Mineral Production.** Mineral production in 1939 was valued at \$474,602,059 (\$441,823,237 in 1938). The quantity and value of the chief minerals produced was: Gold, 5,094,379 fine oz., \$105,310,157; copper, 608,825,570 lb., \$60,934,859, nickel, 226,105,865 lb., \$50,920,305; coal, 15,537,443 tons, \$48,315,224, asbestos, 364,472 tons, \$15,859,212, lead, 388,569,550 lb., \$12,313,768; zinc, 394,533,860 lb., \$12,108,244; natural gas, 35,185,146 M cu. ft., \$12,507,307; petroleum, 7,826,301 bbl., \$9,846,352, silver, 23,163,629 fine oz., \$9,378,490, platinum, 148,902 fine oz., \$5,222,589, palladium, rhodium, iridium, etc., 135,402 fine oz., \$4,199,622; salt, 424,500 tons, \$2,486,632. The output of sand and gravel was 31,294,341 tons valued at \$11,241,102; stone, 5,443,522 tons, \$6,455,696; cement, 5,731,264 bbl., \$8,511,211; lime, 552,209 tons, \$4,003,514.

**Forest Products.** Forest production in 1938 was equivalent to 2,652,698 M cu. ft. of standing timber and was valued at \$148,265,857 (logs and bolts, \$52,759,660, pulpwood, \$53,761,999, firewood, \$32,740,566). The total value of lumber production in 1938 was \$92,856,000, chiefly accounted for by 3,768,351,000 ft. of cut lumber valued at \$72,633,000.

**Fisheries.** The value of the 1939 fish catch was \$40,073,000 (\$40,493,000 in 1938). The catch of inland fisheries was valued at \$6,101,000 in 1939; of sea fisheries, \$33,972,000. Salmon accounted for \$13,409,000, lobsters, \$3,782,000; herring, \$3,780,000; cod, \$3,234,000, sardines, \$2,301,000; halibut,

\$2,118,000; whitefish, \$1,722,000, haddock, \$1,357,000.

**Fur Production.** Production of raw furs in Canada for the season ending in June, 1939, was valued at \$14,207,000. About three-fifths of this total represented pelts of wild animals taken by trapping, while the remainder came from animals on fur farms. Pelts taken included 319,673 silver fox valued at \$5,660,000; 219,186 mink, \$2,092,600; 2,260,400 muskrat, \$1,983,700, 63,688 beaver, \$980,000. The number of animals on fur farms in 1938 was 270,431, valued at \$8,930,000.

**Tourist Trade.** According to Canadian official estimates, United States tourists spent 262,000,000 Canadian dollars in Canada during 1939 against expenditures of \$95,000,000 by Canadian tourists in the United States. Travelers from overseas spent about \$13,000,000 in Canada against expenditures of about \$15,000,000 by Canadians traveling overseas.

**Foreign Trade.** Canada's total foreign trade increased from \$1,526,135,487 in the calendar year 1938 to \$1,686,977,247 in 1939. Imports for consumption in 1939 were \$751,055,534; exports of Canadian produce, \$924,926,104; exports of foreign produce, \$10,995,609. The chief export classes in 1939 were Wood, wood products and paper, \$242,541,043, agricultural and vegetable products, \$220,118,056, non-ferrous metals and their produce, \$182,890,103, animals and animal products, \$131,803,706. Leading imports were: Iron and its products, \$183,159,650; non-metallic minerals and their products, \$132,823,892, agricultural and vegetable products, \$127,835,146, fibers, textiles, and tissues, \$100,866,078.

The chief sources of Canadian imports for consumption in 1939 were: United States, \$496,898,466; United Kingdom, \$114,007,409, Straits Settlement, \$13,144,970; Australia, \$11,269,594, Germany, \$8,947,155. Exports went mainly to United States, \$380,392,047; United Kingdom, \$328,099,242, Australia, \$32,028,744, Japan, \$28,167,607; British South Africa, \$17,965,280.

**Finance.** The accompanying table shows the total Dominion budget receipts, ordinary expenditures, and total expenditures for the period 1936-37 to 1940-41.

DOMINION FINANCES  
(Thousands of Canadian dollars)

Years ended March 31	Total revenues	Ordinary expendi- tures	Total expendi- tures	Surplus (+) or deficit (-)
1936-37	\$454,154	\$387,112	\$532,005	-\$ 77,851
1937-38	516,693	414,891	534,408	- 17,715
1938-39	502,171	413,032	553,063	- 50,892
1939-40	562,093	398,323	680,794	- 118,700
1940-41*	760,000	448,000	1,148,000 <sup>b</sup>	- 388,000 <sup>b</sup>

\* Estimates    <sup>b</sup> Excluding additional war commitments estimated at \$150,000,000 to \$200,000,000.

The Dominion funded debt and Treasury bills outstanding on Mar. 31, 1940, totaled \$3,695,685,192 (\$3,385,697,034 on Mar. 31, 1939). The annual average exchange rate of the Canadian dollar was \$0.9942 in 1938, \$0.9602 in 1939, \$0.8514 in 1940.

**Shipping.** During the calendar year 1939 a total of 40,894 vessels of 33,997,984 net registered tons entered the eight leading seaports (40,467 ships of 34,030,575 tons in 1938). The leading ports, in order of tonnage entered in 1939, were: Vancouver, 11,993,815; Montreal, 7,588,940; Halifax, 6,054,412; Quebec, 4,219,192; Saint John, 2,500,598; Three Rivers, 1,549,829. Inward cargo tonnage at the eight ports was 18,007,242 in 1939;

outward, 11,686,915. Traffic through Canadian canals in 1939 included 24,768 Canadian vessels of 18,240,632 registered tons and 2757 United States and other vessels of 3,095,648 registered tons.

**Railways, etc.** As of Dec 31, 1938, Canada had 42,742 single track miles of steam railways, owned by 34 companies, exclusive of 1957 miles of street and interurban electric railways and 1016 miles of industrial railways. Gross revenues of the 34 steam railways in 1939 were \$363,325,824; operating expenses, \$301,986,407. The profit and loss account, after payment of interest, taxes, etc., showed a debit of \$55,023,359 in 1938, compared with an average debit during the five years 1933-37 of \$73,312,927. Passengers carried during 1939 numbered 19,097,316, revenue freight, 91,042,896 tons.

The total highway mileage in 1939 was 599,040 and the number of automobiles registered 1,375,133. Aviation statistics for 1939 were: Miles flown, 10,969,271, passengers carried, 161,503, freight carried, including excess baggage, 21,253,364 lb, mail carried, 1,900,347 lb. The new Trans-Canada air system in 1939 carried 21,569 passengers, 500,000 lb of mail and 45,819 lb of express.

**Government.** Executive power is exercised in the King's name by the Governor-General of Canada, acting through a responsible ministry. Legislative power rests in a parliament of two houses—a Senate of 96 members appointed for life by the Governor-General on advice of the Cabinet and a House of Commons of 245 members elected for five years (unless the government is sooner dissolved) by popular male and female suffrage. The nine provinces enjoy a large measure of local autonomy, there being a separate parliament and administration for each. A lieutenant-governor appointed by the Governor-General-in-Council heads each provincial executive. Baron Tweedsmuir of Elsfeld (John Buchan), who assumed office as Governor-General Nov 2, 1935, died Feb. 11, 1940 (see NECROLOGY). On April 4 the Earl of Athlone, uncle of King George VI, was appointed to the post; he was installed June 21, 1940.

The composition of the Liberal Government, sworn in Oct 23, 1935, and reconstructed in September, 1939, was as follows at the beginning of 1940, in order of precedence: Prime Minister, President of the Privy Council, Secretary of State for External Affairs, W. L. Mackenzie King; Minister without Portfolio, Raoul Dandurand; Mines and Resources, Thomas Alexander Crerar; Justice, Attorney-General, and Acting Secretary of State, Ernest Lapointe; Public Works, Pierre Joseph Arthur Cardin, Trade and Commerce, William Daum Euler; Finance, James L. Ralston, Pensions and National Health, Ian Alastair MacKenzie, Postmaster-General, Charles Gavan Power; National Revenue, James Lorimer; Fisheries, Joseph Enoil Michaud; National Defense, Norman McLeod Rogers; Transport, Clarence Decatur Howe; Agriculture, James Garfield Gardiner; Labor, Norman A. McLarty; Minister without Portfolio, James A. MacKinnon. For changes during 1940, see *History*.

## HISTORY

The war in Europe dominated every aspect of Canada's internal and external affairs during 1940, particularly after the collapse of France in June enhanced the prospect of a German victory. The general election of March 26, the intensification of Canada's war effort, the rapid expansion of industrial production and employment, and the

unprecedented steps taken toward politico-military collaboration with the United States were all determined or strongly influenced by the spreading European conflagration.

**Liberals Re-elected.** The opening of 1940 found Prime Minister Mackenzie King's Liberal Government under vigorous attack from the Conservative opposition for alleged inefficient and partisan conduct of the war (see 1939 YEAR BOOK, p. 116). Early in January Mitchell Hepburn, Liberal Premier of Ontario, joined in these attacks, thus reviving his old quarrel with Mackenzie King. On January 18 he induced the Ontario Legislature to adopt a resolution condemning the Federal Government for the "weakness" of its war effort.

On January 25 the Canadian Parliament convened for its first regular session since the outbreak of war. With a general election due to be held sometime during 1940, the Conservatives and dissident Liberals came prepared to press their charges against the government. With his customary political acumen, the Prime Minister forestalled this plan by dissolving Parliament on the first day of the new session and calling the general election for March 26. In a short but bitter campaign, the Conservatives, led by Dr. R. J. Manion, redoubled their charges of inefficiency and partisanship in the prosecution of the war. They said the government had sent the 1st Division of the Active Service Force overseas with insufficient clothing and out-moded arms, that it had withheld full co-operation from the British Government in war preparations, and it was wasting war appropriations through maladministration and political patronage. Dr. Manion promised that if elected he would form a "national government" containing the best brains of the country to carry on the war.

The Mackenzie King Government stood on its war record, denied the Conservative charges, rejected the demand for a "national government" as inadvisable and dangerous, and contended that it alone could maintain the unity between French- and English-speaking Canada essential to the successful prosecution of the war. Of the 4,458,861 votes cast on March 26 the Liberals received 53 per cent and increased their standing in the House of Commons from 176 seats at the time of dissolution to 183. The Conservatives captured 40 seats, or 1 more than before. The Co-operative Commonwealth Federation (Socialists) increased their standing from 7 to 8, while the other minority groups lost ground, as follows: Social Credit-New Democracy coalition, reduced from 16 to 9 seats; Independents, reduced from 7 to 5. Isolationist and pacifist candidates were overwhelmed. Dr. Manion and many other veteran leaders of the Conservative party were defeated. As a result of this electoral debacle, Dr. Manion's resignation as leader of the party was accepted on May 13. He was succeeded as parliamentary leader for the next session by R. B. Hanson, who was Minister of Trade and Commerce in the last Conservative Government.

**Governmental Changes.** Prime Minister Mackenzie King, asserting that the election vindicated the personnel and policies of his government, continued to reject all demands for a coalition or "national government." There were several changes in his cabinet, however. A separate Air Ministry was established late in May. On June 10 Defense Minister Rogers was killed in an airplane ac-

cident. On June 18 a new Ministry of National War Services was established to co-ordinate the care of refugees, the provision of comforts for soldiers, economic use of food supplies, etc. Then the National Defense Ministry was split into three separate Ministries in charge of Military Affairs, Naval Affairs, and Military Aviation, respectively. Three more Liberals were brought into the Cabinet and there was a reshuffling of some other posts. Heads of the new and reorganized Ministries, announced for the most part on July 8, were: National Defense (Army), Col. J. L. Ralston (former Finance Minister); National Defense (Navy), Premier Angus L. Macdonald of Nova Scotia; National Defense (Air), C. G. Power; Finance, J. L. Ilsley, National Revenue, Col. C. W. Gibson, Transport and Public Works, P. J. A. Cardin; War Services and Agriculture, J. G. Gardiner; Postmaster-General, W. P. Mullock.

At the same time the Prime Minister invited the Conservative party leaders, R. B. Hanson and Grote Stirling, and leaders of the smaller Opposition groups to become associate members of the War Committee of the cabinet. They replied that they would not accept office and surrender the right of criticism unless they were offered membership and full responsibility in a genuine coalition government.

**War Parliament Meets.** When the newly elected Parliament assembled on May 16 the German invasion of Norway, Denmark, the Netherlands, and Luxemburg had been crowned with success. Belgium and France were crushed, the British Army defeated in Flanders and Northern France, and Italy brought into the war during the ensuing weeks. These events shocked the Canadian Government and people into action. The government had planned a war of "limited liability" in which Canadian materials and air power would be its principal contribution. The great Empire air training program, centering in Canada, was designed to turn out pilots in quantity only in the second or third year of the war. Industrial mobilization had been geared to a similar time schedule.

When Hitler's *blitzkrieg* demonstrated these plans to be woefully inadequate, the Opposition intensified its attack upon the government's prosecution of the war. But when Parliament adjourned on August 7 Prime Minister Mackenzie King was politically stronger than at the outset of the session. This was due to the fact that the Chamberlain Government in London was shown to be mainly responsible for Canada's half-way measures up to the outbreak of "total war" in Europe. It discouraged the raising of a large army, and failed to give Canadian industry sufficient military orders either before or after the outbreak of war to secure capacity production. Moreover there was no other leader available with the experience and prestige to fill Mackenzie King's shoes. The Prime Minister also allayed criticism by speeding the mobilization of Canada's full resources to support the hard-pressed mother country, reorganizing his cabinet as described above, and taking firm measures against "fifth column" and other obstructionist elements.

Parliament reconvened on November 7. On December 3 the House defeated, 140 to 51, an Opposition move to censure the government for "soothing" the Canadian people into a false sense of security and failing to alleviate the condition of the farmers.

**Conscription Introduced.** Immediately after the collapse of France, Parliament on June 20 empowered the government to mobilize the entire manpower and material resources of the Dominion for war purposes. The bill was adopted with only two French-Canadian members of the House dissenting. The Prime Minister had previously renewed his pledge never to conscript Canadians for overseas service.

Under this act and a measure of July 10 establishing the Department of War Services, all Canadian men and women over 16 years of age were registered for possible war service during August 19-21. On October 9 compulsory military training in the Non-Permanent Active Militia was begun when 30,000 men, of 21 to 23 years of age, were called up for 30 days. It was planned to give 300,000 unmarried men the 30-day course during the ensuing year and later to call up married men. The government gave assurances that this conscription related "solely and exclusively to the defense of Canada on our own soil and in our own territorial waters." The Canadian air force, navy, and divisions raised for overseas service were composed entirely of volunteers.

Fears that French-Canadian opinion would oppose conscription were allayed by the hearty support accorded the measure by most French-Canadian leaders and by the Roman Catholic Church in Quebec Province. The notable exception to this rule was Mayor Camillien Houde, mayor of Montreal, who on August 2 asked the people of his city to support him in defying the national registration law. On August 6 he was interned for the duration of the war on orders of Minister of Justice Lapointe. This action appeared to have the approval of most French-Canadians. The French-Canadian press likewise approved the British attack upon the French fleet at Oran (see *EUROPEAN WAR*) as lessening the danger of a German attack upon Canada. Houde sought to run for re-election but this plan was balked by an Order in Council of October 29 making interned persons ineligible for public office. See *QUEBEC* under *History*.

**Aid to Britain Speeded.** In addition to training men for home defense, the government late in May greatly accelerated its program for supplying military and economic aid to Britain. Recruiting for overseas service was speeded up. By October 1 the Active Service Force numbered more than 167,000 men, of whom 53,000 were serving overseas—two divisions and additional corps troops in England and detachments in Iceland, Newfoundland, and the West Indies. The Royal Canadian Air Force, which numbered 450 officers and 4000 airmen in September, 1939, increased to 1950 officers and 23,000 airmen by Oct. 1, 1940. A few squadrons were already in action in England. The Canadian Navy had about 130 vessels and more than 11,000 officers and men, as against 13 ships and 1700 officers and men at the beginning of the war. It was engaged in protecting the Canadian coasts and providing invaluable aid to the British navy in guarding transatlantic convoys. In all, about 500,000 men were under arms by December 31.

**Economic Mobilization.** All of these services were undergoing rapid expansion as the year ended. By the beginning of 1942 it was expected that the air training schools would be turning out 7500 to 8000 pilots and 14,000 to 16,500 air

observers and air gunners annually. To equip and maintain these increasing forces and to aid British rearmament, Canadian factories in October, 1940, were producing about 130 planes, minus engines, monthly; rifles, small arms, machine guns, and munitions; and a small but increasing supply of tanks, field artillery, antitank and antiaircraft guns. Under construction for the navy were 54 patrol vessels, some 30 minesweepers, and 25 motor torpedo boats. Contracts for Canadian war orders totaling \$345,000,000 and British war orders aggregating \$100,000,000 had been distributed among 4400 Canadian firms. War plant expansions totaling approximately \$225,000,000 were under way.

It was estimated that by the end of 1941 Canadian industry would be producing arms and war supplies of almost every kind at the rate of over \$1,000,000,000 annually. The co-ordination of this effort was in charge of the Department of Munitions and Supplies. In August, 1940, it decentralized its activities, establishing three government-owned, non-profit corporations, headed by leading businessmen, to administer the armament industries. A Wartime Industries Control Board was set up, with extensive powers to control the steel, metals, timber, machine tool, electric power, and oil industries. On May 23 key munitions industries were placed on a 24-hour basis.

**War Financing.** To finance this program, the Dominion budget for the fiscal year 1940-41 carried war appropriations of \$940,118,000. Direct and indirect war expenditures of the Dominion, provincial, and municipal governments were estimated at nearly \$1,975,000,000. Taxes were drastically increased. The income tax was raised 300 per cent in some brackets. On an income of \$3000 a year a married man with no dependents paid \$195; on \$5000, he paid \$555; on \$10,000, he paid \$2170. In addition a 10 per cent tax was paid on all goods purchased in the United States and other non-Empire sources, the aim being to conserve Canada's dollar exchange. On industrial profits, the tax was raised to 18 per cent of all profits plus 75 per cent of whatever profits remained in excess of the average profits made during the preceding four years. A 2 per cent tax was levied on salaries. But despite the new taxes the government anticipated a deficit of nearly \$600,000,000 in 1940-41. This was to be covered by borrowing. A bill for the refunding of \$750,000,000 in maturing obligations was passed May 31. Besides interest-bearing loans, the government in July offered \$10,000,000 worth of non-interest-bearing bonds. A substantial part of these were quickly disposed of. In addition more than \$500,000 was donated to the government for war expenses.

The government's financial policy sought to prevent price inflation and an excessive increase in the public debt. Steps to control prices were taken beginning in August. To prevent depreciation of the Canadian dollar on foreign exchange markets, the Foreign Exchange Control Board on May 1 took over at the current market price the entire holdings of gold and foreign exchange of the Bank of Canada. All residents of Canada holding foreign currency were required to sell it to the Exchange Control Board. On December 6 Parliament imposed a 25 per cent excise tax on "luxury" manufactures, partly in order to enable industry to concentrate on war necessities.

**Labor Measures.** As a result of heavy war expenditures, the number of unemployed in Canada

declined steadily during 1940 to the lowest point since 1929. By autumn, shortages of skilled labor were reported in many industries. This trend was accompanied during April, May, and June by an increase in labor disputes, which threatened to hold up production.

The government adopted a liberal policy in an effort to secure better co-operation from labor. In an Order-in-Council of June 20 it reaffirmed labor's right to unionize and bargain collectively. It requested employers to adopt "fair and reasonable standards of wages and working conditions" and warned against undue extension of hours of labor. At the same time it insisted that there should be no interruption of production or distribution through strikes or lockouts, declaring that all employer-labor controversies should be settled through government conciliation agencies. No machinery for enforcement of these principles was provided, nor were penalties mentioned in the Order-in-Council. However the National Mobilization Act provided ample authority for any disciplinary action the government considered necessary.

The government took another step calculated to win labor's approval of its war efforts by securing the enactment by Parliament on July 30 of Canada's first national unemployment insurance law. The program covered 2,100,000 workers earning less than \$2000 annually, but persons within that income range employed in certain professions, domestic service and seasonal occupations were excluded. Employers and employees contributed approximately equal amounts to the insurance fund, while the government paid one-fifth of the total and assumed the administrative costs.

Labor was given equal representation with employers upon the National Labor Supply Council appointed June 20, 1940. In addition, maximum-hour and minimum-wage provisions were embodied in contracts for the manufacture of aircraft and other war equipment awarded by the War Supply Board. The Minister of Labor announced on November 28, however, that because of air-raid damage to British industry and shipping, it would be necessary to extend the working week from 44 to 48 hours. An Order in Council of December 18 established a conciliation commission to adjust wages to rising living costs.

**Aid to Agriculture.** The spread of the war increased the difficulty of finding markets for Canadian wheat, fruit, bacon, and dairy products. Larger purchases of farm products by Great Britain failed to make up for the normal purchases of the European continent, cut off by the British blockade. The wheat problem became acute when the 1940 crop proved to be the second largest on record. Despite the sale of 100,000,000 bu of stored wheat to the British Government on August 2, the carry-over from the 1939 crop was also exceptionally large. The Canadian Government on May 18 pegged the price on wheat futures at 70 cents; the cash price was fixed at a slightly higher level. To maintain this price and to compensate growers for storing surplus wheat, Parliament on August 3 enacted a processing tax of 15 cents a bushel on wheat processed into flour and other products for domestic consumption. Government aid in financing and marketing their crops was also extended to fruit growers and dairy farmers.

**Drive on "Fifth Column."** With the intensification of Canada's war effort, beginning in April

and May, the government took more stringent measures to curb subversive and pacifist activities. Under the Defense of Canada Regulations adopted Sept 9, 1939, three men were sentenced to prison terms and fines by an Ottawa court on May 15 for circulating Communist literature of a seditious nature. The court declared the Communist party of Canada an illegal organization and many leaders of the party were subsequently taken into custody. Canadian officials charged that the Communist party and press were spreading Nazi propaganda, and in some cases receiving German financial aid.

On May 30 Adrian Arcand, leader of the National Unity (Fascist) party, and a number of his associates were arrested in Montreal on charges of plotting against the state. Minister of Justice Lapointe on June 21 announced the banning of the National Unity party and the internment of Arcand and 10 other leaders, mostly French-Canadians, for the duration of the war. Correspondence was made public indicating that Arcand was in contact with German and Italian propaganda agencies.

Minister Lapointe on June 5 introduced an Order in Council in Parliament declaring illegal a dozen organizations described as fronts for Communist, Nazi, and Fascist activities. Among them were the Communist party of Canada, Labor Defense League, League for Peace and Democracy, German Labor Front, the Canadian branch of the German Nazi party, etc. With Italy's entrance into the war, several hundred Italian citizens were rounded up for questioning and all others were registered and fingerprinted. Most of the Italian organizations adopted resolutions of loyalty to Canada and denounced Mussolini's entrance into the conflict. Of some 16,000 German and 15,000 Italian aliens in Canada, only about 300 Germans and a smaller number of Italians were interned. The others were required to report to the authorities weekly or monthly. On August 23 the government cancelled naturalizations of all men and women immigrants from Germany and Italy who took out papers after Sept 1, 1922, and they were required to report as enemy aliens unless they were able to obtain certificates establishing their status as loyal subjects.

Repeated attempts at sabotage of war industries and evidence of widespread German espionage activities led Parliament on July 25 to adopt the so-called Treachery Bill making anyone assisting the armed forces of the enemy or imperiling the safety of Canada liable to the death penalty or life imprisonment. At the same time the government decided to organize Provincial Civil Guard units to aid the militia and other armed forces in maintaining order and curbing sabotage. In addition to the camps established for interned residents of Canada, the government undertook in June to assume charge of 6700 war prisoners and internees sent from the United Kingdom. The first of these prisoners arrived on July 1. Canada also provided a refuge for some thousands of British children and for a number of prominent refugees, including Crown Princess Juliana of the Netherlands and her daughters.

**Constitutional Problems.** In the midst of the war, the constitutional issues that had aroused controversy during previous years (see 1939 YEAR BOOK, p. 116) were for the most part postponed. On May 16 the House of Commons tabled the report of the Commission on Dominion-Provincial

Relations, appointed in 1937. The Commission's recommendation concerning unemployment insurance were put into effect (see above), but no other action was taken on its proposals. It recommended that the Dominion assume 40 per cent of the Quebec provincial debt and the entire debts of the other provinces; that all future provincial borrowings be handled through a central commission, under Dominion guarantee; that the Dominion assume complete responsibility for relief of unemployed employables, leaving the provinces and municipalities to administer poor relief and care for unemployables; that the Dominion receive sole power to collect income, inheritance, and corporation taxes, and that it should assist the provinces through national adjustment financial grants, renewable every five years, instead of through the existing subsidies.

Another important constitutional development was the decision of the Supreme Court of Canada on January 19 that Parliament had authority to abolish appeals to the Privy Council in London from the Canadian courts. On June 25 the Canadian House of Commons formally requested amendment of the British North America Act to legalize the Dominion unemployment insurance scheme, mentioned above under *Labor Measures*. In invalidating a similar law adopted in 1935, the courts held that the provinces had jurisdiction in this field.

**Empire Relations.** The spread of the European War, the entrance of Italy, Japan's alliance with the Axis powers, and the growing possibility of an Axis victory drew Canada into ever closer relations with both the mother country and the United States. The German occupation of Denmark and defeat of France brought the war near Canadian shores as it opened the possibility of German control over Greenland and the French islands of St Pierre and Miquelon. Canada assumed responsibility for the defense of Newfoundland and Labrador, contributed contingents to the British expedition that occupied Iceland, and sent other forces to relieve British and French troops garrisoning strategic territories in the West Indies. During the German drive into France, Prime Minister Mackenzie King informed the House of Commons June 4 that the Dominion had placed her naval, military, and air forces at the complete disposal of the British Government. On June 10 Canada's declaration of war upon Italy was unanimously approved by Parliament. The Prime Minister on June 14 pledged Canada's "unwavering support" to Great Britain and France, and when France capitulated the pledge of solidarity with Britain was reaffirmed by the government and people.

When Japan joined the Axis, the Canadian Government moved more troops to the Pacific Coast, strengthened its fortifications there, and dispatched contingents to aid the British in the defense of Empire positions in the Pacific and the Far East. On October 8 the export of copper to Japan was embargoed. The shipment of other strategic war metals to Japan previously had been banned.

**Defense Pact with United States.** On August 18, Prime Minister Mackenzie King met President Roosevelt at Heuvelton, near Ogdensburg, N.Y., for a conference of historic significance. They agreed to establish a Permanent Joint Board on Defense to "consider in the broad sense the defense of the north half of the Western

Hemisphere" and "commence immediate studies relating to sea, land, and air problems including personnel and material."

Members of the Board were appointed August 22. Those representing the United States were Mayor Fiorello H. La Guardia of New York City, Lt. Gen. Stanley D. Embick, commanding the Fourth Corps Area, Atlanta, Ga.; Capt. Harry W. Hill, U.S.N., War Plans Division, Office of Chief of Naval Operations; Comdr. Forrest P. Sherman, U.S.N., Lt. Col. Joseph T. McNarney, U.S. Army Air Corps; John D. Hickerson, Assistant Chief, Division of European Affairs, Department of State. The Canadian members were: O. M. Biggar, Brigadier K. Stuart, Deputy Chief, General Staff; Capt. L. W. Murray, R.C.N., Deputy Chief, Naval Staff, Air Comdr. A. A. L. Cuffe, Air Staff, Royal Canadian Air Force, Hugh L. Keenleyside, Counselor, Department of External Affairs.

The Board assembled in Ottawa August 26 to commence its task. Meetings in various American and Canadian cities and inspections of Pacific and Atlantic Coast defenses of Canada, the United States, and of Bermuda followed. On October 4, after consulting representatives of Newfoundland, the Board issued its first definitive report at Halifax, N.S., fixing defense responsibilities of both Canada and the United States in case of an attempted invasion of either country.

While these studies were in progress, the British Government on September 2 authorized the United States to lease naval and air bases in Newfoundland, Bermuda, and the British West Indies (see *GREAT BRITAIN under History, UNITED STATES*). The Canadian-American and Anglo-American agreements established a new relationship between the three countries, the far-reaching implications of which were recognized and welcomed by Canadian opinion. They were followed by supplementary moves. The Washington Government on September 5 agreed to supply 80,000 rifles, many obsolete tanks, and other large stocks from its World War reserves for use in training and equipping Canadian armed forces. An agreement facilitating air transportation between the two countries was concluded September 24. Canada obtained a favored position in purchasing vital machine tools in the United States.

On October 14 Washington authorized the Ontario hydroelectric system to take more water from the Niagara River for its power needs at Niagara Falls. In return the province was reported to have withdrawn its opposition to the Canadian-American St. Lawrence waterpower and ship canal project (see 1939 YEAR BOOK, p. 117). Engineering studies for the installation of the projected power stations were started toward the end of 1940. On October 19-20, the Earl of Athlone paid a two-day visit to President Roosevelt at the latter's Hyde Park, N.Y., home. President Roosevelt announced December 5 that he would seek the earliest possible Senate approval of a treaty for completion of the St. Lawrence seaway.

Commencing July 1 Canadians visiting the United States were required to have passports or visas, due to the "critical international situation." Thousands of visas were issued by the United States consular offices in the Dominion. No restrictions were placed on United States citizens entering Canada. The U.S. Attorney General, Robert H. Jackson, attended a conference in Ottawa November 11-12, where proposals were

adopted for simplifying formalities for crossing the border and preventing subversive elements from taking refuge alternately in Canada and the United States. On December 6 Canada banned imports of a long list of "luxury" goods from the United States in order to conserve dollar exchange for the purchase of American munitions and other war supplies.

See **INDUSTRIAL CHEMISTRY**, **LABOR CONDITIONS**; **MUSIC**; **NAVAL PROGRESS**, **NEWFOUNDLAND under History**, **UNITED STATES under Foreign Affairs**.

**CANADA, The United Church of.** The designation applied to the single body formed by the union in 1925 of the Congregational, Methodist, and Presbyterian churches in Canada, the Methodist churches of Newfoundland and Bermuda are also included. Foreign mission work is carried on in Japan, Korea, China, India, Trinidad, and Angola (West Central Africa). In 1939 there were in Canada, Newfoundland, and Bermuda 7389 preaching places (including home missions) in 2815 pastoral charges, 711,712 communicant members, and 1,768,098 persons under pastoral care. A total amount of \$11,673,098 was raised for all purposes. At the Ninth General Council held in Toronto, Ont., in September, 1940, the Rev Aubrey S. Tuttle, M.A., D.D., was chosen moderator for the ensuing biennium. Rev Gordon A. Sisco, M.A., D.D., is general secretary. Headquarters: 421 Wesley Building, Toronto, Ont.

**CANALS.** See **AQUEDUCTS**, **NICARAGUA under History**, **PANAMA CANAL ZONE**, **PANAMA CANAL**, **RECLAMATION**, **BURLAU OF**, **SUEZ CANAL**, **WATERWAYS**, **INLAND**.

**CANARY ISLANDS.** An archipelago off the coast of Rio de Oro in northwest Africa. Administratively they form two provinces of Spain, and are named after their respective capitals: (1) Las Palmas (comprising the islands of Gran Canaria, Lanzarote, Fuerteventura, and the islets of Alegranza, Roque del Este, Roque del Oeste, Graciosa, Montaña Clara, and Lobos), area, 1279 square miles; population (1939), 286,154, capital, Las Palmas (83,553 inhabitants) on Gran Canaria. (2) Santa Cruz de Tenerife (comprising the islands of Tenerife, Palma, Gomera, and Hierro), area, 1528 square miles; population (1939), 350,647; capital, Santa Cruz de Tenerife (66,429 inhabitants). A decree expropriating land at Las Palmas for immediate construction of a large military base was issued by General Franco, dictator of Spain, on Dec. 29, 1940. See **SPAIN under History**.

**CANCER.** See **BIOLOGICAL CHEMISTRY**, **MEDICINE AND SURGERY**, **PUBLIC HEALTH SERVICE**, **SOCIETIES under Control of Cancer**.

**CANNING INDUSTRY.** See **AGRICULTURAL MARKETING SERVICE**, **WAGE AND HOUR DIVISION**.

**CANTON ISLAND.** An atoll of the Phoenix group in the central Pacific which with Enderbury Island of the same group is under the joint control of Great Britain and the United States (Anglo-U.S.A. Pact of Aug. 10, 1938 and Notes of Apr. 6, 1939). Canton is 29 miles in circumference and has a land mass of from 50 to 600 yards wide which encloses a lagoon of 9 miles in diameter. Enderbury is 2.5 miles long and 1 mile wide. On Mar. 15, 1940, six U.S. Navy patrol bombers landed safely at Canton after a mass flight of nearly 2000 miles from Honolulu. Canton is a port of call on Pan American Airways' transpacific air service from Los Angeles to Auckland, New Zealand, which commenced on

July 12, 1940. A complete air base, a 24-room hotel, and other facilities for passengers have been established. In March, 1938, several Hawaiian colonists were established on Canton and Enderbury islands by the U.S. Department of the Interior to maintain American sovereignty. In October, 1940, this responsibility was transferred to the Pan American Airways staff and the colonists were withdrawn.

**CAPE OF GOOD HOPE.** See **SOUTH AFRICA**, **UNION OF under Area and Population**.

**CAPE VERDE ISLANDS.** A dependency of Portugal, 320 miles west of Cape Verde, French West Africa. The islands comprise the Barlavento (windward) group (São Vicente, Santo Antão, São Nicolau, Santa Luzia, Sal, Boavista, Branco, and Raso) and the Sotavento (leeward) group (Santiago, Maio, Fogo, Brava, Rei, and Rombo). Total area, 1557 square miles; population (Jan. 1, 1938, est.), 165,000 including 6318 Europeans. Capital, Praia (on Santiago), 6188 inhabitants. The chief products are sisal, castor oil, mustard, coffee, oranges, maize, tobacco, salt, brandy, and hides. Trade (1938) imports, 107,089,584 escudos, exports, 117,754,489 escudos. Budget (1939) 19,452,000 escudos (escudo averaged \$0.0404 for 1939, \$0.443 for 1938). During 1938 some 4488 ships aggregating 4,246,395 tons cleared the ports. Governor, Maj. A. G. de Figueiredo.

**CAPITAL LEVY.** See **FINLAND** and **SWITZERLAND under History**.

**CAPITAL MOVEMENTS.** See **FINANCIAL REVIEW**, **BRAZIL**, **CHINA**, **JAPAN**, and **MANCHOU-KUO under History**.

**CARIBBEAN, Inter-American Union of the.** See **INTER-AMERICAN UNION OF THE CARIBBEAN**.

**CARNEGIE ENDOWMENTS.** **Carnegie Corporation of New York.** Established by Andrew Carnegie in 1911, this corporation was formed for the advancement and diffusion of knowledge and understanding among the people of the United States and the British Dominions and Colonies. Its total endowment is approximately \$135,000,000, of which \$10,000,000 is applicable in the British Dominions and Colonies. The annual report of the president, Frederick P. Keppel, showed that during the fiscal year 1939-40 the sum of \$4,692,682 was appropriated. See **BENEFACTIONS**; **EDUCATION**, **LIBRARY PROGRESS under Gifts, Grants, and Buildings**.

The trustees of the corporation as of Dec. 1, 1940, were Thomas S. Arhuthnot, W. Randolph Burgess, Vannevar Bush, Nicholas Murray Butler, Samuel Harden Church, Henry James, Walter A. Jessup, Nicholas Kelley, Frederick P. Keppel, Russell Leffingwell, Margaret Carnegie Miller, Frederick Osborn, Arthur W. Page, and Elihu Root, Jr. Officers of administration were: Frederick P. Keppel, president, Robert M. Lester, secretary; and Robertson D. Ward, treasurer. Office: 522 Fifth Avenue, New York City. See **ART MUSEUMS**.

**Carnegie Endowment for International Peace.** Founded by Andrew Carnegie in 1910 and operated as an unincorporated association until 1929 when it was chartered under the laws of the State of New York. The endowment consists of a trust fund of \$10,000,000, "the revenue of which," in the words of the donor to his original Trustees, "is to be administered by you to hasten the abolition of international war, the foulest blot upon



our civilization." The work of the Endowment is carried on in three Divisions: (1) Division of Intercourse and Education; (2) Division of International Law; (3) Division of Economics and History.

Under the first Division, contacts with the public at large are maintained principally through the promotion of international visits of representative groups and individuals, international exchanges of professors and students, the organization of and assistance to International Relations Clubs in colleges and universities in the United States and foreign countries, and the dissemination of information in books, pamphlets, and other literature dealing with the history, culture, and institutions of foreign countries.

The work of the second and third Divisions concerns mainly research and publication.

The Division of International Law has published several series dealing with the development of international law and arbitration, the proceedings of diplomatic conferences, the application of international law in national and international courts, and specialized legal problems in the international field. Representatives of this Division participated effectively in the formulation of the statute of the Permanent Court of International Justice at The Hague. It has awarded a number of fellowships, and from 1923 to 1940 it supported the Academy of International Law at The Hague during the summer months where courses were given by an international faculty and attended each year by between three and four hundred students from all parts of the world. By these and various other means, it has consistently sought to improve the teaching, and promote a better understanding, of international law.

The Division of Economics and History prepared and published the Economic and Social History of the World War, now completed in some two hundred volumes. It was assisted in this work by editorial boards in all the countries seriously affected by the World War. It has under preparation and in course of publication special series dealing with the Paris Peace Conference, Canadian-American relations, international economic relations of the United States, and commercial and tariff histories of the principal European countries.

A special library containing 65,000 volumes on all aspects of public international relations is maintained in Washington. During the fiscal year ended June 30, 1940, the Endowment's income amounted to \$605,087, which included a grant of \$100,000 from the Carnegie Corporation of New York. During this period, the Endowment expended \$537,871. The officers are: President, Nicholas Murray Butler; Vice-President, John W. Davis; Secretary, George A. Finch; Treasurer, Alanson B. Houghton; Assistant Treasurer, Roland S. Morris. Administrative offices are at 700 Jackson Place, Washington, D.C.

**Carnegie Foundation for the Advancement of Teaching, The.** A foundation established in 1905 by Andrew Carnegie, who placed an endowment of \$10,000,000 in trust for the purpose of encouraging higher education in the United States, Canada, and Newfoundland. Following its incorporation by Congress in 1906, its resources were increased by a further gift of \$5,000,000 from Mr. Carnegie in 1908 and by appropriations of \$1,250,000 in 1913 and \$12,000,000 in 1918 from the Carnegie Corporation of New York. On June 30,

1940, its endowments and accumulated reserves amounted to \$24,504,468.

The foundation publishes extensive annual reports, which deal with many phases of the educational process. In 1940 it was engaged upon various studies concerning higher education in the United States, the relations between secondary and higher education in Pennsylvania, and graduate instruction. Dr. Walter A. Jessup is president, and Howard J. Savage, secretary and treasurer. Headquarters are at 522 Fifth Avenue, New York City.

**Carnegie Hero Fund.** A Fund established in 1904 by Andrew Carnegie to help those who have risked their lives to an extraordinary degree to save human life or to aid dependents of rescuers who have lost their lives in the performance of their acts. The original endowment was \$5,000,000, the amount expended to Oct. 31, 1940, was \$6,000,500. Dr. Thomas S. Arbuthnot is President and Mr. C. B. Ebersol is Assistant Secretary and Manager of the Fund, the address of which is 2307 Oliver Building, Pittsburgh, Pa.

**Carnegie Institute,** located in Schenley Park, Pittsburgh, Pa., founded and endowed by Andrew Carnegie in 1896, comprises a group of cultural and educational departments as follows: The Department of Fine Arts, with a representative and growing collection of modern painting and sculpture, and with the distinction of having the only annual international exhibition of paintings in the world; the Carnegie Museum, covering the natural sciences and applied arts; and the Carnegie Music Hall, where from October to July free organ recitals are given on Saturday evenings and Sunday afternoons. The Music Hall is also used by many distinguished musical artists and lecturers. The Carnegie Institute building, a modification of the Italian Renaissance style, covers about four acres, and stands among the world's great works of architecture. Thirty-six prominent citizens of Pittsburgh constitute the Board of Trustees. The officers of the Board are as follows: Samuel Harden Church, President; William Frew, Vice-President; Augustus K. Oliver, Secretary; Richard K. Mellon, Treasurer.

**Carnegie Institution of Washington.** An organization founded in 1902 by Andrew Carnegie "to encourage in the broadest and most liberal manner investigation, research, and discovery, and the application of knowledge to the improvement of mankind." The Institution attempts to advance fundamental research in fields not normally covered by the activities of other agencies, and to concentrate its attention upon specific problems, with the idea of shifting attack from time to time to meet the more pressing needs of research as they develop with increase of knowledge.

Income on investments for the year 1940 amounted approximately to \$1,300,000, and was required almost entirely for support and maintenance of major projects undertaken by the Institution, mostly in the physical and biological sciences. Results of its work were made known through technical and scientific journals, its yearbook, and a series of scientific monographs and news releases. To date the Institution has issued about 750 monographic publications.

The Institution has offered its services to the U.S. Government for co-operation in the national defense program, and a number of contracts have been effected whereby personnel and facilities are being utilized in conduct of special defense proj-



ects, in co-operation with governmental agencies.

W. Cameron Forbes is Chairman of the Board of Trustees of the Institution, and Vannevar Bush is President. Other Trustees are: Thomas Barbour, James F. Bell, Robert Woods Bliss, Frederic A. Delano, Homer L. Ferguson, Walter S. Gifford, Herbert Hoover, Walter A. Jessup, Frank B. Jewett, Charles A. Lindbergh, Alfred L. Loomis, Roswell Miller, Henry S. Morgan, Stewart Paton, John J. Pershing, Elihu Root, Jr., Henry R. Shepley, Richard P. Strong, Charles P. Taft, James W. Wadsworth, Frederic C. Walcott, and Lewis H. Weed Headquarters Sixteenth and P Streets, N.W., Washington, D.C.

**CAROLINE ISLANDS.** See JAPANESE PACIFIC ISLANDS.

**CARPET INDUSTRY.** See RAYON.

**CASTELROSSO ISLAND.** See AEGEAN ISLANDS, ITALIAN

**CATALONIA.** A region in northeastern Spain, consisting of the provinces of Barcelona, Gerona, Lérida, and Tarragona. Chief city, Barcelona. See SPAIN under *History*

**CATHOLICS.** See CATHOLIC WELFARE CONFERENCE, RELIGIOUS ORGANIZATIONS; ROMAN CATHOLIC CHURCH, FRANCE, GERMANY, IRELAND, MEXICO, POLAND, and SPAIN under *History*, VATICAN CITY

**CATHOLIC WELFARE CONFERENCE, National.** The official agency of the Archbishops and Bishops of the American Hierarchy for the promotion of unity in Catholic work, organized in 1919. The "N.C.W.C.," as it is now popularly known, succeeded the emergency National Catholic War Council, one of the seven agencies recognized by the United States Government for welfare work during the World War

The Conference is administered by a Board of Archbishops and Bishops elected at the annual meetings of the Hierarchy held in the Nation's Capital each year. The personnel of the Board, as elected November, 1940, was as follows:

Most Rev. Edward Mooney, chairman of the Administrative Board and episcopal chairman of the Executive Department; Most Rev. John B. Peterson, vice chairman of the Administrative Board and episcopal chairman of the Department of Education; Most Rev. Francis J. Spellman, secretary; Most Rev. Francis C. Kelley, treasurer and episcopal chairman of the Department of Lay Organizations; Most Rev. John Gregory Murray, episcopal chairman, Department of Catholic Action Study; Most Rev. Hugh C. Boyle, Legal Department; Most Rev. Edwin V. O'Hara, Social Action Department; Most Rev. John Mark Gannon, Press Department; Most Rev. John A. Duffy, Department of Youth; and Most Rev. John T. McNicholas, O.P., member of the Board without portfolio. Right Rev. Msgr. Michael J. Ready is General Secretary and Rev. Howard J. Carroll, Assistant General Secretary.

The National Catholic Welfare Conference operates through the above-mentioned Departments (see 1939 YEAR BOOK for details). The Department of Youth was newly set up in 1940. It facilitates exchange of information regarding the philosophy, organization, and program-content of Catholic youth organizations; promotes the National Catholic Youth Council, the federating agency for all existing, approved Catholic youth groups; contacts and evaluates national governmental and non-governmental youth organizations and youth servicing organizations.

At their 22d annual meeting, held in Washington, D.C., Nov. 13-14, 1940, the Archbishops and Bishops of the United States took action on many important matters. They received from Pope Pius XII a message conveying as a pledge of abundant divine grace and guidance Paternal Apostolic Benediction upon the assembly, and cabled a message of filial homage to His Holiness. They also called attention to the appeal of Pope Pius XII for universal prayers for peace on November 24 and, taking cognizance of the Nation's peacetime efforts to defend American institutions, asked the Faithful "to give themselves unstintingly" to their Country's "defense and its lasting endurance and welfare." A plan was adopted looking to the co-ordination of Catholic interests and activities stemming from the Nation's program for preparedness and the unification of all Catholic relief and refugee work. More than \$1,200,000 was reported as provided for the relief of suffering peoples abroad. Close co-operation and encouragement was given to the U.S. Committee for the Care of Refugee Children in its appeal for financial support. The American Board of Catholic Missions was reorganized, and a new National Catholic Community Service was set up, composed of the Administrative Board and the Military Vicar of the Army and Navy Ordinariate. This service was calculated to give life to the Bishops' pledge of loyalty to our Government and the basic ideals of the American Republic. The Bishops' meeting also authorized erection of a new headquarters, indorsed a declaration of standards for religious work in penal and correctional institutions, and authorized observance of "Bible Day" in the spring of 1941

**CATTLE.** See DAIRYING, LIVESTOCK; VETERINARY MEDICINE; and the countries under *Production*

**CAYMAN ISLANDS.** See under JAMAICA

**CCC.** Civilian Conservation Corps (qv); or, sometimes, Commodity Credit Corporation (qv.)

**CELEBES.** See NETHERLANDS INDIES under *Area and Population*

**CELEBRATIONS.** See FAIRS, EXPOSITIONS, AND CELEBRATIONS

**CENSORSHIP.** See NEWSPAPERS AND MAGAZINES; RADIO, RADIO PROGRAMS, ROMAN CATHOLIC CHURCH; TELEGRAPHY, and the following countries under *History* AUSTRALIA, BELGIUM, BRAZIL; CANADA; CHILE; DENMARK; FRANCE, GREAT BRITAIN, IRELAND, NETHERLANDS; SOUTH AFRICA; SWITZERLAND. See also articles on literature, as SCANDINAVIAN LITERATURE.

**CENSUS OF THE UNITED STATES, Sixteenth.** See POPULATION

**CENTRAL AMERICA.** See BRITISH HONDURAS, COSTA RICA, GUATEMALA, HONDURAS, NICARAGUA, PANAMA, and SALVADOR, EL

**CENTRAL BANKING POLICIES.** See INTERNATIONAL BANKING AND FINANCE

**CERAMICS.** See SCULPTURE.

**CEREALS.** See AGRICULTURE; CORN, WHEAT, OATS, ETC.

**CEYLON.** A self-governing insular colony of Great Britain. Area, 25,332 square miles, population (1938), 5,780,000. Vital statistics (1938). 208,389 births, 122,299 deaths, and 35,466 marriages. Buddhism and Hinduism are the principal religions. Chief cities: Colombo, the capital, 310,000 inhabitants in 1936; Jaffna, 47,700; Kandy, 40,100; and Galle, 38,000. Education (1938):

792,761 students (average attendance) in the 5952 primary and secondary schools.

**Production and Trade.** The chief agricultural crops are tea (228,539,767 lb. exported in 1939), rubber (62,400 metric tons in 1939), copra, rice, coir, cinnamon, cacao, tobacco, and citronella. Livestock (1938) 1,670,400 cattle, 232,500 goats, 62,500 sheep, 36,700 swine, and 1350 horses. There were 160 plumbago mines working at the end of 1938 and 75,397 tons were exported. Ilmenite and monazite exist in commercial quantities. Small gems such as rubies, moonstones, cat's-eyes, and sapphires are found in the quarries. Trade (1939) imports, Rs242,369,560, exports (including re-exports of Rs22,726,262), Rs326,888,229 (tea, Rs188,029,000, rubber, Rs67,564,000, coconut products, Rs35,596,000). The rupee averaged \$0.3328 for 1939.

**Communications.** In 1938 there were 17,806 miles of highways and 951 miles of railways (including 117 miles of narrow gauge). During the same year, shipping aggregating 12,123,097 tons cleared the ports.

**Finance.** Budget estimates (1939-40) revenue, Rs117,426,650, expenditure, Rs128,952,900. The net public debt on Sept. 30, 1938, totaled Rs214,597,525. In order to meet a deficit of Rs9,464,637 in the 1940-41 budget, increases were made in income tax, sugar tax, and gasoline duty.

**Government.** The administration is headed by a governor who is assisted by a state council of 61 members (50 elected on a territorial basis, 8 nominated unofficial, and 3 officers of state). This state council, which deals with administrative as well as legislative matters, is divided into 7 executive committees in charge of various subjects, and the chairmen of these committees are ministers for the subject concerned. Governor, Sir Andrew Caldecott (appointed Jan 19, 1937).

**Maldivé Archipelago.** A dependency of Ceylon Area, 115 square miles, population (1931 census), over 79,000 Moslems. Capital, Malé.

**History.** For the first time in Ceylon's history a wave of strikes and riots occurred in 1939-40 among Indian laborers on the estates of Ceylon planters. The situation was variously attributed to a newly imposed ban on the immigration of Indian laborers into Ceylon, the rapid rise in the cost of living resulting from the war, and "Communist agitation" among newly enfranchised and largely illiterate estate laborers. In March the planters decided to pay a monthly bonus to regular workers on estates over and above the fixed wage scale, and later negotiations were opened with the Government of India for an adjustment of immigration and other issues. The planters finally agreed to recognize the laborers' right to form unions and bargain collectively.

During a strike riot on the Mooloya estate early in the year, police shot one of the laborers and arrested their ringleaders. At the request of the State Council, the Governor appointed a commission to investigate the riot. The Minister of Home Affairs requested the Inspector-General of Police to postpone trial of the strike leaders until the commission had submitted its findings. When the Inspector-General refused and was supported by the Governor, all the ministers resigned in protest at the end of February. Shortly afterwards the Governor issued a stern warning of the illegality of seeking "to use either labor unions or political associations as an engine of incitement to subversion of established law and order."

The planters and other European interests expressed deep dissatisfaction with recently enacted liberal constitutional reforms and in a joint memorandum asked the appointment of a Royal Commission to study the constitutional problem. As a result of their stand, the election scheduled for not later than January, 1941, was ordered postponed for two years.

**CHACO.** See PARAGUAY under *Area and Population*, BOLIVIA and PARAGUAY under *History*.

**CHAD.** See FRENCH EQUATORIAL AFRICA.

**CHAHAR.** See CHINA under *Area and Population*.

**CHAIN STORES.** See MARKETING.

**CHANNEL ISLANDS.** See GREAT BRITAIN under *Area and Population and History*.

**CHARITIES.** See BENEFACTIONS.

**CHECKERS.** The year 1940 was more than ordinarily quiet in the quarters patronized by lovers and principals of checker games. No national competitions were held, but tournaments of some importance were staged under the auspices of the New York State Checkers Association and the Southern Checkers Association.

The former, at Schenectady, N.Y., was duly won by William F. Ryan of New York City, who is also the champion of the National Checkers Association. The latter contest, held at Hendersonville, N.C., was won by Basil Case of Nashville, Tenn.

Asa W. Long of Toledo, O., continued as champion of the American Checkers Association, the older of the two national checker organizations, and thus was considered by many to be the world's champion.

**CHEESE.** See DAIRYING.

**CHEKIANG.** See CHINA under *Area and Population*.

**CHEMISTRY.** Superpressures, a revolutionary microscope for seeing molecules, more information on tapping the nuclear energy of uranium, another synthetic vitamin, elements No. 93 and up, these are some chemical milestones in 1940.

**Apparatus.** Enormous pressures were achieved during the year. The Aluminum Company of America built a machine for actual plant production which can apply pressures of three million pounds per square inch and yet is so sensitive that it can crush a watch crystal without stopping the watch. Bridgman found that record pressures of three and one-half million pounds did not convert graphite into diamond at room temperature but made the diamond-hard alloy, Carboloy, plastic. In April Goranson and Johnson of the Carnegie Institute of Washington described a pressure apparatus. Oil at 300,000 lb. pressure between two concentric chambers imparted a strength of at least ten times that amount to the inner steel chamber; and with a "cascade" of such chambers, pressures would be limited only by the plastic flow of steel, something which could only be guessed. The apparatus will duplicate pressures 750 miles inside the earth.

At its fortieth anniversary, the General Electric Company Research Laboratories dedicated the first industrial million-volt X-ray apparatus. Three similar machines are already in use in hospitals.

Clark and Shafer exhibited photomicrographs taken of X-ray pictures of metals. The X-rays pass through the specimen, revealing internal irregularities of structure, and obviating the usually careful preparation and polishing of the metal surface. A spectrophotometer described by G. R. Harrison

which automatically graphs the curves and analyzes the spectrum in less than two minutes will undoubtedly find wide application in studying alloys and for special problems such as following the rates of biochemical reactions

An ordinary X-ray tube operates at less than an ampere C. M. Slack of the Westinghouse Lamp Division has devised a special tube operating at 2000 amperes, making possible exposures short enough to photograph the passage of a bullet through wood. See also PHOTOGRAPHY, under *Applied and Scientific Photography*

**Archaeology.** The reading and photographing of cuneiform tablets of ancient Babylonia are facilitated by dusting the surface with powdered ammonium chloride, according to N. C. Debevoise

To assist artists in choosing durable oil paints the National Bureau of Standards is classifying artist's paints as regards color, quality, durability, and nomenclature

The world's oldest steel weapon, dating from 1500 B.C., a battle-axe mounted in a beautifully ornamented bronze socket, was unearthed by the French Archaeological Expedition to northern Syria

**Astronomy.** Cunningham's comet which made its appearance at the end of this year contains hydrogen in its atmosphere. This element has never before been associated with comets

Researches at the Mount Wilson Observatory indicate that the compounds CH and CN exist in interstellar space. Hitherto elements only, such as calcium, sodium, potassium, and titanium had been detected

"Forbidden lines" in the spectrum is one of the astronomer's great gifts to the chemist. For example, the gaseous metallic jackets surrounding the stars at temperatures well above the boiling point of iron emit forbidden lines which are not attainable on the earth, and a study of them contributes to our understanding of the structure of metallic atoms. Similar forbidden lines are found in the northern lights, a phenomenon which was reproduced this year by J. Kaplan who passed an electric discharge through nitrogen gas at a few millimeters of pressure. Other forbidden lines of oxygen were pronounced responsible for the spectral lines previously assigned to the hypothetical element "nebulium" in the sun

**Atomic Energy.** The public became speedily aware of the significance of uranium fission as an inexhaustible source of energy for man. Recognition of uranium 235 as the source of this energy, and current progress on this vital problem is reported under PHYSICS. Other nuclear research is reviewed under this same heading.

**Electron Microscope.** The scientist today stands at the threshold of a vast new world of chemistry opened up by the electron microscope (1938 YEAR BOOK, pages 136, 622). The ordinary microscope reveals clusters of several thousand molecules, and its resolving power can be increased by using shorter wave lengths of light. Electrons behave like light of very short wave-length, and therefore, in 1926 when E. Busch showed that a beam of electrons can be focused by electric and magnetic lenses, just as a light-wave is focused by a glass lens, many scientists turned their energies into developing a microscope using electrons. E. Rupp (1928), V. Zworykin (1929), and Davison (1931), described electrostatic focusing machines. The first compound magnetic-lens microscope was built by Ruska (1932) in Germany; and

in 1934 L. Marton at the University of Brussels used a similar machine in biological studies. Other machines have been erected at Toronto by Burton, Hillier, and Prebus, at the Eastman Kodak Laboratories by Prebus, for Siemens and Halske in Berlin, by Ruska, van Ardenne, and Brueche, and in Metropolitan-Vickers, England, by Martin

Zworykin, Hillier, Marton, and Vance, the latter designing the intricate electrical circuits, developed a machine in the RCA laboratories at Camden, New Jersey, which was put in commercial production at a price of \$9500 in July, 1940. The first instrument was delivered in December to the American Cyanamid Company for research on pigments in the paper industry

The electron microscope differs from the ordinary microscope in that it focuses electrons with magnetic lenses instead of focusing visible light with glass lenses. The electrons are generated from a tungsten filament, accelerated to 30,000–60,000 volts in an electric field, and focused upon the sample just as light is focused above the stage of an ordinary microscope. The object—for example germs too small to be studied in an ordinary microscope—is mounted in a film of nitrocellulose a millionth of an inch thick supported on a fine wire cloth. The RCA instrument is so simplified that it is almost automatic. Samples may be examined in rapid succession, for although the entire apparatus must be evacuated to  $10^{-4}$  mm pressure, air-locks are provided so that air is admitted to only a small isolated chamber in the apparatus when changing samples. The electrons pass through the sample, and through a magnetic field to a fluorescent screen where an image 100 times the size of the original object is formed. This image is further magnified to 20,000 diameters by a projection coil, similar to that used in television. The picture so obtained is called an *electron micrograph*, to distinguish it from *photographs* taken with photons. Portions of the electron micrograph may be photographically enlarged to 100,000 diameters. Magnifications greater than this do not improve the resolution. In contrast, the electron microscope at 100,000 diameters gives as good resolution as the ordinary microscope gives with magnifications of 1500. An ordinary microscope can examine particles 1500 angstroms in diameter; the electron microscope can go down to 30 angstroms. Since an atom is of the order of two or three angstroms, the present instrument is on the threshold of the world of atoms. It readily photographs individual molecules of large proteins, such as the tobacco mosaic virus

Some excellent work has come from Ruska, van Ardenne, and other German workers this year. They investigated mine dusts, for health protection. Ruska examined the adsorption of red colloidal gold on tobacco mosaic virus, showing that the gold sol is held so tightly below pH 4.5 that it does not aggregate, as it normally does, upon the addition of sodium chloride. Micrographs of giant protein molecules were also made, including the single molecules of hemocyanin from the blood of mollusks, and edestin particles from vegetable oils

Stuart Mudd at the University of Pennsylvania, collaborating with the RCA Laboratories, studied the structures of a number of germ cells too tiny to be examined under the ordinary compound-microscope. He reported continuous rigid membranes binding streptococcus germs in long chains, the structure of the long curved flagellae on typhoid germs, and curious internal structure in whooping-cough germs. H. Morton and F. Anderson reported

the production of tellurium crystals by the reduction of tellurites within diphtheria bacilli, some of the crystals piercing the walls of the bacilli. W. H. Stanley and F. Anderson micrographed tobacco mosaic virus.

Many industrial products are yielding the secrets of their molecular structure to the electron microscope: synthetic fibers and plastics, soap films and colloidal carbon, silver and gold sols. Electron microscopes have been used both in Germany and in the United States to study the formation of the photographic image and the mechanism of grain-development, with a view toward producing fine-grain films. Under this enhanced magnification it is seen that the so-called silver "grain" looks more like a clump of seaweed than a nugget or grain.

The scientist stands before a new, unexplored field of molecular research.

M. Ploke of Dresden has assigned to Zeiss Ikon A.-G. an electron microscope in which the electron beam is generated by the object itself. X-rays are allowed to impinge upon the sample, and the electrons which are thereby emitted are focused upon a television transmitting surface, where they may be subsequently amplified. The object does not need to be evacuated as in the electron microscope. Ploke also described a microscope using X-rays instead of visible light.

**Isotopes.** Valley and Anderson found that the abundance of the stable isotopes of iron are the same in meteoritic and terrestrial iron.

Concentration of heavy isotopes continues. Urey described the concentration of heavy sulphur,  $^{34}\text{S}$  by interchange between sulphur dioxide gas and a water solution of sodium bisulfite, at a cost of \$1500 per oz. It is to be used in tracing the course of sulphur compounds through the body. Urey has also employed exchange reactions using the zeolites. In a patent covering this use for zeolites with a view to the possibility of concentrating uranium 235 for tapping atomic energy (see PHYSICS), J. G. Dean of the Permutit Company revealed how heavy potassium, lithium, and nitrogen can be obtained by such interchange reactions.

Radioactive isotopes produced in the cyclotron have been used for a number of biological studies this year. Radioactive calcium in the bones and teeth was studied at California. The distribution of radioactive phosphorus in various portions of the brain was studied by Charkoff, Fries, and Changus; the greatest drop in the concentration of phosphorus occurs in the spinal column soon after birth. Kistiakowsky and Cramer prepared radioactive lactic acid containing  $^{14}\text{C}$  in the carboxylic position. Radioactivity was sufficiently strong to follow the course of the lactic acid in biological experiments for five hours.

With their million-volt X-ray machine, M.I.T. scientists have produced three new radioactive forms of indium. One of these isotopes has a half-life of four hours, making it suitable for medical use; but another has a half-life of only 12 seconds. Radioactive yttrium made in the cyclotron from strontium has a half-life of 100 days, considerably longer than most artificial radioactive substances. This will make it suitable as a source of gamma rays in the laboratory. In fact, C. Pecher has already made a quantity of it equivalent to 25 milligrams of radium for use in taking gamma-ray (X-ray) photographs of airplane parts to discover internal defects.

Radioactive  $^{14}\text{C}$  was obtained by bombarding ammonium nitrate in the cyclotron. This may prove

an important material, since it has a half-life of 1000 years, compared with radium, 1590 years; and therefore it has a radiation activity a little greater than radium.

**Molecular Films.** The use of thin films to eliminate glare (1939 YEAR BOOK, pages 123, 322) has found its way into the lens industry. The camera and projection lenses are etched on their exposed outer surfaces and fluoride-coated on their inner surfaces.

Langmuir demonstrated a number of interesting properties of mono-layers on water. A thin sheet of plastic held a sixteenth of an inch above a tray of water became limp from the water vapor. If a monomolecular layer of tricosanic acid were first spread upon the water, however, the plastic remained rigid since the mono-layer kept the water from evaporating. In another experiment a mono-layer of oleic acid extinguished a tray of burning ether-and-water, not because it kept oxygen away, but because it prevented rapid motion bringing fresh ether to the surface. Also, Langmuir showed how a colored mono-layer of olive-oil on water became invisible as the oil aged, and suggested a quick method for measuring the extent to which the oil is oxidized by measuring the amount of new oil which must be added to restore the color of the films.

W. D. Harkins described the peculiarities of two-dimensional systems on water. As a film of pentadecylic acid was compressed, it contracted from a gas to a highly compressible liquid, and finally to an incompressible solid, all in two-dimensions. There was no heat of fusion for this peculiar two-dimensional solid; but the heat of expansion of the two-dimensional liquid was very great.

**New Substances.** No longer are there 92 elements. This has often been falsely heralded; but with some authority in the *Physical Review* for June, 1940, McMillan and Abelson confirmed the experiments of Fermi made several years ago in discovering element 93  $^{238}_{92}\text{U}$  bombarded with 25-volt neutrons produced  $^{239}_{92}\text{U}$  which is radioactive, half-life 23 minutes. The disintegration product is  $^{239}_{93}\text{Np}$  or element number 93 in the periodic table. This is the reaction discovered by Fermi in his original experiments with uranium which led to the tapping of nuclear energy (see PHYSICS, under *Nuclear Energy*). Element  $^{239}_{92}\text{U}$  is itself radioactive, with a half-life of 23 days, and probably disintegrates into another new element  $^{239}_{94}\text{Pu}$ . Still other heavier elements may be discovered as research progresses. In the same issue of *Physical Review* a group of Japanese scientists also announced element number 93 from uranium bombarded with fast neutrons.

Lane, reporting for Wahl of Helsingfors, postulated the existence of a fourth series of radioactive substances present in very old geological minerals, of which an element of weight 237 is a member.

Cut off from supplies of amino-acids from Germany and Switzerland, laboratories and medical clinics have increased their demand for those of the 23 rare amino-acids manufactured at the University of California. Manufactured from glue, human hair, cottage cheese, dried blood, etc., some of them so difficult to prepare that they cost \$1000 a lb., these rare acids are in constant demand for medical research on baldness, cancer, muscular diseases, and gastric ulcers; also as flavorings for soups and gravies.

Another vitamin, the eighth to be synthesized by chemists, was announced by the Merck Laboratories. Named pantothenic acid, from the Greek meaning "everywhere," this new product is universally present in animal tissue, including man. R. J. Williams partially synthesized it in 1933 and Elvehjem identified it with the chicken antiskin-infection factor. Collaboration between Williams and the Merck Laboratories led to the present accomplishment.

One of the most important food-forming processes in nature has been duplicated this year in the Cambridge Laboratories by C. S. Hanes. Glucose containing phosphorus was transformed into starch under the action of phosphorylase enzyme. The synthetic starch shows the usual reactions of natural starch: grain-structure, iodine blue reaction, and reversion to glucose upon acid hydrolysis. Twenty grams of the new synthetic starch has been prepared.

**Research Activity.** As a rough index of the research activity in different countries, the American Chemical Society released interesting statistics on the number of articles selected for *Chemical Abstracts* during the past quarter-century. The figures for the number of abstracts for the years 1913, 1929, and 1939 respectively are for the United States, 3940, 7498, and 12,615; for Germany, 6539, 7841, and 8503, for the British Empire, 2741, 3929, and 6423 of which 4776 came from Great Britain, for Russia 474, 990, and 5063, for France 2481, 2045, and 4142; and for Japan 71, 1079, and 2029. Most significant changes in these figures, calculated as percentage of abstracts from each country, is the drop from 1913 to 1939 by Germany from 18.4 to 34.4; and the rise by Russia from 2.5 to 19.9. Most countries did not change considerably percentage-wise, the figures for 1939 being the United States 27.5, the British Empire 14.4, and France 13.0. Prewar suppression of publications on important research may well impair the significance of these figures, however.

**Awards and Medals.** The American Chemical Society Award in Pure Chemistry for 1940 went to L. O. Brockway for his electron diffraction studies of molecular structure. The \$1000 was provided by Alpha Chi Sigma. E. G. Ball received the Eli Lilly and Company Award in Biological Chemistry for his studies of the oxidation-reduction properties of cell pigments, adrenaline, Vitamins C and B<sub>2</sub>, and nicotinic acid amide. Some of his best work has been on the enzyme xanthine oxidase. This enzyme brings about the oxidation of purines to uric acid; and during the research Ball obtained a preparation related to Vitamin B<sub>12</sub>, thus establishing another role for Vitamin B<sub>12</sub> in biological oxidations.

Franklin Institute awards were as follows: the Longstreth Medal to L. Godowsky and L. Mannes for development of Kodachrome, and to G. Slayter for improved methods of spun and blown glass filaments, the Levy Medal to C. Rosenblum and J. Flagg for their paper on artificial radioactive indicators; the Cresson Medal to F. Becket for process development of low carbon ferroalloys, and to R. R. Williams for his researches on Vitamin B<sub>12</sub>; and the Franklin Medal to Leo Bakeland for his well-known plastic.

R. E. Gibson received the Hillebrand Prize Award for his work on the behavior of solutions under high pressures. To W. H. Sebrell for his discovery of the cure for the sometimes blinding disease keratitis, and to a five-man team at the

Merck Laboratories, who synthesized Vitamin B<sub>12</sub>, went the Mead, Johnson and Company \$1000 award for advances in the knowledge of the Vitamin B complex. Linus Pauling has been announced as the 1941 Nichols Medalist, in recognition of his distinguished and pioneer work on the application of quantum mechanics to chemistry, and on the size and shape of chemical molecules.

See ASTRONOMY, BIOLOGICAL CHEMISTRY; CHEMISTRY, INDUSTRIAL, PHOTOGRAPHY; PHYSICS. HUBERT N. ALYEA.

**CHEMISTRY, Industrial.** The astonishing variety of synthetic plastics, fibers, rubber, and textiles expanded in 1940.

**Canada Rearms.** Forty-five hundred professionally trained workers in 1000 laboratories with an annual outlay of \$14,500,000 are participating in the half-billion dollar chemical war-expansion program. This includes the erection of a munition plant, Britain's largest, at Fraser, Ont., a \$8,000,000 ammonium nitrate plant using Albertan natural gas, and a \$1,500,000 nylon plant at Kingston, Ont., utilizing imported nylon polymer.

The government uncovered large magnesium ore deposits, developed ferro-uranium steels, hydrogenated peat with 77 per cent yields, and studied cold-packing of fruit. It is standardizing and centralizing extraction of cod-liver oil, 200,000 gallons yearly from Nova Scotia. Oil exports were forbidden after September. New methods for storing liver in isolable communities may elevate Newfoundland's importance in the industry. Whaling operations, resumed in 1940, resulted in a catch of 219 whales yielding 132,000 gallons of whale oil, 269,000 gallons of sperm oil, 181 tons of bone meal, and 434 tons of fertilizer. On the west coast 850,000 gallons of pilchard oil were produced for native consumption.

The Canadian Pulp and Paper Association emphasized the importance of wood research. Pulp and paper has increased from 400,000 tons in 1914 to 4,300,000 tons in 1939. Wood has been completely hydrogenated into liquid cyclohexanol-like products.

The cinnabar deposits discovered in British Columbia in 1937 yielded 36,000 standard flasks of mercury for fulminate detonators during the first half of 1940, a considerable achievement when it is recalled that the entire 1939 world output was only 160,000 flasks.

The most important item from **Central America** was the continued activity in **Cuban manganese** ore which supplied the United States with one-fifth of its needs for special steels. A plant for extracting chemicals from sea water commenced operations near Havana. A consolidating law on medicinals, 64 per cent of which was supplied by the United States, was put into effect. Approximately a million dollars worth of chemicals reached **Nicaragua**, the **Bahamas**, and **Haiti** from the United States. German imports heretofore amounted to from 10 to 20 per cent. **Mexican mercury**, produced in crude peasant stills, soared in price from \$75 in 1937 to \$200 in 1940, while production rose correspondingly from 170 tons to over 600 tons. This reflects efforts by Germany and Japan to stock-pile mercury for fulminate detonators.

The **Chinese Industrial Co-operatives** are rapidly decentralizing chemical industry. Chemical journals resumed publication. The universities are scattered inland as a protection against bombings;

and research, directed entirely toward military and economic needs, is handicapped from want of ordinary chemical reagents. Motor fuel from vegetable oils is produced in three localities. The Yung Li Co., foremost chemical company, will operate a Solvay soda plant with Szechuan natural brines. China supplied 15 per cent of the silk imported to the United States in 1940, 8 per cent in 1939.

**Egyptian** exploitation of resources has progressed. Nine governmental research centers, one for chemistry, have been created. Plate-glass and sardine-canning industries are to be established. A 500,000-ton tin deposit was discovered. Phosphate rock valued at 500,000 Egyptian pounds was mined in 1939, and 4000 metric tons of caustic soda was obtained from natural carbonates occurring 70 miles northwest of Cairo.

**German** industry is completely mobilized, and research is co-ordinated at the House of German Research in Berlin-Dahlem.

Youth organizations gather plants previously imported for *drugs*. Sodium dibromophenol sulphate replaces Chilean iodine in hospitals, where iodine is reclaimed from old swabs. Iodine as well as silver is also reclaimed from photographic films. Vitamin C and D tablets are administered to children under governmental supervision. One-fifth of the food storage is by quick-freezing. Production of fats from petroleum reached 35,000 tons yearly.

Motor fuel probably reached 6,000,000 bbl., up 50 per cent over 1939, and of this, 500,000 bbl. came from Alsatian fields exploited since the capitulation of France. Diesel-engined airplanes were rumored. English reports on captured planes rated most German gas at 64-octane, none above 85-octane. Forty thousand cars operated on liquid propane-butane. Petroleum was forbidden in cosmetics and putties.

The death penalty enforces the gathering of scrap metals—zinc, aluminum, and magnesium alone being exempt. Glass, enamelled-iron, and plastics replaced metals, although there are restrictions on plastics from phenol which is the raw material for picric acid explosive. Lead has been requisitioned from the storage batteries of unused cars. The government has offered \$4000 for a battery containing neither lead nor nickel, such an invention would have far-reaching consequences in relieving fuel consumption. Research intensified on plastic powdered metals, aluminum-magnesium alloys, and the recovery of vanadium from Bessemer slag.

A *nitrogen* supply of 1,500,000 tons annually, itself probably adequate for hostilities, was augmented by the 450,000-ton capacity of conquered Belgium, Norway, and the Netherlands. Nitrogenous fertilizer quotas of 85, 115, and 100 per cent of prewar consumption were allocated the Old Reich, Austria, and Sudetenland. Potash companies are diversifying their interests, for example, the chief operator has also entered the petroleum and magnesium fields.

Search for *textile* raw materials continues. Italian cane cultivated near Vienna is claimed to yield 10,000 lb. of fiber per acre, in contrast to 200 lb. for cotton. Plastic substitutes flooded the market; of these, cellulose acetate for transmission belts was pronounced especially successful.

Many restrictions have been proclaimed: on cuprous insecticides, on sulphur for vineyards, on borax for beet diseases; curtailment of phosphate fertilizers to 25 per cent the 1939-40 quota, for Germany has depended chiefly upon Florida phosphate rock; decrees to check a flood of worthless

soap substitutes which came at the beginning of the war, abolishing trade names and requiring the admixing of 15 to 45 per cent of sodium silicate in washing soda; and prohibition against packaging common commodities such as soap.

The demand for calcium carbide for synthetic rubber, plastics, fibers, and solvents is so great that it is difficult to meet. Since a 150-ton calcium-carbide electric furnace consumes 30,000 kilowatts daily, Germany with insufficient hydroelectric power is forced to produce its electricity from coarse lignites.

By 1940 **Great Britain's** chemical industry was on a wartime footing. Key Import Duty licenses were strictly applied.

A newly created Secretary for Petroleum has initiated six lines of *fuel* research: low temperature coal carbonization, high temperature carbonization, liquid products, substitute fuels, colloidal fuels, and efficient use of fuels. Private motor cars are beginning to use sewage and coke-oven methane, natural gas in Scotland, and producer gas.

*Metal* research is intense. Britain lost 72 per cent of her iron supply from the continent, although 16 per cent still comes from Spain. The new X-ray and metallographic Tin Research Laboratories in Middlesex are investigating tin coatings and bearing metals. Metal news includes 30 new plants for treating colliery effluents; Bright-ray, a 80-nickel-20-chromium steel for aircraft engines, Vulcoferan, an ebonite lining for steel, domestic ferroalloys, formerly imported from Norway, and electro-deposition of white bronze.

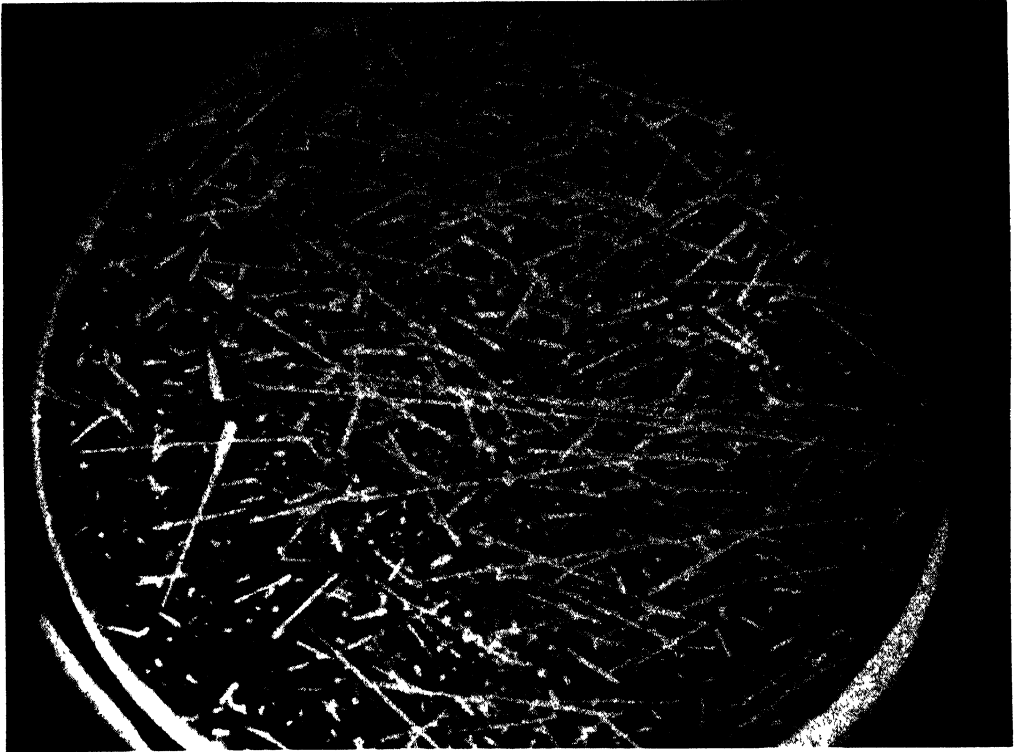
*Textile* news includes resin impregnations for transparent and fluid-impermeable fabrics, stiffness and transparency imparted to cotton by ethylene oxide, use of the Italian Pomilio process for paper pulp from grasses, nylon bristles by the ICI, although yarn production has been postponed, and a dyestuffs industry 8-fold greater than in 1914, meeting 90 per cent domestic textile demands.

Miscellaneous notes include development of native barytes for paint, latex paint or cellophane tape to protect windows from bombs, seventeen new flexible resin substitutes for glass, water-soluble melamine resin powders, hot-spray shellac, Distrene and Polythene resins, extended applications of cellulose esters and ethers, potassium dichromate-mercuric chloride wood preservative containing sodium nitrite or sulphite to prevent corrosion of steel, fire-resistant electric household wiring, a peanut-oil substitute for cod-liver oil, potassium metabisulphite tablets for preserving fruit at home, and paper wrappings impregnated with 35 parts of hexamine to 170 parts of o-phenylphenol for preventing green-mold on citrus fruits.

The government-sponsored rise of **Greek** chemical industry slumped badly, since 60 per cent of its raw materials are imported. Soap, alcohol, and naval stores are the only wholly domestic commodities.

In **Hungary** the exigencies of war have increased employment 27 per cent in the petroleum, aluminum, and iron industries. There are 96,500 men employed. News items included a new 10,000-ton aluminum plant, Budapest using sewage and coal waste methane, and a semi-plant production of cellulose from cornstalks which has interested German capitalists.

An opportunity to capture **India's** huge chemical market, \$36,000,000 in 1939, is open to America for a number of years to come. At present chemical exports are virtually banned. Twelve important in-



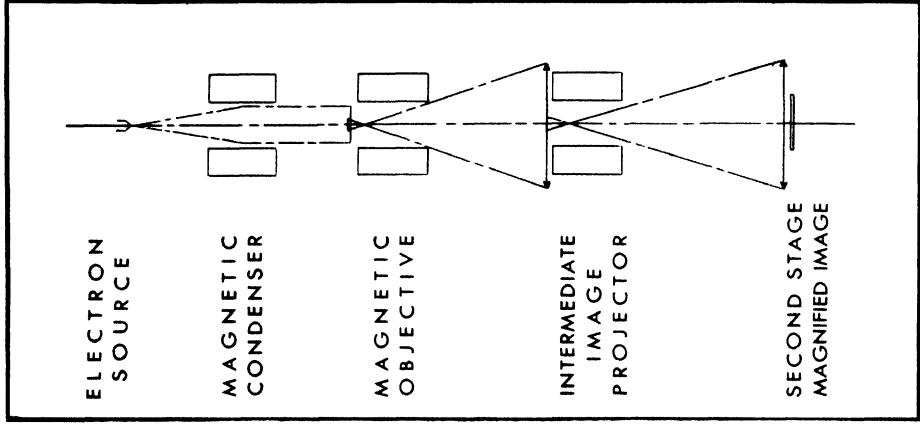
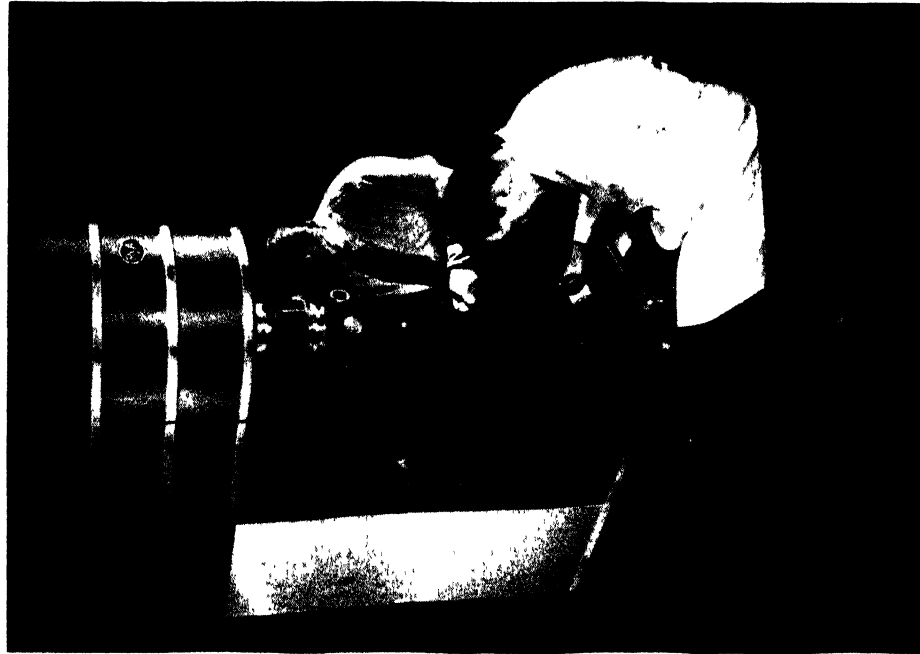
*Courtesy, Science Service*

#### HYDROGEN ATOMS AFTER COLLISION WITH NEUTRONS

A cloud chamber photographed in 1/100 second by Dr. F. N. D. Kurie showing the great activity caused by a neutron beam from the cyclotron at the University of California. The test chamber was six feet from the giant machine.



SYNTHETIC RUBBER



# THE R C A ELECTRON MICROSCOPE

*Left* Seated at the microscope is its designer, James Hillier, who worked under the supervision of Dr. V. K. Zworykin (standing), the Associate Director of the R C A Electronic Research Laboratories. *Center:* Diagram of the principles of the microscope, electrons are focussed with magnetic lenses, just as glass lenses focus light with an ordinary microscope. *Upper right:* Structure of the silver grains in a photographic image, showing undeveloped silver bromide crystals and filamentary silver produced by developer action. Magnification x 40,000 diameters. *Courtesy, Kodak Research Laboratories.* *Lower Right:* Bacillus Subtilis, magnification x 23,000. At the left a bacillus is degenerated and is dissolving. Neither the structure nor the degeneration is revealed in the ordinary microscope. *Courtesy, R C A Laboratories*



dustrial chemicals will be in production by 1941. The United Provinces and Bihar, which consume one-tenth the gasoline of India, passed bills in 1939 and 1940 requiring that 5 to 20 per cent power alcohol be added to all gasoline. The potentialities of this movement are apparent when it is realized that 1,500,000,000 gal. of power alcohol could be produced from surplus molasses each year. Drug legislation has been consolidated into a single bill. A new tough hybrid of bamboo and sugar cane may well revolutionize the sugar industry. The electric power industry is expanding, attention being given to electrochemical industries. Four native-fish oils 3 to 19 times more potent than cod-liver oil were reported. The 1939 government report advised aluminum stearate for keeping red lead particles from settling in the paint can; substitution of native pyrolusite for a portion of the artificial manganese dioxide in dry cells; and 15 per cent of molasses to increase tensile strength in lime-cement mortars.

Italy is attempting to develop zinc, lead, manganese, antimony, copper, iron, and mineral combustibles in Sardinia, mercury, iron, marble, and lignites in Tuscany, mercury, bauxite, and coal in Veneto; and iron and anthracite in Piedmont.

Food requirements are carefully controlled. Sugar rations for each person are 500 grams per month. Beets formerly used for alcohol have been diverted to sugar production. Prizes had been offered to increase the cultivation of beets, and importation of saccharin has been prohibited. Garoglio and Ciferri have made preliminary studies on the industrial production of fats from carbohydrates by the use of microbes, their method overcoming the necessity of the large surfaces required in the German process. Saponifiable fats are being extracted from coffee grounds. Soapmaking fat, 75,000 tons annually, is under governmental distribution. 85 per cent for laundry soaps, 10 per cent for medicinal soaps and dentifrices, and 5 per cent for shaving and toilet soaps.

The exploitation of coal and lignite for fuel continues, with an expanded program of 7,000,000 tons for 1944. Three new pits, 1,000,000 tons each, are to be opened up. Leghorn and Bari are producing aviation fuel, lubricating oils, and paraffins, and production of isopentane is being considered. A new source of methane, discovered in February at Pietramelara, will possibly replace 4,000,000 liters of gasoline a year. Motor fuel must contain 20 per cent power alcohol.

Aluminum production, 40,000 tons in 1940, will be increased to 50,000 tons by a new plant just opened up. Six thousand tons of magnesium are expected for 1941 from new factories now under construction in Northern Italy. Substitution of copper oxychloride has saved 35 per cent of the copper consumed. Although Italy makes 1,000,000 tons of steel from domestic ore, the program calls for two and one-half times that production.

The first butadiene rubber factory went into operation in 1940, and two more factories will be in operation by 1941. One plant is to locate at Umbria, near the undeveloped lignite resources. Glyptal, acrylic, and vinyl resins have appeared. The Talgius process for making direct photographic reproductions of costly woods on plywood has been pronounced successful.

The hostilities in Europe were a severe blow to Japanese chemical industry in 1940. Half of her sulphite pulp comes from Scandinavia; and Manchurian pulp production has been held up by the

limited capacity of the trans-Siberian railroad for delivering German equipment in return for Manchurian soybeans. The loss of cryolite from Greenland will seriously hamper Japan's aluminum industry, since the German synthetic cryolite is no longer obtainable. Sixty per cent of Japan's industrial salt for making lye for the rayon industry came from East Africa. Although the Japanese are negotiating trade relations with South America, it does not seem likely that Japan can supply the process equipment which South America will need. Actually, Japan leans most heavily on the United States, who obligingly supplied her in 1939 with 55.7 per cent of Japan's imported war goods, despite the "moral embargo" of June 11, 1938. The 1940 embargoes on solvents, copper, and machine tools (July 2), aviation fuel (July 26), and scrap iron (October 16) finally cut off Japan from the mainstay of her war imports. She does not need cotton for explosives, for her reopening of the natural camphor trade in 1940, despite the synthetic product, will furnish the necessary explosives. The largest Japanese investment is in rubber plantations, producing 10,000,000 lb of crude rubber and latex annually.

Nitrogenous fertilizers are to enjoy a \$50,000,000 expansion over the next two years. The first shipment of ammonium nitrate from China arrived in 1940. Manufacturers were turning from ammonium sulphate to ammonium nitrate because of the sulphur shortage. Fifty per cent of the United States phosphate rock formerly went to Japan, who is now planning to mine 90,000 tons of apatite in Korea each year. She is also turning to Korea for 100,000 tons of potash alum to replace the potash supply from Germany and Palestine.

The fuel program has lagged. Less than 500,000 tons will be produced by 1941, one-quarter the figure called for by the five-year plan. The 30,000-ton Fischer-Tropsch plant at Kyushu produced only 1000 tons this year, and it is assumed that the largest unit, 52,000-tons at Chinchow, did no better. The 600,000,000-yen investment in coal liquefaction is chiefly for low-temperature carbonization, and the large semi-coke by-product will be popularized for automobile producer-gas. Polymerization units for aviation fuel have been erected for the Mitsubishi Oil Company by Universal Oil and Tide-Water, the latter having a 50 per cent interest in Mitsubishi. Output will be so small, however, that Japanese firms are preparing to manufacture tetraethyl lead as soon as the last American patent expires in June, 1941. Because of the shortage of coal, steel works substituting it as bunker fuel were instructed to revert to heavy oil. Soybean oil was evaluated as a Diesel fuel. Furfural, a solvent for aviation lubricants, is being made from rice straw, 17 per cent of the straw being recovered as 99 per cent furfuraldehyde.

The soap industry is virtually self-sufficient, using hydrogenated sardine oil; 62 per cent of this is for soap, 21 per cent for glycerine, and 17 per cent for wax. Thirty-three thousand tons of explosives are produced in Chosen from this glycerine, in which Japan is self-sufficient. A guild of sodium silicate manufacturers will control their 80,000-ton annual product. Manchukuo grew 4,500,000 tons of soybean in 1940, 60 per cent of the world crop.

The textile industry is in the doldrums. Shortages of salt and pulp have created stagnation in the rayon industry, export of which was half that

of 1937. Carbon disulphide production, too, was inadequate for the viscose demands, the electric power necessary to manufacture carbon disulphide having been diverted to wartime electrochemicals. Patents are paying little attention to viscose and concentrating on fibers from soybean protein, casein, and fish protein. The advent of nylon has caused considerable concern and foreshadows intense governmental research. Thirty years ago Japan met a similar announcement about rayon by building up the largest rayon industry in the world. The answer is not as simple this time, for foreign companies are reluctant to divulge their processes in detail. Silk stock surpluses were so large that the government ordered the admixing of 20 per cent silk with all other fabrics after Oct. 1, 1940. New fibers included a wool-like acetate rayon costing 50 per cent more than ordinary rayon; Silkool and Sova wool, soybean-protein fibers; and three fibers in experimental production: Kanebiyon-60, a vinyl fiber substitute for silk; Kanepylon-60, a viscose-soybean protein substitute for wood-pulp; and Kaneralia-60, a rayon substitute derived from Korean and North Chinese reed-pulp mixed with an undisclosed acetylene derivative. Sample hosiery made with these synthetics compared favorably with nylon excepting in wet-strength. A hemp substitute was reported from banana skins, 4,000,000 lb. of which are available yearly.

The islands of the Pacific are being explored for mineral wealth. In **Australia** vermiculite, mercury, phosphates, and dolomite were uncovered, and oil shales are expected to yield 10,000,000 gal. of gasoline yearly. Synthetic ammonia, phosphate, and Solvay plants began operation in 1940. Power alcohol in Queensland is to be tripled to 4,000,000 gal. a year. A substantial export market for soap has been built up. Alkyd resins, ramie cloth, and an unshrinkable wool made their appearance. The **Netherlands Indies** retained their position of fifth most important crude-oil producer in 1939, 2.8 per cent of the world's total. Royal Dutch Shell controls 56.5 per cent of the output. **New Zealand** sulphur imports were up 50 per cent over 1939. Synthetic fibers were produced from bagasse by the Pomilio process in the **Philippines**; adsorbent charcoal was manufactured from rice hulls and coconut shells; and the economically important nickel-chromium ores were further examined.

Intense **Russian** activity in diversified industrial fields attests a growing, if not yet thriving, era of chemical industry.

Food quotas for 1940 included 23,000,000 tons of beet sugar and 3,000,000 tons of potatoes. Caffeine is being extracted with ethylene chloride from Georgia tea dust. Nitrate, potash, and phosphate fertilizer output are to be doubled by 1942.

Widespread metallurgical research included chromium-silicon, and chromium-manganese alloys, cast magnesium alloys, nitrocementation of steels, anticorrosion films with silico-organic compounds, and alloys of aluminum with titanium and chromium. Low-grade tungsten ores in Siberia have not been worked, and aluminum production has lagged from lack of ore and electric power.

By-products of butadiene rubber from grain and potato fermentation were investigated, also, chlorinated transformer oils, synthetic tannins, sunflower oil substitute for linseed oil in alkyd lacquers, and cracking of methane to acetylene by the electric discharge.

In **Scandinavia**, **Denmark** abandoned its superphosphate and sulphuric acid industries for lack

of raw materials. **Greenland** cryolite is under the protection of the United States. The German I. G. is exploiting the nickel deposits in northern **Finland**. **Norway** oil-whale for the 1939-40 season amounted to 909,200 bbl. Germany did not participate, Great Britain and Norway sending 10 expeditions each, Japan 6, and Panama and the United States 1 each. A plant at Oslo is studying the electrolytic recovery of potash from sea water. With her 9,200,000-kw water power **Norway** ranks high as an aluminum producer, 40,000 tons annually; and abrasive industries are contemplated. **Sweden** has mobilized 100,000 workers for defense. In a new oil laboratory at Nynashamn the Bergius and Fischer-Tropsch processes are being examined; although the fermentation of sugar in sulphite pulp-liquor holds more promise, representing a potential source of 200,000,000 liters of power alcohol. Ten thousand wood-gas and 15,000 charcoal-gas automobiles operate in Stockholm. Superphosphate operations continue at full scale. An institute for organic chemical research was inaugurated in Stockholm this summer, with biochemist Hans V. Euler as director.

In **South Africa** the United States may find a market for dyes, medicinals, superphosphate fertilizers, and sulphur; while potential native industries include sugar, fermentation, and coal products.

**South American** products normally exported to Europe were diverted to the United States in 1940. The **Argentine** vegetable-oil production has increased 248 per cent during the past ten years. The first pilot-plant batch of coffee-plastic was made in November, 1940. Universal Oil and Foster-Wheeler are installing a Dubbs petroleum-cracking unit in Rio de Janeiro.

The birth of **Brazil's** chemical industry is expected to occur from the necessities of the current war, just as its other industries originated from the exigencies of the World War of 1914-18. The Instituto Nacional de Tecnologia, created by the government to develop Brazilian raw materials, and the important industrial research organization Instituto de Pesquisas Technologicas, are contributing much to this national advancement. Experts were brought from the United States to inspect the iron, chromium, manganese, and petroleum resources; and Brazilian commissions visited the steel and Georgia pine factories in the Northern Hemisphere.

By law, imported products must be blended with coal; with 1,000,000 tons manioc flour, and with 10 per cent of jute substitute, mostly caraoa from the dry northeastern portion of the country.

New projects include a fifth Dubbs cracking unit for Brazil, 4000-bbl. capacity, to be built near Nictheroy; a 10,000-ton superphosphate plant; and treatment of 5 per cent nickel deposits, and argentiferous galena, in São Paulo. Bauxite transportation costs still inhibit aluminum production. Native castor-oil mixed with mineral oil and triethanolamine is used as a lubricant. Cultivation of a native tree which yields a fatty oil, bati-fat, has been urged. A plastics-from-coffee plant is under construction. Henry Ford invested \$9,000,000 in native rubber trees in 1928, and is considering another \$20,000,000 investment.

All chemical groups of the country were merged into a single group patterned after the American Chemical Society whose by-laws were copied. Another society was formed in September with aims similar to the American Society for Testing Materials. A large number of German manufacturers

belong to the new society. By national edict the professions of chemist, engineer, physician, and so forth are limited to native-born Brazilians. Loss of Chile nitrate trade to Europe was more than offset by increasing shipments to Japan, the United States, and Egypt. Chile hopes to capture the 25 per cent fertilizer imports of the United States. Coal-tar dyes will probably become a native industry, since 88 per cent was supplied by Germany, only 1 per cent by the United States. Ecuador produces large quantities of ethanol.

Spain is giving greatest consideration to nitrogenous fertilizers. Cestor, a government organization, plans to fix 10,000 tons annually; and provisions are also made for a nitric acid plant. The olive-oil crops reached 350,000,000 liters this year, up 10 per cent. Potash shipments to the United States have been renewed.

United States. Butadiene rubbers, synthetic fibers, and plastics dominated the industrial field in 1940. In the closing months of the year the government embarked upon an enormous expansion program in explosives, metals, and other strategic materials.

**Explosives.** Contract awards were \$15,000,000 to DuPont for an ammonia plant near Morgantown, W. Va.; \$11,132,440 to Allied Chemicals and Dye for a similar unit at West Henderson, Ky.; \$6,500,000 to TVA for Muscle Shoals rehabilitation; \$20,000,000 to treble the TNT and DNT duPont plant at Wilmington, Ill.; \$14,000,000 to Procter and Gamble for an ammunition-loading factory at Milan, Tenn.; and \$11,000,000 to the Trojan Powder Co. for a TNT plant at Sandusky, Ohio. DuPont plants near Louisville, Ky., will soon turn out 200,000 lb. of smokeless, flashless, non-hygroscopic Army powder per day, tripling national output.

The consumption of explosives during the present war is greater than heretofore since airplane bombs carry considerably more explosive than artillery projectiles, 60 and 20 per cent respectively. This increased demand can be met by substituting ammonium nitrate explosive for nitroglycerine, nitrotoluene, and nitrophenol types of explosives. On the other hand, synthetic glycerine (1939 Year Book, page 142), toluene and phenol are now available in unlimited quantities from petroleum gases. Also lower nitroparaffins from petroleum gases may be converted into explosives.

Newspaper notoriety given L. Barlow for his oxygen-carbon bomb "glimite" was ignored by chemists, who recognized it as LOX, a liquid-oxygen explosive, 5,346,000 lb. of which were produced by the Germans in little portable air-liquefying machines during the last war. About as dangerous as dynamite, thousands of pounds are used in Midwest coal-mines.

**Miscellaneous** items include a cold-setting printers' ink which dries instantly; paints containing iodine or chlorine to kill germs and prevent mold; paint reflecting 72 per cent of ultra-violet light, chlorite for bleaching pine-pulp and fabrics; HTS, a salt bath for 290°-1000° F. containing nitrates and nitrites of sodium and potassium, and used commercially in the Houdrey petroleum catalytic process; discovery of Iceland-spar in New Mexico, from which 500 lb. of fine calcite crystals have already been removed; potassium cyanide by duPont, it having heretofore been imported; large-scale maleic anhydride production by Carbide and Carbon, commercial production of over 80 polyhydric alcohols and their esters; water-waxes, such as Carbowax by Carbide and Carbon; self-heating

canned goods which warm when a false bottom is punctured, admitting air to chemicals; and Benalite lignin containers by Masonite.

**Petroleum.** In 11 years the petroleum industry has expanded 539 per cent, rising from seventh to second place. Twenty-six billion gal. of gasoline were produced in 1940, and this could be pushed up to 40 billions on short order.

The modern 100-octane aviation fuel approaches Diesel engine efficiency, and in addition gives maneuverability and lifting power. It is thought that 125-octane is the ceiling of the present movement which will undoubtedly lead, in peacetime, to a redesigning of private automobiles to burn these superfuels. For good octane gas, the hydrocarbon must be as branched as possible, and present petroleum practice is to limit the gasoline to two or three hydrocarbons and thereby simplify control over the final product. This also facilitates adjustment of the motor to any given fuel.

The Polyform polymerization-cracking process of Gulf Oil was disclosed. New safety-fuels with flash points a hundred degrees above present aviation fuels have been developed to curtail fire hazards. Schweitzer of Penn State predicted the use of liquid oxygen for Diesel airplanes at the take-off where one-third more power is required than for continuous flight.

E. Berl described laboratory experiments for converting plant carbohydrates into coal and oil of high antiknock characteristics. The process involves heating the plants with limestone for an hour at slightly elevated pressure, and is claimed to be cheaper than high pressure hydrogenation of coal.

**Petroleum Gases.** Three hundred million gal. of liquefied petroleum gases, an increase of 32.5 per cent over 1939 included 19,000,000 gal. for small city gas plants, and 128,000,000 gal. for home use, the number of retail customers passing the million mark. Expansion is attributed to increased use in internal combustion engines such as for locomotives, electric generator and air-conditioning units, drilling and construction equipment, and in industrial plants where natural gas supply is diminishing. The future demands which the budding nitroparaffin and synthetic rubber industries will make upon these refinery gases can only be conjectured; but it is sure to be enormous.

**Phenol.** Phenol is an important intermediate for explosives (picrates) and plastics (Durez, Bakelite). In Germany, synthetic phenol has been manufactured by the Raschig Company on patents issued in 1930. In 1940 Durez Plastics and Chemicals, Inc., having acquired these patents, opened a \$2,000,000 plant with a capacity of 7500 tons annually, at North Towanda, N. Y. The process is so automatic that only six men and a supervisor are in attendance. Stage (1) is the catalytic chlorination of benzene at 230° C:  $C_6H_6 + HCl + \frac{1}{2}O_2 \rightarrow C_6H_5Cl + H_2O$ , for which the yield is 10 per cent, the unchanged benzene being recovered by condensation and scrubbing. Stage (2) also gives a 10 per cent yield at 425° C for the endothermic reaction  $C_6H_5Cl + H_2O \rightarrow C_6H_5OH + HCl$ . Phenol, residual products as a gaseous azeotropic mixture, and only 0.1 per cent waste products are obtained. After bubbling the gases through hot water, they may be re-circulated through the second stage; while the phenol is scrubbed out, and may be extracted from its water solution by a counter-current of benzene.

**Plastics.** The 1940 news included transparent

shoes and belts, vinyl acetate and polyamide photographic films, Vinyon hats which look like felt, transparent plastic packaging of syrupy foodstuffs, wood rendered flexible by soaking in urea; polyvinyl acetates by duPont for textile sizes and adhesives; Plastacele, a steel wire coated with colored cellulose acetate for binding books, melamine resins for molding and enamels; water-soluble plastics, including methyl cellulose and polyvinyl alcohols, for grease-proofing fabrics and making them flexible, and a group of new thermoplastic resins based on vinylidene chloride, trade name "Saran" by Dow (*Ind Eng Chem, News Ed* Vol 18, page 923, 1940), for fishing leaders, seat coverings, abrasive bonding, and so forth.

Four aircraft companies have produced experimental planes of molded and resin-bonded plywood types.

**Rubber.** Four centuries ago, the white man found the Indians of South America sporting with strangely resilient and elastic balls obtained from the gum of a tree. It was first known as "Indian Rubber" after the discovery by Priestley that it would rub out lead-pencil marks, for which purpose Britain imported it. Grenville Williams in 1860 showed that the destructive distillation of natural rubber yields a product named "isoprene," and in 1875 Bouchardat conceived the idea that this was a primary unit, which he succeeded in polymerizing back to natural rubber. As a result of the English blockade during the World War, Germany intensified her research on the problem, and by 1918 had produced 2350 tons of 2-3-dimethylbutadiene rubber from acetylene, precursor of modern German Buna rubber.

After the war, chemists realized that only by making a synthetic rubber better than the natural product could it compete economically. As a result, they disregarded the chemical composition of natural rubber, and turned to cheaper long-chain hydrocarbons as a basis for a natural rubber type. In 1926 Father Nieuwland interested E. K. Bolton of the duPont Company in researches conducted at Notre Dame on the production of vinylacetylenes, using ammonium and cuprous chlorides as catalysts. Feverish industrial research followed, and produced 2-chlorobutadiene, marketed at first as chloroprene, but subsequently trade-marked Neoprene. The steps were  $2 \text{ CH} \equiv \text{CH} \xrightarrow{\text{HCl}} \text{CH}_2 = \text{CH} - \text{CH} = \text{CH}_2$  (acetylene)  $\rightarrow \text{CH} \equiv \text{C} - \text{CH} = \text{CH}_2 \xrightarrow{\text{HCl}} \text{CH}_2 = \text{CCl} - \text{CH} = \text{CH}_2$  (2-chlorobutadiene).

From the researches of 1934-40, four types of synthetic rubbers have emerged: (1) Di-olefins, which includes isoprene,  $\text{CH}_2 = \text{C}(\text{CH}_3) - \text{CH} = \text{CH}_2$ , or natural rubber, Buna or butadiene,  $\text{CH}_2 = \text{CH} - \text{CH} = \text{CH}_2$ ; Methyl Rubber or dimethylbutadiene, and SKA or Russian rubber; (2) chloroprene which includes Neoprene and Sovprene; (3) di-olefins plus modifiers such as Buna S, which is Buna compounded with styrene  $\text{C}_6\text{H}_5 - \text{CH} = \text{CH}_2$  for rubber tires, Buna N compounded with acrylonitrile,  $\text{CH}_2 = \text{CH} - \text{C} \equiv \text{N}$ , Perbunan containing still more acrylonitrile for an oil resistant rubber; and (4) olefins plus di-olefins, such as Butyl Rubber.

Most of these have the compound *butadiene* as a base. Each country manufactures the butadiene from her most abundant resources: Russia via butyl alcohol from grain and potato fermentation, Germany and Italy via acetylene from limestone and coal, and the United States via butane from petroleum. The chemical steps for some of these processes have already been treated in detail (1937

YEAR BOOK, pages 136-7). In 1940 Standard Oil of New Jersey entered the Buna arena with the production of Butyl Rubber. In this process, secondary butyl alcohol is obtained from petroleum gas, butane. This is dehydrated over phosphoric acid at  $450^\circ \text{C}$ , yielding butylene. The butylene is brominated. Then two molecules of hydrogen bromide are removed, forming butadiene. The chemical formulas for these steps are  $\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH}_3$  (butane)  $\rightarrow \text{CH}_3 - \text{CHOH} - \text{CH}_2 - \text{CH}_3 \rightarrow \text{CH}_3 - \text{CH} = \text{CH} - \text{CH}_2 \rightarrow \text{CH}_2 = \text{CHBr} - \text{CHBr} - \text{CH}_2 \rightarrow \text{CH}_2 = \text{CH} - \text{CH} = \text{CH}_2$  (butadiene).

The double bonds (=) in the formula for butadiene are the points at which the units will link with other units to form solid rubber. The processes of polymerization and vulcanization break and relieve the unsaturation of these double bonds, so that the finished product will have no tendency to react further. Since the amount of unsaturation in the synthetic product can be controlled, two types of rubbers may be produced: (1) those which are unsaturated like natural rubber and which can therefore be compounded and vulcanized with it in tire manufacture and (2) saturated synthetic rubbers such as chloroprene, sovprene, Buna N, and Perbunan. This second type, being saturated, is extremely resistant to sunlight, oxidation, and the action of oils; but it cannot be vulcanized and compounded with natural rubber.

Natural-rubber milling-equipment is used with synthetic rubbers. Chloroprene rubbers are easily handled, and just as zinc oxide, sulphur, and an accelerator are mixed with natural rubber, so zinc oxide, magnesia, and wood rosin are compounded with chloroprenes. Buna rubbers which are unsaturated are considerably more difficult to mill, and only a small bulk can be handled at one time, on the other hand they can be vulcanized into that portion of the tire which requires most resistance to deterioration, such as the side-walls.

Sodium (Na) was the original polymerization catalyst, hence the name Buna (*Butadiene + Na*). This has been replaced today by emulsion polymerization, with styrene or other co-polymer, forming a synthetic latex.

The commercial secrets of a half-decade of synthetic rubber research were suddenly released in 1940: Standard Oil using I.G. patents for Butyl Rubber, produced 5 tons per day by the end of 1940; Firestone Butyl Rubber tires were on exhibit at the New York World's Fair, Goodrich Ameripol rubber tires are available at the rate of 1000 a month, costing one-third more than natural rubber tires, and Goodyear Chemigum tires reached a production rate of 5500 tons annually. Dow has licensed the Universal Oil Products process for a \$300,000 butadiene plant near Harrisburg, Texas. About 11,000 tons of synthetic rubber were made in the United States in 1940; and a production of 20,000 tons by the fall of 1941 is anticipated. In 1939, 592,000 tons of natural rubber were used.

Other rubber products included Hewprene, a synthetic rubber hose; Ty-Ply, an adhesive for bonding synthetic rubber to metals; Ablo, a synthetic rubber putty. There are also rubber substitutes which do not lend themselves to vulcanization: Koroseal, a polymer of vinyl chloride; Thiokol, a condensation product of aliphatic chlorine compounds and sodium polysulphide; and Vistanex Polybutene, a blend of fully saturated Butyl Rubber and natural rubber.

**Textiles.** Nylon made an indelible impression in its first public appearance. Save for test sales in

Wilmington last year, nylon hosiery was offered for the first time on May 15, 1940. For five months the hosiery manufacturers had been building up stocks from such thread as the Seaford plant could supply. The stock was quickly exhausted. The Seaford plant doubled production in 1940; another plant at Martinsville, Va., will produce late in 1941, and the total capacity for nylon yarn will be 16,000,000 lb for 1942. Consumption was by no means confined to hosiery; other outlets were brushes, surgical sutures, fishing leaders, knitted fabrics and undergarments, velvet dresses, and tennis racquet strings. Additional posthumous patents were granted to Carothers for transparent nylon (polyamide) films for making paper flexible and fabrics waterproof, for motion-picture film much tougher than cellulose acetate and therefore more suitable for color photography, linings for containers, transparent window sheets, and artificial patent leather. DuPont also announced two wool-like fibers, one of rayon, Fiber D, which will be used for light-colored carpets, the other a polyamide said to have the crimp and heat-insulating properties of wool, also, a variety of methacrylate emulsion finishes for bodying fabrics. The name *prolon* has been suggested for casen wool.

**Toluene.** The lower-boiling hydrocarbons in petroleum are mostly straight-chains. Catalytic cyclization at 932° F and atmospheric pressure converts them into toluene, benzene, and the xylenes, basic materials for explosives such as TNT, picric acid, and trinitro-xylenes. First barrel of synthetic toluene from petroleum was taken off during the summer of 1940 by Shell from a 2,000,000 gal plant at Houston, Texas, using an extraction process. By catalytic cyclization Shell can boost this output five-fold, if necessary, furnishing 50,000 tons of TNT.

**X-Ray in Industry.** The X-ray machine has gone into business. Detroit Edison Company periodically examines poles for sound interiors. Citrus-fruit growers sort out frozen fruit, in one case \$250,000 worth of X-ray equipment saved \$7,500,000 worth of oranges. Peanuts, candy, chewing-gum, and tobacco are examined for pebbles and dirt. The Firestone Tire and Rubber Company Service Stations are installing machines to detect hidden nails, and fabric breaks, potential blow-out spots. X-rays make feet comfortable in 5000 shoe stores. Golf balls are X-rayed to check on the centering of the core. Airplane parts, steam tubing for submarines, 80 miles of welds in Boulder Dam all are scrutinized by this piercing ray. Cultured pearls are quickly spotted. In the museum old masterpieces are identified, and in one instance a 4000-year-old crime was exposed when it was discovered that some ancient undertaker had cleverly wrapped head, arms, and legs to resemble a perfect mummy.

**Awards and Medals.** The Royal Society conferred its Copley Medal on Prof. Paul Langevin, French physicist; its Davy Medal went to H. C. Urey of Columbia, discoverer of heavy hydrogen, and the Hughes Medal to A. H. Compton, authority on cosmic rays. Other awards were: Perkin Medal for 1941 to J. V. Door, Schoelkopf Medal to W. H. Bradshaw who developed Cordura rayon; T. W. Richards Medal to C. S. Hudson; Herty Medal to J. Sam Guy of Emory University.

One of the highest honors of the American Section of the Society of Chemical Industry, the Perkin Medal was awarded to C. M. Stine of duPont for his contribution to the growth of chemical industry in the United States. In his acceptance

speech Stine pointed out that, contrary to popular belief, American Chemical industry was large prior to the World War, but chiefly in the inorganic field. For example, the United States produced three times as much sulphuric acid as Germany in 1910, and twice as much alkalis as England. The organic field was sadly neglected in the United States until the start of the war. The gigantic industry which has since arisen represents enormous American investments and effort. Stine revealed that the duPont Company alone spent \$40,000,000 in research before a single cent of profit was realized.

The medal of the Canadian Section of the Society of Chemical Industry was presented to F. J. Hambly in recognition of his services to Canadian industries in the electric reduction of phosphates and the production of chemicals therefrom.

See AGRICULTURAL CHEMISTRY AND ENGINEERING, BUREAU OF; GLASS, HORTICULTURE, RUBBER, etc.

HUBERT N. ALYEA

**CHESS.** Mental colossi waged sedentary combat for hours on hours in 1940 and the world of chess was more or less enriched thereby. Dr. Max Euwe of Amsterdam, Holland, crossed intellectual swords with Paul Keres of Estonia and the latter was pronounced the victor by one slim point. Keres afterward engaged in the 12th tournament for the championship of the Soviet Union at Moscow, where he finished fourth. This important contest ended in a tie between Igor Bondarefsky of Rostov-on-Don and Andrea Lilienthal of Budapest, who acquired Russian citizenship in 1939.

An international master's tournament was played in Havana early in the year with Isaac I. Kashdan of New York carrying off the honors. His nearest rival was George Koltanowski of Belgium.

In the United States, the chief event of the year was the national championship tournament held (for the first time) under the auspices of the newly organized United States Chess Federation in New York. Samuel Reshevsky, for the third time in a row, was the victor. The "open" tournament of the federation, staged subsequently in Dallas, was won by Reuben Fine of New York, who was runner-up to Reshevsky in the New York tilt.

Chessy women continued to command their portion of attention. The national championship was captured by Mrs. Adele Rivero of New York, with Miss N. May Karff of Boston, the ex-champion, as runner-up. Miss Karff won the play-off that broke the triple tie among herself, Mrs. Mary Bain, and Dr. Helen Weissenstein for the American Chess Federation title.

Reuben Fine won the championship at the Marshall Chess Club and Arnold S. Denker, former State champion, was first at the Manhattan Chess Club contest. The New York State title devolved on Robert Willman. The Manhattan Chess Club was supreme in the Metropolitan Chess League.

Yale was victor in the annual tournament of the H.Y.P.D. College Chess League, and Brooklyn College won the Harold M. Phillips Trophy in the Intercollegiate Chess League.

**CHILD LABOR.** See CHILDREN'S BUREAU, LABOR CONDITIONS; LABOR LEGISLATION; NEW JERSEY under *History*.

**CHILD PSYCHOLOGY.** See PSYCHOLOGY.  
**CHILDREN'S BUREAU.** The Children's Bureau, U.S. Department of Labor, was established in 1912 to carry on research and provide informa-

tion and advisory service on child life in the United States. In 1935 it was authorized by the Social Security Act to administer three programs for grants to States for maternal and child-welfare services. In 1938 it was designated the Federal agency to administer the child-labor provisions of the Fair Labor Standards Act.

The White House Conference on Children in a Democracy, called by the Secretary of Labor at the direction of the President, at its meeting, Jan. 18-20, 1940, adopted a general report reviewing the record of progress in the United States in relation to children for the decade 1930-40 and outlined objectives to be sought during the decade ahead. The keynote of the report was "Our concern, every child." The recommendations dealt with the family as the threshold of democracy, the economic basis of family life, the family dwelling, religion in the lives of children, education, leisure-time services, protection against child labor, youth and their needs, child health, social services for children, including those in need of protection in migrant families and in minority groups, and public administration and financing of services for children. The Chief of the Children's Bureau served as the executive secretary of the conference, and the Children's Bureau is issuing the conference publications.

A National Citizens Committee, a Federal Interagency Committee, and national organizations are taking the lead in follow-up activities. State follow-up committees and local groups are considering action needed to bring their children's programs in line with the recommendations made. The National Citizens Committee in June, 1940, expressed its belief that child welfare and national security are inseparable and that the program recommended will make for national unity and will strengthen the democratic institutions of the country.

Pursuant to an order issued by the U. S. Departments of State and Justice permitting the entry of children to the United States for the duration of the war, the Children's Bureau issued standards for the reception, placement, and care of children brought over under the auspices of the U. S. Committee for the Care of European Children and similar organizations and established a register of children coming to the United States without both parents. Up to the first of January, 1941, approximately 850 children had entered the United States under the auspices of the committee, and approximately 4000 under other auspices. The British Cabinet decided in October to suspend temporarily the sending of children overseas.

The Council of National Defense in November, 1940, established the office of defense co-ordinator of health, welfare, and related activities affecting national defense, and designated the administrator of the Federal Security Agency as co-ordinator. The Children's Bureau is co-operating in the development of this program. See NATIONAL DEFENSE ADVISORY COMMISSION.

The research program of the Children's Bureau during 1940 included studies of the growth and development of newborn infants, incubators for premature infants, the effect of rickets on the pelvis of adolescent children; community studies of conditions affecting children; a demonstration project in the prevention of juvenile delinquency in St. Paul, Minn.; studies of State training schools for socially maladjusted children; and studies of the employment of minors in vegetable canneries, in

industrial home work, and in certain occupations particularly hazardous for the employment of minors. Current statistics are collected on health and welfare activities in urban areas, on delinquency cases handled by juvenile courts, and on the issuance of employment certificates. Information and advisory services are currently given on child growth and development, problems associated with illegitimacy, housekeeper and homemaker service for families, administrative problems of public and private child-placing and child-caring agencies, the prevention and treatment of juvenile delinquency, employment of children and minors, and legislation relating to these and similar subjects.

Research publications issued during 1940 included No. 250, *Children in the Courts*, 1937; No. 256, *Junior Placement*—a survey of junior-placement offices in public-employment centers and in public-school systems of the United States; No. 262, *Problems and Procedures in Adoption*; No. 263, *Methods of Assessing the Physical Fitness of Children*; and No. 264, *Directory of State, County, and Municipal Training Schools Caring for Delinquent Children in the United States*. The Children's Bureau issues a monthly news bulletin, *The Child*, that contains articles on current research and activities in the fields of child health and welfare.

More than 2,000,000 copies of the Children's Bureau publications on child care and training were distributed during the year ended June 30, 1940. More than 1,000,000 copies of *Infant Care* were distributed. A new series of folders on child growth and nutrition were issued in the fall of 1940.

Federal grants to the States for maternal and child-health services administered by the Children's Bureau were substantially increased in 1940 as a result of the Social Security Act Amendments of 1939 that raised to \$5,820,000 the sum authorized for annual appropriation for this purpose. The State health agencies used the increased funds, in large part to extend local maternal and child-health services, thereby increasing the number of centers where prenatal and child-health conferences are conducted by physicians and the number of home and office visits made by public-health nurses for maternal, infant, pre-school, and school hygiene, and increasing the medical and dental supervision of the health of school children. Two-thirds of the State health agencies now employ nutritionists to give consultation service on nutrition in relation to the maternal and child-health program. The program for postgraduate education of practicing physicians has been further developed through the employment of additional obstetric and pediatric consultants in State bureaus of maternal and child health and through resident courses at university medical centers. Ten States have undertaken local demonstration projects in complete maternity care, including prenatal care, medical and nursing care at delivery with hospitalization if necessary, and postpartum care for mothers in families that cannot provide such care. The Children's Bureau in 1940 issued two publications for use in the maternal and child-health program—*A Manual for Teaching Midwives* and *The Child-Health Conference; Suggestions for Organization and Procedure*.

The maternal mortality rate for 1939 was 40 deaths from puerperal causes per 10,000 live births, a decrease of 31 per cent from the rate in 1935 (58), the year in which Federal aid to the States

for maternal and child-health services was authorized. The infant mortality rate for 1939 was 48 deaths of infants under 1 year per 1000 live births, a decrease of 14 per cent from the 1935 rate (56). Special effort is being made in the State and local maternal and child-health programs to provide care for infants born prematurely and to prevent deaths during the first month of life.

The Children's Bureau Advisory Committee on Maternal and Child Health Services in December, 1940, recommended development of an adequate maternal and child-health program commensurate with existing needs for health services and medical care through substantially increased Federal grants to States.

Federal grants to the States for services for crippled children were also increased during 1940 to \$3,870,000 annually as a result of the Social Security Act Amendments of 1939. Although previously it was necessary for the State crippled children's agencies to match all the Federal grants accepted, the 1939 amendments made one million dollars available each year for grants to the States without a matching requirement. This fund, allotted on the basis of need, has permitted the expansion of the crippled children's programs in the States where financial resources are limited, and has enabled other States to expand their programs to take care of needs hitherto unmet.

The State crippled children's registers in September, 1940, showed 280,000 crippled children listed after examination by a physician. Each year crippled children are making approximately 190,000 visits to the State crippled children's clinics for diagnosis or treatment, about 29,000 crippled children are being given approximately 1,400,000 days of hospital care, and additional care in convalescent homes and foster homes is being provided. The State agencies increasingly are able to make provision for medical care for children who need to be hospitalized, and to provide medical, nursing, and social supervision and physical therapy for children who have returned home from the hospital.

To date, most of the children cared for under the State programs have been children suffering from orthopedic or plastic conditions. With the additional funds made available in 1940, 10 States have undertaken programs for children with heart disease, usually the result of rheumatic fever. Other States are preparing to start similar programs.

During 1940 the incidence of poliomyelitis was relatively high in the north-central and western States, although the total number of cases for the country as a whole was not abnormally high. Because Federal funds were available for grants without a matching requirement, the Children's Bureau was able to arrange promptly for additional grants to the States affected so as to enable the State crippled children's agencies to give immediate care when needed and, following the acute stage of the disease, to give the treatment that in many cases will prevent the crippling effects of the disease.

On June 30, 1940, the welfare agencies of the 48 States, the District of Columbia, Alaska, Hawaii, and Puerto Rico with Federal grants for child-welfare services administered by the Children's Bureau, were providing part of the cost of child-welfare services in 512 counties and 10 local areas composed of 69 towns. In six States workers on State staffs were giving some service to individual

children on a district basis. In addition, a large number of other areas were aided by State services through consultation and occasional case work. Reports from 46 States, Alaska, and Hawaii for October, 1940, showed that 42,500 children were receiving service from workers paid in whole or in part from Federal funds. Seventy-five per cent of these children were in their own homes or the homes of relatives and the others were receiving foster care or were under care elsewhere.

To the child-welfare worker are referred children who are homeless, dependent, neglected, and in danger of becoming delinquent. She studies with the family the child's need and draws upon the available community resources for meeting that need. Her reports to community agencies of facilities needed for children frequently result in joint effort to provide the necessary facilities. The work of the local child-welfare worker is strengthened by advisory and consultation service from the supervisory unit for child-welfare services in the State welfare department, which is also responsible for the development of local child-welfare services in additional areas and other functions relating to community child-welfare services.

The Children's Bureau Advisory Committee on Community Child Welfare Services in December, 1940, recommended additional Federal grants for this purpose in order to assure the continuation and progressive development of such services and urged the provision of child-welfare services sorely needed in many communities affected by the defense program.

Puerto Rico was made eligible for Federal grants under title V of the Social Security Act by the 1939 amendments. By July, 1940, grants to Puerto Rico were being made under all three programs administered by the Children's Bureau.

During 1940 the Children's Bureau made progress in the enforcement of the child-labor provisions of the Fair Labor Standards Act of 1938 that, in effect, prohibit the employment of minors under 16 years of age in establishments producing goods for shipment in interstate commerce and the employment of minors under 18 in such establishments at occupations found and declared hazardous by the Chief of the Children's Bureau. At the close of the year the Children's Bureau had designated 42 States and the District of Columbia, Hawaii, and Puerto Rico in which the State employment certificate in the hands of the employer is recognized as satisfactory proof of age under the Fair Labor Standards Act. In 4 States the Children's Bureau was issuing Federal certificates of age with the co-operation of State and local officials, and the other two States and Alaska were still operating under the regulation providing that employers may protect themselves from unintentional violation by obtaining birth certificates or baptismal certificates for their minor employees. Investigations were made of 2264 establishments by representatives of the Children's Bureau in the year ending June 30, 1940. Working arrangements with the Wage and Hour Division (q v) and the Division of Public Contracts of the Department of Labor extended the effectiveness of the inspection program. Connecticut, Minnesota, North Carolina, and the District of Columbia are co-operating with the Wage and Hour Division and the Children's Bureau in making inspections under the Fair Labor Standards Act with reimbursement for such service. A total of 1049 children under 16 years of age were found employed in violation of the child-



labor provisions of the Federal act during the fiscal year 1940. Forty minors under 18 years of age, including seven of those under 16, were found employed in violation of hazardous-occupations orders. In two criminal cases during the year ended June 30, 1940—one against a manufacturer of lottery tickets and the other against a manufacturer of artificial flowers—oppressive child labor in industrial home work was found to exist in violation of the Federal act. Fourteen civil cases which were closed by consent decrees enjoining against future violations involved seven canneries, one boot and shoe factory, one manufacturer of crates, cups, and boxes, and industrial home work in connection with five establishments manufacturing hairpins, shade pulls, or paper cups.

Three orders under the Fair Labor Standards Act have been issued by the Chief of the Children's Bureau declaring occupations in certain industries hazardous for minors 16 and 17 years of age, thereby making illegal such employment in establishments producing goods for shipment in interstate commerce. The first, effective July 1, 1939, declared hazardous for minors 16 and 17 years of age all occupations in establishments manufacturing explosives or articles containing explosive components, the second, effective Jan 1, 1940, declared hazardous, for such minors the occupations of motor-vehicle driver and helper in establishments subject to the act, the third, effective Sept 1, 1940, declared hazardous for workers under 18 all occupations in or about coal mines except certain specified surface occupations. Investigation is under way of the hazards for minors in the sawmill industry, on woodworking machines, and in the shipbuilding industry. See JUVENILE DELINQUENCY. For aid to dependent children, see table under RELIEF.

KATHARINE F. LENROOT

## CHILDREN'S FUND OF MICHIGAN.

See BENEFACCTIONS

**CHILD WELFARE.** See BENEFACCTIONS; CHILDREN'S BUREAU, SOCIAL SECURITY BOARD

**CHILE.** A South American republic Capital, Santiago

**Area and Population.** Area, 286,396 square miles, population, 5,000,782 at 1940 census (4,287,445 in 1930). Of 105,463 aliens residing in Chile in 1930, 23,439 were Spaniards, 11,070 Italians, and 10,861 Germans. United States citizens numbered 1215 on Jan. 1, 1940. Chileans are predominantly of European (chiefly Spanish) origin but there is a considerable Indian strain in the lower classes. Estimated populations of the chief cities in 1939 were Santiago, 829,830, Valparaíso, 263,228; Concepción, 77,589; Antofagasta, 53,591; Viña del Mar, 49,488, Iquique, 46,458; Talca, 45,020, Chillán, 39,511.

**Defense.** Under the compulsory military service system, all youths of 20 are called to the colors, mostly for a year and a half, and then serve in the reserve until 45. As of Nov 1, 1939, the active army numbered 40,915 and trained reserves 212,000; active air force, 2962 men, with over 200 airplanes. The navy comprises 1 battleship, 3 cruisers, 8 large destroyers, 9 submarines, and various auxiliary vessels, manned by about 8000 men in all.

**Education and Religion.** Elementary education is compulsory, but about 25 per cent of all adults remain illiterate. In 1940 there were estimated to be 900,000 children of school age, of whom 583,664 were enrolled in public schools and

90,595 in 834 private schools. Of the private schools, 657 received state aid. The five universities had 6195 students in 1938. Roman Catholicism is professed by the great majority of Chileans, but the Church was disestablished in 1925.

**Production.** At the 1930 census, 37.8 per cent of the working population was engaged in agriculture and 22.1 per cent in industry and mining. Yields of the chief crops in 1938-39 were (in metric tons): Wheat, 967,100; barley, 109,000; oats, 152,700; corn, 63,450; beans, 71,340; lentils, 19,130; peas, 20,000; potatoes, 486,600, chickpeas, 5000. Grapes and other fruit are extensively cultivated. In 1938 there were 2,634,499 cattle, 5,749,069 sheep, 527,827 horses, 571,495 swine, and 93,525 mules and asses. Wool exports (1939), were 36,579,400 lb. Mineral output in 1939 was (in metric tons): Copper, 339,173; nitrate, 1,445,999; iron ore, 1,625,622; coal, 1,882,206; gold, 22,242 lb.; silver, 73,034 lb. The average number of workers employed in mining in 1939 was 61,560. Industrial output in 1939 included Cement, 8,018,000 bags (of 93.5 lb.), coke, 85,032,000 kilos (of 2.2 lb.); knitting wool, 354,000 kilos, cloth, 3,243,000 meters, refined sugar, 120,921,000 kilos; beer, 68,272,000 liters. Paper, tobacco, shoes, glass, etc., are manufactured. Wages paid to industrial workmen in 1939 totaled 2,018,900,000 pesos.

**Foreign Trade.** Imports in 1939 were valued at 410,833,000 gold pesos (\$84,673,000) and exports at 671,365,000 gold pesos (\$138,368,000). As compared with 1938, imports declined by 17.7 per cent and exports by 17 per cent. Leading 1939 exports were (in gold pesos): Copper bars, 331,640,000; nitrate, 127,426,000; gold and silver ores, 35,612,000; wool, 27,740,000. The United States supplied 31.1 per cent of the 1939 imports; Germany, 22.7; Great Britain, 8.3. Of the exports (excluding nitrate), the United States took 30.5 per cent, Great Britain, 12.3; Germany, 8.4. See TRADE, FOREIGN.

**Finance.** Ordinary budget estimates for 1940: Revenues, 1,771,433,000 paper pesos, expenditures, 1,771,373,000. Actual returns for 1939 (ordinary budget): Revenues, 1,792,524,000 paper pesos, expenditures, 1,777,383,000. The 1939 receipts included a surplus of 14,940,000 pesos carried over from 1938. For special budget, see HISTORY. Long-term foreign debt on Dec 31, 1939: \$176,424,000 (U.S. currency), £27,763,571, and 108,994,000 Swiss francs. Unfunded foreign debt (Dec. 31, 1938), \$26,593,082 and £3,434,350, total internal debt, 1,851,732,768 paper pesos.

The gold peso, used only for foreign trade statistics, was equivalent to \$0.2060. Average exchange rates of the paper peso for 1939: Official, \$0.052 (\$0.052 in 1938), curb, \$0.0308 (\$0.0363 in 1938); free, \$0.0322.

**Transportation, etc.** Chile in 1940 had about 5450 miles of railway line (1815 miles privately owned), 22,613 miles of highways (see ROADS AND STREETS), and domestic and foreign air services linking all the chief cities with the inter-American and European air networks. The State railways showed an operating loss of 4,142,172 pesos for 1939 (ordinary budget for 1940, 482,000,000 pesos). Reconditioning of the Transandine tunnel to permit both railway and automobile traffic to and from Argentina was announced in February. The Deutsche Luft Hansa line between Santiago and Rio de Janeiro was reopened Mar. 18, 1940, after a six-months' interruption. Chilean national airlines in 1939 carried 3174 passengers, 14,483 kilos of freight, and 8310 kilos of mail.



The Chilean merchant marine comprised 106 ships of 176,289 tons on June 30, 1939.

**Government.** The Constitution of Oct. 18, 1925, vested executive powers in a President, elected by popular vote for six years and ineligible to succeed himself, and legislative powers in a popularly elected Congress consisting of a Senate of 45 members serving for eight years and a Chamber of Deputies of 146 members serving four years. Pedro Aguirre Cerda (Radical) was elected President by a Popular Front coalition on Oct. 25, 1938, and assumed office Dec. 24, 1938. His cabinet as reorganized Dec. 26, 1939, represented a coalition of the Radical, Socialist, and Democratic parties.

#### HISTORY

President Aguirre Cerda's Popular Front government continued throughout 1940 on the stormy course that had marked its first year in office (see YEAR BOOK, 1939, p. 135 f.). Seething political passions repeatedly threatened to erupt into civil war. The spread of the European conflict eliminated additional Chilean export markets and added to the difficulties of the government's economic and financial problems. While the country was still struggling to recover from the destructive earthquake of 1939, two great storms inflicted heavy damage in north and central Chile. Nevertheless the government proceeded with its program of economic and social rehabilitation and won increased political support.

**Political Trends.** The Popular Front coalition of Radicals, Socialists, Communists, Radical Socialists, and Democrats held together during 1940 only because of the constant threat of a rightist coup. Deep cleavages developed within the two largest parties supporting the government—the Radicals and Socialists. Strong elements in both parties displayed increasing reluctance to continue their co-operation with the Communists, and made repeated moves to form a new coalition excluding the Communists and including middle-of-the-road elements within the opposing right wing coalition. These dissensions within the Popular Front were reflected in successive reshufflings of the cabinet and frequent changes in party executive committees.

Lacking majorities in both houses of Congress, the government was obliged to make deals with small groups within the opposition coalition to obtain the enactment of legislation. The secession from the government ranks of the extremist Chilean Nazi party, which had been reorganized as the Popular Socialist Vanguard, added to the general political tension. Its affiliation with the conservative opposition bloc had precisely the same effect as the presence of the Communists in the Popular Front. Co-operation by elements within the bloc was made more difficult while the opposing coalition was forced into closer unity by the threat of violence implicit in the Popular Socialist Vanguard's program. At the same time the political situation was further complicated by the increasingly bold propaganda and activities of the German Nazi groups in Chile following the German military successes in Europe.

In this delicate situation, President Aguirre Cerda followed a middle-of-the-road policy that antagonized extremists in both camps. His political appointments and his outlawing of a long strike of Santiago newspaper workers, directed at both rightist and leftist publications, provoked at-

tacks from Communists and extreme Socialists. The rightist groups violently criticized him for invoking the internal security law against opposition conspiracies and refusing to permit the return to Chile of Gustavo Ross, unsuccessful rightist Presidential candidate in the 1938 elections. Despite their deep differences, the Popular Front parties rallied to the support of the President whenever he became involved in controversy with the opposition.

Tension between right and left again neared the breaking point when President Aguirre Cerda on July 11 pardoned police officers serving prison sentences for their part in the "massacre" of 58 youths participating in the Nazi revolt of September, 1938. This provoked new and more virulent attacks by the Popular Socialist Vanguard, the Fascist Nationalist party and other rightist elements. The police then raided the headquarters of these two parties and arrested many of their leaders, announcing that they had nipped a reactionary revolt plot in the bud. (Later 20 leaders of the Nationalist party were convicted and sentenced to prison for subversive activity.) The government also ordered the suspension of two violently anti-administration newspapers in Santiago.

Immediately afterward (July 16) the Franco Government in Spain severed diplomatic relations with Chile, adding to the tension. There appeared imminent danger that the well-organized and armed Nazi movement among Chileans of German descent would seize the opportunity presented by internal disorders to install a pro-German, totalitarian regime at Santiago. To forestall this danger, moderate leaders in the Popular Front and opposition blocs made successive efforts to negotiate a political truce. This caused further dissension within the Popular Front, leading to another severe cabinet crisis at the end of July.

The effort to find a basis of co-operation between the government parties and the opposition broke down in September when the President rejected a 10-point program drawn up by the rightist leaders. It called for the outlawing of the Communist party, a general amnesty, the return of Gustavo Ross, strict application of the Labor Code, etc. The opposition Conservative and Liberal parties then joined forces with the Popular Socialist Vanguard in an anti-Communist crusade. On October 18 they held a great mass meeting in the capital in protest against Communist activities, while a larger Popular Front demonstration against "Nazism and rightist reaction" was held a short distance away. Four days later the Conservative President of the Senate called Congress into special session, over the opposition of President Aguirre Cerda, to consider a bill outlawing the Communist party.

After a series of victories in by-elections early in the year, the Popular Front captured the Senatorial seat for Valparaíso and Aconcagua provinces on November 17 for the first time in history. The following day the rightists introduced their anti-Communist bill in the Chamber of Deputies and on November 19 they decided to boycott the Congressional elections scheduled for March, 1941. The rightist majority in the Chamber, charging the Minister of the Interior with failing to preserve order during the November 17 election, voted on November 30 to suspend him from office. Popular Front leaders blamed the election disorders (1 man was killed and 60 injured) on

rightist gunmen and charged the opposition with fostering a revolutionary movement.

The bill declaring Communists and all Communist activities illegal was passed by the Chamber of Deputies, 72 to 42, on November 30. Believing that the Communists constituted a liability in the impending showdown with the rightists, some Popular Front leaders endorsed the anti-Communist bill and urged expulsion of the Communists from the government bloc. The Socialist party's central committee made a recommendation to this effect, following an open break between the Communists and the Socialist Minister of Development, Oscar Schnake. The executive committee of the Popular Front on December 21 refused to oust the Communists but negotiations for a coalition of non-Communist leftist parties continued.

**The Nazi Threat.** Activities of the Chilean branch of the German Nazi party and their native allies aroused much criticism and alarm during the year. Pro-democratic Chileans in June organized the League of Defense to investigate and expose the Nazi program and to take other measures for the defense of democracy. This movement enrolled thousands of adherents among Chilean youths of all classes. It began publication of an anti-Nazi newspaper and sent agents all over Chile to recruit members and assist authorities in dealing with the Nazi threat.

The government took no effective measures against the Nazis and pursued a policy of cautious neutrality toward the European War. However a United States military aviation mission was contracted for on April 23 and late in the year Congress authorized the expenditure of 1,000,000,000 pesos for defense.

For a full description of German Nazi activities in Chile, see the series of articles by Russell B. Porter in the *New York Times* of July 13-18, 1940, inclusive.

**Economic Situation.** Economic conditions in Chile became increasingly unfavorable as a result of the slackening in the export demand for agricultural and mineral products, a tightening of previous exchange difficulties, and a decline in governmental revenues that forced the government to curtail its expenditures.

To make matters worse, a storm severely damaged the port of Valparaiso on May 22, wrecking a floating dock that was indispensable to Chilean shipping, and inflicting total damages estimated at 75,000,000 to 100,000,000 pesos. This was followed on July 25-26 by a 48-hour cloudburst that hit the normally rainless northern provinces with devastating effect. A large number of people were reported drowned, killed, or injured by floods and gales. The nitrate mines suffered heavy financial losses and there was much damage to Antofagasta, Iquique, and other cities, as well as to railways, roads, and communications. Rain in this region is a phenomenon that occurs only two or three times in a century.

**Legislation and Measures.** In the face of political and economic setbacks, the government concentrated its major efforts upon carrying out the program of earthquake rehabilitation and economic development adopted during 1939 (see *YEAR BOOK*, 1939, p. 136). For financing this five-year plan during 1939, the government obtained 486,900,000 pesos as follows: Taxes, 160,000,000; bank loan and advances, 293,000,000; contributions, 30,000,000; exchange profits, 3,900,000. Of this sum,

108,900,000 pesos were spent during 1939 by the Corporation for Development of Production and 254,300,000 pesos by the Reconstruction Corporation, leaving a balance of 123,700,000 pesos on Jan. 1, 1940. Total expenditures of both corporations for 1940 were estimated at about 424,000,000 pesos, of which 180,000,000 was to come from taxes and 120,000,000 from domestic bank loans and advances.

The Reconstruction Corporation announced May 18 that of the 840,000,000 pesos to be expended by it during the remaining four years of the plan, about 400,000 pesos would go to public works, 300,000,000 to loans to private individuals for reconstruction of homes and industries, and 140,000,000 for direct assistance to city governments, insurance institutes, fire departments, etc., in the earthquake-ravaged districts.

The Development Corporation, after long negotiation, obtained a \$12,000,000 credit from the Export-Import Bank of Washington in May for the purchase of hydro-electric and other machinery in the United States. An additional \$5,000,000 credit was advanced by private American manufacturing interests. A program for the intensification of Chilean production through investment of these and other funds was approved by President Aguirre Cerda on July 22. During July authorizations were granted for the establishment of factories to produce cloth, furniture, foodstuffs, knit goods, and clothing, and a contract was concluded with an American company for the formation of a corporation to manufacture tires in Chile. Steps were taken to attract additional private investors and enterprises from the United States. The government also made vigorous efforts to find American and Far Eastern markets for Chilean goods that formerly went to Europe. The provisional commercial agreement concluded with the United States early in 1938 was put into effect as of Jan. 5, 1940.

The danger that the government's whole economic program would be nullified by labor difficulties and drastic price rises led the President on July 10 to warn that the government "would not tolerate either strikes or lockouts that interfere with production." The Minister of Interior on December 24 ruled that all strikes not settled within 10 days must be submitted to arbitration. He barred farm strikes until after the next harvest. Due to the growing exchange shortage, amortization payments on the foreign debt were temporarily suspended on December 4.

**Foreign Relations.** The Franco Government in Spain abruptly severed diplomatic relations with Chile on July 16, citing alleged insulting remarks concerning General Franco and Nationalist Spain made during a Popular Front demonstration in Santiago on June 17. The old issue of Chile's refusal to surrender Spanish Loyalists who had taken refuge in the Chilean Legation in Madrid was a factor in the situation (see *YEAR BOOK*, 1939, p. 137). The Chilean Government again received general support from the other American republics. The Franco Government finally agreed to permit the last Republican refugees in the Chilean Legation to leave Spain and on October 12 diplomatic relations were renewed.

Efforts to revive the Argentine-Chilean controversy over islands in the Beagle Channel (see *YEAR BOOK*, 1938, p. 57) were made in some Argentine and Chilean newspapers. This was denounced by Chilean government spokesmen as a Nazi-inspired move to create dissension among the American republics. The two governments decided

to select a new United States arbiter to determine ownership of the islands, in place of former Atty. Gen. Homer S. Cummings. Another dispute arose when Chile on November 6 laid claim to all of the Antarctic territories between 53 and 90 degrees West Longitude, some of which were claimed by Argentina. It was announced December 20 that an Argentine technical commission would go to Santiago early in 1941 to delimit Argentine-Chilean frontiers in the Antarctic.

The Popular Front Government and its adherents gave a warm welcome to a Mexican goodwill mission of more than 300 members which spent nearly a month in Chile during March and April. The visit was interpreted as a move by the Cardenas Government to secure Chilean support of Mexico in her oil and other controversies with the United States.

The Communists, opposing co-operation with the United States in the Pan American policy of hemisphere defense and solidarity, continued their attack upon "Yankee imperialism" along much the same lines as the German-inspired propaganda of the Chilean Nazis and some of their rightist allies. However the Aguirre Cerda Government adopted an increasingly cordial attitude toward the United States, particularly after the Export-Import Bank loan was obtained. In July the U.S. cruiser *Phoenix* made a "good-will" visit to Valparaíso following revelation of the Nazi conspiracy in Uruguay (q.v.) and reports of a similar danger in Chile. The Chilean press almost unanimously praised the role of the United States at the Havana Conference in July. Government organs subsequently supported Washington's proffer of financial and technical aid in establishing naval and air bases in Latin American countries for the joint use of the Pan American republics in repelling overseas aggression. However all sections of Chilean opinion insisted that if such bases were established in Chile they must remain under her sovereignty and control.

See ARGENTINA, MEXICO, and URUGUAY under *History*; *Communism*; *Fascism*; *Industrial Chemistry*; *League of Nations*; *Naval Progress*; *Pan Americanism*; *Pan American Union*; *Tunnels*.

**CHINA.** A republic of eastern Asia. Provisional capital, Chungking. Nanking, the former capital, was captured by the Japanese in December, 1937, and Hankow, to which most of the Chinese Ministries were then transferred, fell in October, 1938.

**Area and Population.** Including the nominal dependencies of Sinkiang (Chinese Turkestan), Outer Mongolia (see MONGOLIA), and Tibet (q.v.), over which the Central Government exercised little or no actual control, and the former Chinese Provinces incorporated in the Japanese protectorate of Manchoukuo (q.v.), China has an area estimated by the Ministry of the Interior in 1937 at 4,516,934 square miles and a total population of 466,785,856. Official 1937 estimates of the area and population by Provinces are shown in the accompanying table.

As no census has been taken in modern times, the above figures are merely rough estimates. Including the nominal dependencies, the area is roughly equal to that of the United States and Mexico combined, while the population is approximately one-fourth of the world's total. In addition there were estimated to be 7,828,888 Chinese residing abroad in 1936. The Japanese civilian pop-

ulation of China on Jan. 1, 1940, was 345,700, an increase of 300 per cent since July, 1937. The estimated population of Shanghai and its environs in 1936 was 3,489,998 including 1,450,685 persons in the Foreign Settlements; of Peiping, capital of China until 1928, 1,556,364; of Tientsin, 1,292,025; of Nanking, 1,019,948; of Tsingtao, 514,769. Estimated populations of the other chief cities in 1931 were: Canton, 861,024; Hankow (including Wuchang and Hanyang), 777,993; Chungking, 635,000; Wenchow, 631,276; Changsha, 606,972; Ganschow, 606,930; Weihaiwei, 390,337; Foochow, 322,725; Soochow, 260,000; Amoy, 234,159; Ningpo, 218,774; Wanhhsien, 201,937; Chinkiang, 199,776.

#### AREA AND POPULATION OF CHINA

Province (Capital*)	Sq. miles	Population
Anhui (Anking) .....	51,902	23,265,368
Chahar* (Wanchuan, Kalgan, Chang-chiaktow) .....	107,705	2,035,957
Chekiang (Hanghsien, Hangchow) .....	39,791	21,230,749
Fukien (Minhou, Foochow) .....	61,275	11,755,625
Heilungkiang* (Lungkiang, Taitsihar) .....	173,600	3,822,344
Honan (Kaileng) .....	66,693	34,289,848
Hopei (Paoting since June 1, 1935) .....	59,377	28,644,737
Hunan (Changsha) .....	91,595	28,293,735
Hupeh (Wuchang) .....	80,190	25,541,635
Jehol* (Chengtse) .....	74,297	3,054,306
Kansu (Kaolan, Lanchow) .....	145,968	6,705,445
Kiangsi (Nanchang) .....	77,301	15,820,406
Kiangsu (Chinkiang) .....	41,830	36,469,328
Kirin* (Tungki, Kirin) .....	109,413	7,666,641
Kwangsi (Yungning, Nanning) .....	84,007	13,385,218
Kwangtung (Fanyu, Canton, Kwangchow) .....	83,940	32,385,215
Kweichow (Kweiyang) .....	69,297	9,043,207
Liaoning* (Shenyang, Mukden, Fengtien) .....	124,256	16,465,303
Ningsia* (Ningsia) .....	106,143	1,023,143
Outer Mongolia* (Kulun, Urga*) .....	625,946	2,077,669
Shansi (Taiyuan) .....	58,662	11,601,026
Shantung (Tsinan) .....	69,216	38,029,294
Shensi (Changan, Sian) .....	72,353	7,717,881
Sikang (Kangting) .....	143,475	968,187
Sinkiang* (Tihwa, Urumtchi) .....	705,953	4,360,020
Suiyuan* (Kweisui, Kweihua) .....	125,220	2,083,693
Szechwan (Chengtu) .....	166,529	52,963,269
Tibet* (Lhasa) .....	469,416	3,722,011
Tsinghai (Sining) .....	269,187	1,196,054
Yunnan (Kunming, Yunnanfu) .....	123,572	11,994,549

\* Where more than one name is given for the respective capitals in parentheses, they represent the official name, postal map name, and popular or ancient name, in the order given. \* Chahar, Ningsia, and Suiyuan Provinces, together with part of Jehol, form the geographical region known as Inner Mongolia. \* The Provinces of Heilungkiang, Kirin, and Liaoning constitute the geographical region known as Manchuria, which on Feb. 18, 1932, was proclaimed the free State of Manchoukuo. Jehol Province was incorporated in Manchoukuo in 1933. \* Dependencies. \* The Mongol name for Urga has been changed to Ulan Bator Khoto.

**Education and Religion.** Between 25 and 50 per cent of the population were estimated to be literate in 1937, compared with an estimated 15 per cent in 1912. In 1935 there were 16,000,000 children in primary schools, of whom 12,383,479 were in 259,095 regular schools and the rest in one-year primary schools. For secondary education, there were in 1934-35, 3140 schools of all kinds, with 541,479 students. There were 107 institutions of higher learning in 1937 and 41,768 students attending them in 1935 (6200 women). Between the outbreak of war in 1937 and October, 1939, 17 universities and colleges moved from Japanese-occupied areas to Yunnan, Kweichow, and Kwangsi provinces, 17 to Hunan and Szechwan, and 5 to Shensi and Kansu. Several new technical and normal colleges were founded during this period by the Chungking Government. In 1938, 9081 men and 2038 women passed examinations qualifying them to enter institutions of higher education under the jurisdiction of Chungking.

With the exception of Christians and Mohammedans, most Chinese practise and profess all three indigenous or adopted religions—Confucianism, Buddhism, and Taoism. The Mohammedans are estimated at about 20,000,000. In 1934 there were 2,623,560 native Roman Catholics and 123 Catholic missions, with a staff of 16,241. The Protestant churches, with 1130 mission stations and 488,539 communicants in 1932, had 19 colleges, 267 middle schools, and 37,714 students in 1934.

**Production.** Previous to the outbreak of the Chino-Japanese War in 1937, China was the world's leading producer of rice, soybeans, tea, kaoliang, sweet potatoes, millet, and vegetable oils; it ranked second in the output of raw silk and wheat; third in cotton, and was an important producer of corn, tobacco, fruits and vegetables, and cane sugar, as well as the leading exporter of eggs and tung oil. Estimated production of rough rice in 1940-41 was 2,440,000,000 bu.; winter wheat in 1940, 700,000,000 bu.; cotton in 1940, 2,000,000 bales of 500 lb. (compared with an average of 3,000,000 bales); flue-cured tobacco in 1940, 140,000,000 lb. (average production, 155,000,000 lb.). Production of other crops, in metric tons, was: Barley, 6,371,000 in 1937; oats, 852,500 in 1937; corn, 6,130,100 in 1936; rape-seed, 1,987,300 in 1937; sesamum, 865,000 in 1936; peanuts, 2,631,100 in 1936; soybeans, 5,911,000 in 1936. Exports of raw silk, excluding Manchuria, were 4777 metric tons in 1939. Tea production is estimated at from 300,000 to 500,000 metric tons annually. Production of wool and mohair for China and Manchuria was about 55,000 metric tons in 1938.

China is normally one of the world's principal producers of antimony, tin, tungsten, and manganese. It produces substantial quantities of coal, oil, fluorite, mercury, galena, gold, silver, and many other metals. Tungsten exports in 1939 were 10,689 metric tons; manganese (1938), 600 metric tons; iron ore (excluding Manchuria), 40,000 metric tons in 1939; tin (smelter), 10,600 metric tons in 1939. Antimony production was estimated at 8100 metric tons in 1938. China's rapidly expanding industries (see *YEAR BOOK*, 1937, p. 152) suffered a severe setback as a result of the war, but a marked development of manufacturing in the western provinces ensued. New iron and steel plants were established in Szechwan and Yunnan provinces. Copper deposits in Szechwan, Sikang, and the southwestern provinces were opened and several electric copper refineries constructed. Among the 418 factories moved to the western provinces from Japanese-occupied territory during the first two years of the war were 168 for the manufacture of war equipment and supplies. Also see *History*.

**Foreign Trade.** Merchandise imports in 1939 were 1,333,653,896 yuan (Chinese standard dollars); exports, 1,027,246,508 yuan. The chief sources of imports were: Japan, 313,398,000 yuan; United States, 214,100,000 yuan; India, 119,439,000 yuan; Germany, 87,167,000 yuan; Great Britain, 77,860,000 yuan. Of the exports, the United States took 225,873,000 yuan; Hong Kong, 222,099,000 yuan; Great Britain, 90,863,000 yuan; Japan, 66,621,000 yuan. Animal products, raw silk, metals and minerals, piece goods, and oils, tallow and wax were the chief exports, in order of value. The main imports were raw cotton, chemicals, metals and ores, dyes and paints. See *TRADE, FOREIGN*.

**Finance.** The budget announced by the Nationalist Government at Chungking for the calendar

year 1939 was 2,850,000,000 yuan, or three times the size of the prewar 1936 budget. Expenditures during 1940 were estimated at about 3,500,000,000 yuan. Actual revenues in 1939 were variously estimated at from 200,000,000 to 1,200,000,000 yuan. The balance between actual receipts and expenditures was made up by loans and inflation of the currency.

Loans floated by the Chinese Nationalist Government from July 1, 1937, to June 30, 1940, totaled 3,430,000,000 yuan, 100,000,000 customs gold units, 100,000,000 U.S. dollars, and £20,000,000 sterling, according to the Central Bank of China. The Ministry of Finance estimated the Chungking Government's indebtedness on June 30, 1939, at 8,100,000,000 yuan (domestic, 5,600,000,000; foreign, 2,500,000,000).

As of June 30, 1940, note issues of the four Chinese Government banks were estimated at about 4,000,000,000 yuan, representing an expansion of 150,000,000 yuan monthly during the first half of 1940. Estimated issues of provincial and private banks and military scrip of the Eighth Route Army were placed at 500,000,000 yuan.

Revenues of the Japanese-sponsored Nanking regime were estimated at about 250,000,000 yuan for the first half of 1940. Currencies issued under Japanese sponsorship up to June 30, 1940, were estimated to total more than 1,200,000,000 yuan. The total note circulation in China, including both Chinese and Japanese issues, was about 5,700,000,000 yuan, or three times as much as before the outbreak of hostilities. Inflationary commodity prices prevailed in all areas. The average nominal exchange rate of the Chinese yuan in Shanghai was \$0.2136 in 1938, \$0.1188 in 1939, and \$0.0569 in December, 1940.

**Transportation.** As of Aug. 1, 1939, 4546 miles of China's railways were reported to be in Japanese-occupied territory and about 2285 miles in Chinese-held territory. Operations on many of these lines were suspended or restricted to military traffic. The Japanese-controlled North China Railways, aggregating 3429 miles of line, reported a freight traffic of 30,525,084 tons for the year ended Mar. 31, 1940, or a 50 per cent increase over 1938-39. The Yunnan-Indo-China Railway was forced to suspend shipments of supplies to the Chungking Government (see *History*) but a new railway connecting Yunnan with Burma was under construction. Several new railway lines were opened in the Japanese-occupied section.

Highway mileage in all China was estimated at 61,430 in 1939. In western and southwestern China, the Chungking Government constructed about 3500 miles of new roads and improved 10,000 miles of existing roads between 1937 and 1939, bringing the length of highways in Chinese-controlled territory to 52,000 miles. Highways in North China and Inner Mongolia open to motor traffic were estimated at about 12,000 miles in 1940. Air services were operated over 6000 miles of routes late in November, 1939; 3300 miles had been opened since July, 1937. In September, 1940, commercial air lines connected Chungking with Hong Kong, Kunming, Hanoi, Burma, Chengtu, Sianfu, Lanchow, and Moscow. In Japanese-occupied territory, all air lines were in Japanese hands.

During the first six months of 1940, the total tonnage entering the port of Shanghai from abroad was about 20 per cent less than for the first half of 1937. The Yangtze River remained closed to other than Japanese shipping.

**Government.** The Nationalist Government at the beginning of 1940 represented a Kuomintang (Nationalist party) dictatorship. The Organic Law of Oct. 4, 1928, revised on Dec. 29, 1931, and Dec. 27, 1932, vested supreme power in the National Congress of the Kuomintang, acting through the Central Executive Committee, the Central Supervisory Committee, and the Central Political Council. Executive control, however, rested mainly in the hands of Gen. Chiang Kai-shek, commander-in-chief of the Nationalist armies. Pending the establishment of representative government, governmental functions were carried on by means of a committee system (for description, see 1932 YEAR BOOK). The chairman of the State Council and nominal head of the government was Lin Sen. The chairmen of the five yuan (committees) of the government were: Executive, Gen. Chiang Kai-shek, assisted by Dr. H. H. Kung as vice-chairman; Legislative, Sun Fo; Judicial, Chu Cheng; Examination, Tai Chi-tao; Control, Yu Yu-jen. Under the chairman of the Executive Yuan are nine ministries, headed as follows in 1940: Interior, Chow Chung-yueh; Foreign Affairs, Dr. Wang Chung-hui; Military Affairs, Gen. Ho Ying-chin; Finance, Dr. H. H. Kung; National Economy, Dr. Wang Wen-hao; Communications, Chang Chia-ngau; Education, Chen Li-fu. Attached to the Executive Yuan are three subordinate Commissions, supervising Mongolian and Tibetan Affairs, Overseas Chinese Affairs, and Famine Relief. Also see HISTORY.

#### HISTORY

Another year of sanguinary fighting on many fronts failed to break the military stalemate in the Chino-Japanese War that developed toward the end of 1939 (see YEAR BOOK, 1939). By the end of 1940 the conflict had lasted three and one-half years, but prospects of a Japanese victory appeared more remote than ever. Repeated Japanese military offensives and continuous destructive air raids on Chinese-held cities during the year failed to extend the Japanese territorial conquests perceptibly or to weaken the morale of Gen. Chiang Kai-shek's forces operating from Chungking.

The Japanese made correspondingly little progress in organizing the economic exploitation of the conquered Chinese provinces. The collapse of France in June enabled Japan to improve its strategic and diplomatic position against China, largely through concessions extracted by threat and force from France and Britain. But the United States and the Soviet Union continued to give the Chungking Government moral and material support.

**Military Campaigns.** Japan's first major military reverse of 1940 was in the drive launched in December, 1939, from Canton northward along the railway line to Hankow. After advancing about 100 miles from Canton into northeastern Kwangtung Province, the Japanese columns were halted early in January and by the middle of the month were driven back to the environs of Canton in a disastrous retreat.

Toward the end of January the Japanese forces that had captured Nanning in Kwangsi Province the preceding November, started a series of drives to widen the area under their control. They captured Pinyang, 40 miles north of Nanning, and pushed on 30 miles more before vigorous Chinese counterattacks drove them back to Nanning in mid-February in some disorder. Casualties were

heavy on both sides. A simultaneous Japanese drive in Inner Mongolia met a similar fate. Starting from Paotow, western terminus of the Peiping-Suiyuan railway, a mechanized column of 30,000 men struck westward in an effort to cut the Lanchow-Urunchi motor and caravan route over which Soviet supplies were reaching the Chinese. After capturing Wuyuan and Linho, more than 150 miles distant, the Japanese column was forced by a Chinese flank attack to retreat hurriedly to Paotow.

Faring no better in smaller-scale fighting on other fronts, the Japanese army command in South China on February 14 announced in a manifesto addressed to Chiang Kai-shek that "in the future we will not expand our operations but will await your offensive." The manifesto explained that the Japanese had won "sufficient areas in China for the establishment of the new order in Asia," cut the supply routes to Chungking, and was making rapid progress in forming a new central government in China under Wang Ching-wei. However the Chinese opened new highway routes into French Indo-China further inland to replace that severed by the fall of Nanning. Traffic on the Yunnan railway, interrupted by Japanese bombing early in January, was soon resumed on a reduced schedule.

**Shansi Offensive.** With the Japanese remaining inactive in the south, the fighting shifted to the central and northern fronts. In April the Japanese began their 11th effort to sweep the Chinese out of the Chungtiao Mountains and the Ching Valley in southern Shansi Province and secure the strategic crossings of the Yellow River. Advancing in five columns, the 60,000 Japanese engaged in this operation met the usual stubborn resistance. Their communications were partially severed and their efforts to cross the river were balked. Indecisive fighting continued in this region throughout the year.

Meanwhile Chinese armies maintained pressure upon Japanese garrisons at Nanchang in Kiangsi, Yochow in Hunan, and various other points. Late in April the Chinese recaptured temporarily the capital of Honan Province, Kaifeng, which the Japanese had occupied since 1938.

**Capture of Ichang.** In an effort to drive a wedge between Chinese armies on the northern and southern fronts, the Japanese early in May launched another offensive from Sinyang on the Hankow-Peiping Railway westward along the Honan-Hupeh border toward the upper Han River valley. Again the invaders suffered heavy casualties and withdrew before fierce flank attacks. The Chinese claimed to have driven the Japanese out of their base at Sinyang.

Meanwhile a stronger Japanese force had launched the major offensive of the year from Hankow northwestward through Hupeh. Crossing the Han River, they captured Siangyang, 200 miles from Hankow, on June 3. From Siangyang the Japanese columns swung southward toward the Yangtze and on June 11 announced their most important military success of the year—the capture of Ichang, the most important river port between Hankow and Chungking. Shasi, another strategic river port, was occupied on June 10.

**Raids on Chungking.** A further Japanese advance from Ichang upon the Chinese capital at Chungking, 260 miles distant, was blocked by strong Chinese armies defending the difficult Yangtze gorges. Consequently, while severe but

indecisive fighting continued at various points along the extended front, the Japanese intensified their mass air raids on Chungking and other Chinese-held cities of the interior. The air attacks on Chungking began in May, when the clouds that concealed the provisional capital during the winter months cleared away. Throughout the summer the city was subjected to almost daily raids whenever weather permitted, with more than 150 bombers participating on occasions. Casualties ran into the tens of thousands, while most of the buildings were pulverized by high explosives or burned by great fires started by incendiary bombs.

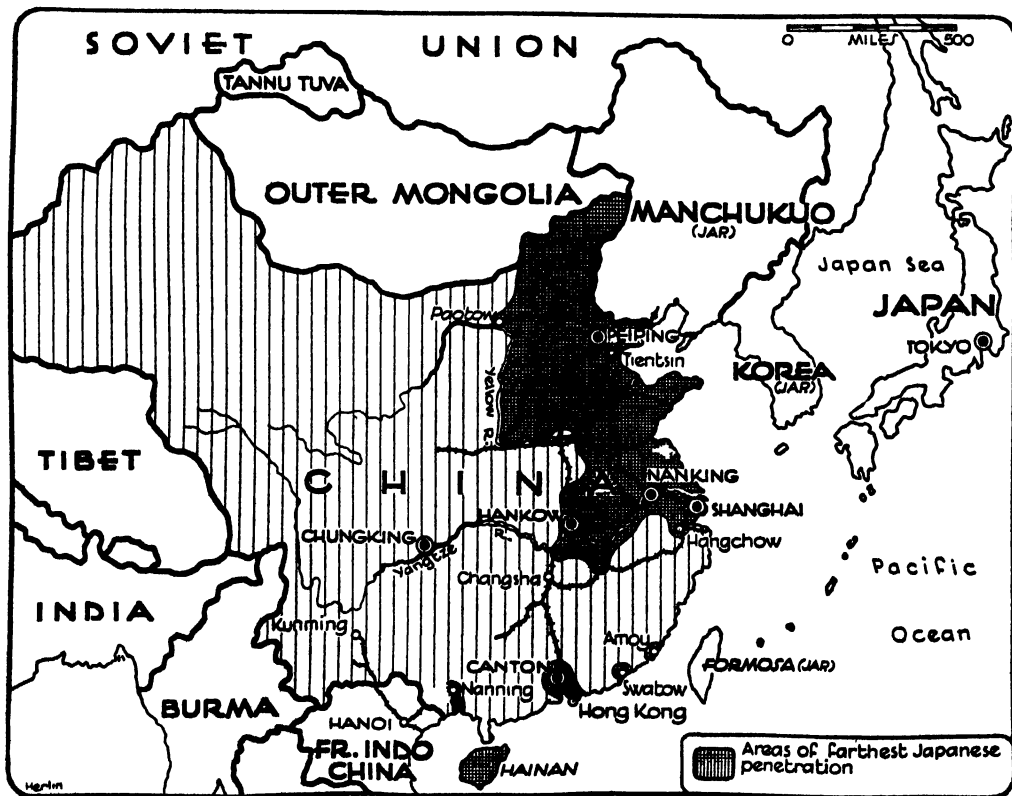
With the Japanese occupation of Hanoi and neighboring territory in French Indo-China in September, they gained new vantage points for extending bombing raids in South China. On September 30 they began destructive air attacks on Kunming, capital of Yunnan Province, and a key point on the Burma Road.

**Guerrilla Warfare Extended.** Undeterred by these raids, the Chinese during the summer and fall increased their military pressure upon the Japanese lines at various points, while innumerable guerrilla bands successfully harassed the invaders within the "occupied" territories. In August the Communist Eighth Route Army penetrated Japanese lines to the environs of Peiping and cut the Tientsin-Peiping railway line. In September a general attack upon Japanese garrisons

and outposts in occupied territories was begun by some 300,000 guerrillas. Railway and highway communications were repeatedly disrupted. In October the Chinese regulars reported important successes in South Anhwei Province, in Northern Kiangsi where the Yangtze port of Matang was recaptured, to the west of Nanchang in north central Kiangsi, in Chekiang Province, and at innumerable other widely scattered points. The extent of the conflict was indicated by Chinese announcements stating that 2889 separate engagements took place with Japanese troops during September.

**Japanese Shorten Lines.** On October 28 the Chinese recaptured Nanning, the capital of Kwangsi Province, taken by the Japanese in November, 1939. Soon afterward it was announced that the Japanese had abandoned all of the territory conquered in Kwangsi and were shortening their lines through south and central China. During November Japanese forces were withdrawn from Wai-chow Island off the Kwangtung coast and from Yamchow and surrounding territory in southwestern Kwangtung Province.

Some of the troops withdrawn from these sectors were reported to have been concentrated in Hankow, while others assembled at Kwangchow-an and Hainan Island in South China and at Haiphong in French Indo-China, apparently in preparation for an attack on French, British, and Dutch



Courtesy of New York Times

#### RIVAL GOVERNMENTS IN CHINA

The areas of farthest Japanese military penetration in China were placed under the nominal rule of Wang Ching-wei's Japanese-sponsored regime on Mar. 30, 1940. Wang's nominal jurisdiction extended over an estimated 526,500 square miles of territory with 185,000,000 inhabitants. Gen. Chiang Kai-shek's Nationalist Government at Chungking retained control of an estimated 2,376,500 square miles with a population of about 237,708,000.

possessions. Late in November heavy fighting again broke out in central and northern Hupeh Province, northwest of Hankow. On December 4 the Chinese announced that they had inflicted one of the worst defeats of the war upon Japanese troops engaged in another offensive operation in that area.

The year ended with nearly a million Japanese troops still guarding the key cities and communication centers of the occupied provinces against Chiang Kai-shek's armies, estimated to number some five million men. Neutral military experts in China estimated in July that the war had already cost Japan more than 1,000,000 casualties including 200,000 killed, while Chinese military losses were placed at over 3,000,000 including 1,000,000 or more killed. An official Japanese report gave the number of Chinese killed up to Nov. 30, 1940, at 3,500,000 and the number of Japanese killed at 101,899.

**Wang Ching-wei's "Government."** Japan's recognition on November 30 of the puppet regime established at Nanking by Wang Ching-wei indicated that Nippon's army leaders had given up hope of forcing Chiang Kai-shek to accept their peace terms. Recognition of Wang had been forecast repeatedly since early in January, when the military and political authorities in Tokyo ratified the unpublished "peace agreement" reached between Wang and Japanese army commanders in Shanghai in December, 1939 (see YEAR BOOK, 1939, p. 143).

The Japanese military created Wang's puppet government to provide a basis for consolidating their gains in China. They hoped it would weaken Chiang Kai-shek's position and force him either to capitulate or reach a compromise settlement. In addition, Wang's regime was expected to aid in the pacification and economic exploitation of the conquered Chinese territories and to serve as a useful tool in pressing foreign interests in China to recognize Japan's "new order in East Asia."

This program encountered innumerable obstacles. In January two of Wang's Chinese supporters deserted to Chiang Kai-shek. They made public at Hong Kong the conditions which they said Wang had accepted in order to win Japanese support. Publication of these conditions, envisaging a permanent colonial status for China, alienated much of the support Wang had managed to enlist among the Chinese. Efforts to create a Chinese armed force under the nominal direction of Wang Ching-wei to aid the Japanese in their military struggle proved of little avail. Many of these soldiers deserted to Chiang Kai-shek with Japanese weapons, or mutinied against their Japanese officers. There were numerous assassinations of Wang adherents by Chinese gunmen, and Wang himself lived under heavy Japanese guard.

Moreover factionalism within the Japanese army prevented establishment of a centralized government for the Japanese-occupied areas. The separate puppet regimes established in North China and Inner Mongolia continued to take orders from the Japanese commanders in Peiping even after the establishment of Wang's "central government" on March 30. The Tokyo Government advanced Wang 60,000,000 Chinese dollars in cash and in April sent ex-Premier Nobuyuki Abe to Nanking to conclude a formal treaty with Wang's "government." However the signing of this accord was repeatedly postponed, while the Japanese made under-cover efforts to negotiate a settlement

with Chiang Kai-shek. In May, in July, and again in November the Japanese submitted peace proposals to the Nationalist leader, but he continued to insist upon "complete and unconditional withdrawal of all Japanese forces from China."

**Terms of Nanking Accords.** General Abe finally signed the treaty "readjusting Chinese-Japanese relations" in Nanking on November 30. The treaty pledged the co-operation of the Wang and Tokyo Governments in "establishing a new order," eradicating mutually hostile propaganda and fighting communism. It gave Japan special rights to control and exploit the natural resources of Inner Mongolia and North China and to station troops in those regions permanently. Wang also agreed to give Japan and its subjects "positive and full facilities" in trade and economic matters. All Chinese territory was opened to Japanese residence and business in return for Japan's relinquishment of her concessions and extraterritorial rights in China.

In addition to this basic treaty, there was signed at the same time a protocol governing relations between Tokyo and Nanking during the continuance of hostilities with Chiang Kai-shek, a supplementary understanding, and a joint declaration by the governments of Japan and Manchoukuo and the Wang administration. In the protocol Wang authorized the Japanese to take all necessary war measures, while the Japanese undertook to commence the evacuation of troops from China when the war ended and to complete it within two years except for special areas in North China and Inner Mongolia. Evacuation, however, was conditional upon the restoration of peace and order in China by the Wang regime.

The supplementary understanding provided for the transfer to the Wang regime of the Japanese Army's tax-collecting machinery in China. It called for the return to Chinese control of mines, industries, and commercial establishments seized by the Japanese and for a readjustment of the Chinese share in joint Chino-Japanese enterprises. It also admitted the Nanking regime's right to tariff autonomy subject to the maintenance of the principle of Chino-Japanese co-operation in establishing the "new order in East Asia." This, the official Japanese news agency pointed out, meant Nanking's co-operation with Japan "against powers who oppose the new order," particularly the United States. In the joint declaration, Wang's regime formally recognized Manchoukuo (q.v.) as an independent state—a concession which the Japanese had sought since 1931 to obtain from Chiang Kai-shek's Nationalist Government. Japan and Manchoukuo in return recognized the Nanking administration as the national government of China.

**Japanese Economic Measures.** The economic clauses of the foregoing accords were designed to provide a legal basis for the ambitious measures already taken or projected for making China an economic as well as a political protectorate of Japan (see YEAR BOOK, 1939, p. 143 f.). By currency manipulation, the control of customs, trade regulations and communications, military pressure, etc., the Japanese worked energetically throughout the year to drive out foreign and other influences opposed to the Japanese program and to bring virtually all forms of economic activity under their direct or indirect control.

As in Manchoukuo, the principal method adopted was the monopoly system. Companies controlled



by Japanese but with both Japanese and Chinese capital were granted exclusive rights to operate and exploit natural resources, public utilities, etc., within specified areas. The secret agreement negotiated by Wang with the Japanese in December, 1939, allegedly called for the establishment of such monopolies over mineral deposits, railways, and other communications, water supplies, electricity, etc., in Central as well as North China.

According to the Tokyo director of the Economic Department of the Asiatic Development Board, investments of this character made by the Japanese Government in China during 1939 totaled 285,000,000 yen (247,000,000 yen in North China and 38,000,000 yen in Central China). The rich rewards in prospect for the Japanese once China was subjugated and order restored were indicated by the North China Development Company's announcement of a net profit of 2,200,000 yen in 1939 on total revenues of 6,100,000 yen. This company was organized by the Japanese Government in 1938 to finance and supervise the economic exploitation of North China (see *YEAR BOOK*, 1938, p. 157).

Another step to strengthen Japanese economic control was the announcement at Nanking on December 9 that Wang's regime would open a new central bank December 15, the notes of which would replace those of the Chungking Government as legal currency in all Japanese-occupied parts of China.

**The Chungking Government.** The progressive revelation of Japan's sweeping political and economic aims in China deprived Wang Ching-wei of all but a vestige of Chinese support and enabled Chiang Kai-shek to continue the struggle with growing prospects of success. The only important defection during the year was that of Gen. Shih Yu-shan, former governor of Chahar Province and outstanding war lord, who was executed early in December for conniving with Wang Ching-wei.

During 1940 Chiang's government made further progress, despite Japanese air raids, in converting the free provinces of Western China into a military, economic, and cultural base for protracted warfare with Japan. New mines were opened, light and heavy industries established, motor roads constructed, universities, schools, and military training centers founded. Chinese arsenals and munitions factories produced most of the arms and ammunition needed for mobile and guerrilla warfare. The phenomenal development of producers and consumers co-operatives continued.

In June China's major supply route through French Indo-China was cut permanently through Japanese military pressure on the French authorities. Shortly afterwards the British yielded to Japanese pressure and ended the munitions traffic over the Burma Road. This left the Chungking Government entirely dependent upon the Soviet Union and the long motor route through Sinkiang for imported supplies, until the British Government reopened the Burma Road in October. The Chinese used the three months during which the Burma Road was closed to improve it and to push construction of a network of local highways to feed into and supplement this vital traffic artery. Reports toward the end of 1940 indicated that truck traffic over the Burma Road was proceeding despite Japanese efforts to bomb bridges and other weak links in the highway.

It was reported in December that another supply route for Chiang's armies had been opened

from Vladivostok via the Trans-Siberian Railway to Chita or Verkhneudinsk, from there to Urga in Outer Mongolia by military road, and thence to Ningsia and Lanchow by truck or caravan. See map in *YEAR BOOK*, 1938, p. 152.

The major internal threat to the Chungking government was the continuance during the first months of 1940 of the struggle between its Communist and anti-Communist supporters in and around the Shensi-Kansu-Ningsia border region, the stronghold of the Communist Eighth Route Army (see *YEAR BOOK*, 1939, p. 142). Early in April the Central Government negotiated an agreement between the Communists and anti-Communists, which for the time being ended their undeclared war. The area of the Communist-controlled region was reduced, the district in which Communist military units were to operate was delimited, and Chungking undertook to support six instead of three regular divisions of the Eighth Route Army. Friction between Communists and anti-Communist elements continued, but not on a scale preventing effective military operations against the Japanese.

During April 1-10 the fifth session of the Kuomintang People's Political Council was held in Chungking. It approved the final revised draft of a new Constitution, to be submitted to a National Assembly in November in accordance with the decision reached by the party's Central Executive Committee the preceding year (see *YEAR BOOK*, 1939, p. 141).

The regions under Chungking's control were reported to be better off economically than those of the Japanese-occupied areas. Floods, guerrilla activities, and the exactions of the Japanese produced serious food shortages in the Tientsin-Peiping area. There was famine in rural districts of Hopei Province in the north and in Eastern Kwangtung in the south, where cannibalism was officially admitted. In many other districts of both occupied and free China, inflated prices and scarcities caused hunger riots and other disorders.

**Drive against Western Powers.** The Japanese made much more definite progress in their campaign to oust the Western powers from China than in their military and diplomatic struggle with Chungking (see *YEAR BOOK*, 1939, p. 143 f., for background). By the end of 1940 France and Great Britain had been forced to give up practically all of their footholds in China, with the exception of British-owned Hong Kong. Only the stubborn opposition of the United States prevented Japanese seizure of the Foreign Settlement at Shanghai.

On March 28, the British Ambassador at Tokyo tacitly acquiesced in the establishment of Wang's Nanking regime. A Japanese effort to gain control of the Shanghai Municipal Council in the April elections was rebuffed, but on June 19 Britain and France capitulated to Japanese pressure at Tientsin, where the foreign settlement had been blockaded since 1939 by local Japanese military authorities. They agreed to accept Japanese "help" in policing their concessions, to permit the circulation of the Japanese-sponsored currency, to turn over 10 per cent of the Chinese Government's silver stocks held in the concessions to the Japanese for relief purposes, and to seal the remainder pending final disposition.

On June 20 the French Ambassador, following the example of the British Ambassador a year before, formally recognized Japan's "special require-

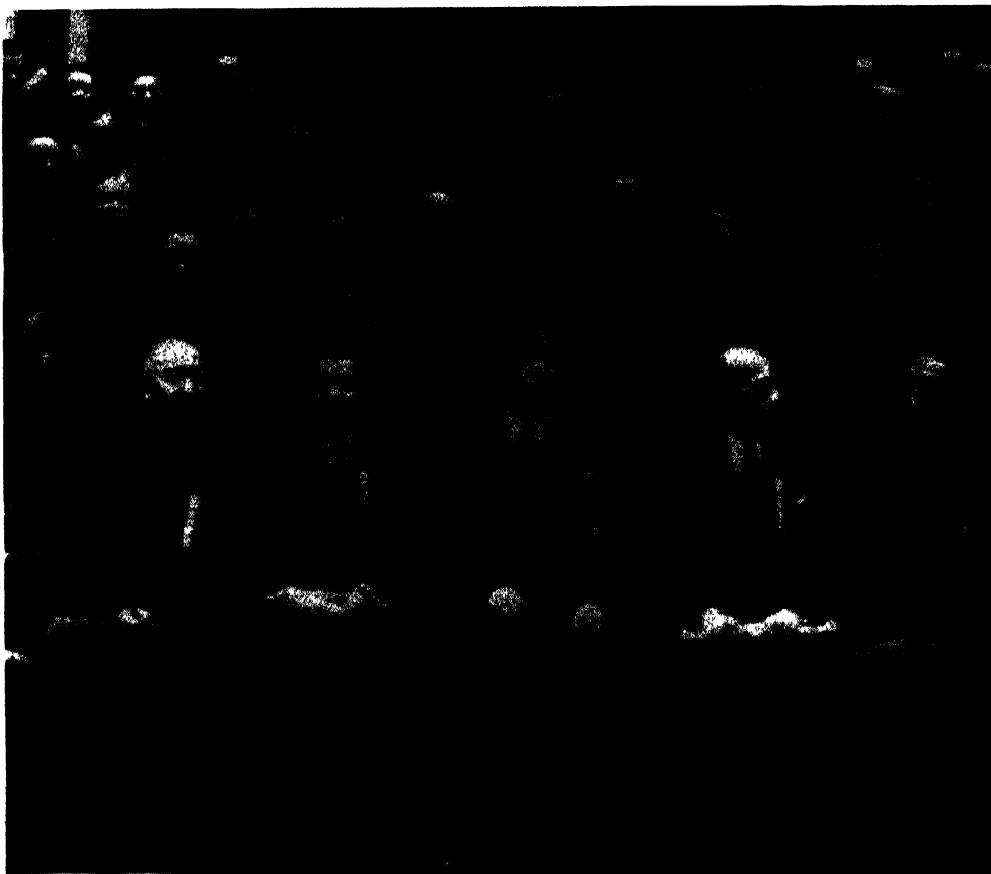




*Wide World*

#### JAPANESE DROP INCENDIARY BOMBS ON CHUNGKING

More than a square mile of buildings in the ancient walled section of the Chinese capital was destroyed by the fire thus started on August 19-20



*Wide World*

WANG CHING-WEI (CENTER) AND MEMBERS OF THE CHINESE PUPPET GOVERNMENT



#### SPECIAL CLASSES AMONG CCC ENROLLEES

*Above:* A group of students in the Cooks' and Bakers' School being instructed in tests for the freshness of meat. Over 8500 enrollees received practical training in the 30 schools and 1500 kitchens during 1940. *Below:* A group in a radio-communications class. Over 3000 men were trained in short-wave radio operation during 1940.

ments" in China. He pledged that French nationals and authorities there would not be permitted to obstruct or hamper Japan in prosecuting the war against Chiang Kai-shek. A few days later French authorities in Shanghai, without consulting other foreign defense forces, turned over one of their defense sectors to the Japanese. At the same time the French agreed to stop virtually all shipments of supplies to China through French Indo-China and to permit Japanese inspectors to supervise the remaining traffic.

While Japan proceeded to win a stranglehold upon French Indo-China (q.v.), further pressure was applied to the British. On June 24 Tokyo demanded that Britain stop shipments of supplies to China through Hong Kong and Burma. The demand was rejected on July 8. But on July 12, after further Japanese pressure, Britain agreed to close the Burma Road for three months to shipments of arms, ammunition, gasoline, trucks and railway material, and to prohibit exports of the same categories of goods from Hong Kong. The British action was linked with an appeal for a Chino-Japanese peace, but this was bluntly rejected by Chiang Kai-shek.

During July the Japanese and Chinese associates acting under Wang Ching-wei's orders also instituted a reign of terror in the International Settlement at Shanghai. There were assassinations and assaults. American marines arrested 16 armed Japanese gendarmes in civilian clothes discovered in the American defense sector.

On August 9 the British Government ordered the withdrawal of its troops from North China and Shanghai. The 200 British troops in Tientsin and Peiping withdrew August 18, leaving 250 American marines in Peiping and 100 in Tientsin in addition to about 230 French and 130 Italian troops divided between the two cities. Departure of 1570 British troops from Shanghai on August 23-25—ending a century of British control of the International Settlement—provoked a serious controversy between American and Japanese authorities in Shanghai and their respective governments. The Shanghai Defense Committee, on which commanders of the foreign troops were represented, placed the defense of the sector vacated by the British in the hands of the American marines. The Japanese refused to accept this arrangement. Accordingly the British sector was turned over to the Shanghai Volunteer Corps, a local militia, while Tokyo and Washington sought to negotiate a settlement.

While these negotiations proceeded, the Japanese intensified their tactics of terrorism and intimidation toward Americans and British remaining in the International Settlement. Anti-Japanese gunmen were also active. These numerous incidents threatened repeatedly to precipitate an armed clash between American and Japanese forces. It was under these circumstances, combined with growing tension between Washington and Tokyo, that many American private citizens began to leave Shanghai for Manila and other points, on the advice of the State Department, early in October.

The British retreat before Japanese threats was checked on October 9, after Japan concluded its alliance with Germany and Italy. Prime Minister Churchill announced that the Burma Road would be reopened, effective October 17, and indicated that Britain would extend further financial and technical aid to China. On December 10 London

announced another credit of £10,000,000 to Chungking. Negotiations for an Anglo-Chinese alliance were reported in progress at the year end.

**United States Policy.** Throughout this critical year for foreign interests in China, the major obstacle to Japan's anti-foreign drive was the attitude of the Washington Government. It firmly opposed violations of its treaty rights in China by Japan and gave repeated encouragement to Chungking. On March 7 the Export-Import Bank of Washington advanced a \$20,000,000 loan to China, to be repaid by shipments of Yunnan tin to the United States. On March 30, the day Wang Ching-wei's regime was established, Secretary Hull scored this move as another attempt "of one country by armed force to impose its will upon a neighboring country." He said the United States would continue to recognize the Chungking Government as the government of China.

Early in July the American Government curtailed shipments of machine tools, petroleum, and scrap metals to Japan. On July 16 it protested against the British decision to close the Burma Road. Repeated protests were made against the indiscriminate Japanese bombing of Chungking and other Chinese cities as well as Japanese air attacks upon American mission and other properties in China. On September 25 the Export-Import Bank of Washington advanced China another loan of \$25,000,000, secured by \$30,000,000 worth of Chinese tungsten. Upon Japan's ratification of the treaties with Nanking, the United States on November 30 advanced additional credits of \$100,000,000 to Chungking—\$50,000,000 by the Export-Import Bank and \$50,000,000 from the U.S. Treasury stabilization fund. Like the preceding loans, these were to be covered by purchases of Chinese tungsten, antimony, and tin.

**Soviet Role in China.** In order to facilitate its advance against the French, British, and Dutch possessions in southeastern Asia and Malaya, the Tokyo Government strove throughout 1940 to neutralize the Soviet Union. The Soviet-Japanese dispute over the Manchoukuoan-Mongolian frontier was settled in Russia's favor on June 9. The Japanese also proposed the division of all China into Soviet and Japanese spheres of influence, provided Moscow withdrew its support of the Chungking Government. Negotiations to this end were still under way in Moscow, with German support, when the year ended.

Meanwhile Moscow continued to send war materials and other aid to Chiang Kai-shek, obtaining in return further concessions in Sinkiang. By threatening in January to cut off its aid, the Soviet Government forced Chungking to negotiate a settlement satisfactory to the Communists of the unofficial civil war between Kuomintang and Communist forces in northwestern China. In April Chiang Kai-shek sent Shao Li-tse, leader of the left-wing faction of the Kuomintang, as his new ambassador to Moscow to secure increased Soviet assistance. On July 27 the conclusion of a new Soviet-Chinese trade treaty was announced. The Soviet Government on December 6 informed Japan that Moscow's policy with regard to China remained unchanged. This meant that Russia would continue to support the Chungking Government despite Japan's recognition of Wang Ching-wei's regime.

See **BRITISH MALAYA, BURMA, FRANCE, FRENCH INDO-CHINA, GERMANY, GREAT BRITAIN, JAPAN, KOREA, MANCHOUKUO, MONGOLIA, THAILAND, TI-**

BET, and UNION OF SOVIET SOCIALIST REPUBLICS under *History*; INDUSTRIAL CHEMISTRY; UNITED STATES under *Foreign Affairs*.

**CHINCH BUG.** See ENTOMOLOGY, ECONOMIC. **CHOSEN.** See KOREA.

**CHRISTIAN FRONT.** See FASCISM; NEW YORK.

**CHRISTIAN REFORMED CHURCH.** See RELIGIOUS ORGANIZATIONS.

**CHRISTIAN SCIENCE.** A system of metaphysical or spiritual healing, discovered by Mrs. Mary Baker Eddy in 1866 and set forth in her textbook of the movement, *Science and Health with Key to the Scriptures*, first published in 1875. The first church was established by Mrs. Eddy in Boston in 1879. In 1892 it was reorganized as a voluntary religious association, known as The First Church of Christ, Scientist, in Boston, but called more frequently by its adherents "The Mother Church." The total number of recognized branches of The Mother Church in the United States reported for the fiscal year ending May 31, 1940, was 2176 and 74 college and university organizations. Total branches for the world 2858.

The affairs of The Mother Church are administered by a board of directors which supervises the work of the board of education, board of lectureship, and committee on publication. The board of education instructs and authorizes students to teach Christian Science. The board of lectureship consists of 23 members who are engaged in delivering free lectures on Christian Science.

The Christian Science Publishing Society, whose affairs are administered by a board of trustees according to the Manual of the church, issues the daily paper of the organization, *The Christian Science Monitor*. Other periodicals include *The Christian Science Journal*, *Christian Science Sentinel*, *Christian Science Quarterly*, and four editions of *The Herald of Christian Science* in the German, French, Dutch, and Scandinavian languages, each with the English translation opposite, and in Braille.

The benevolent association of the church conducts sanatoria in Brookline, Mass., and San Francisco, California. Pleasant View Home at Concord, N.H. is a home for Christian Scientists of advanced years. Mrs. Margaret Matters is president of The Mother Church for the year 1940-41. Headquarters are at 107 Falmouth Street, Boston, Mass.

**CHROMIUM.** This strategic metal was the subject of deep interest and concern in 1940 on account of its importance as a war mineral. The shipping situation was critical, and freight rates were high. The principal countries of production were Turkey, Cuba, Rhodesia, and the Philippines. Imports of ore for the year 1940 aggregated 657,689 gross tons containing 301,672 tons  $\text{Cr}_2\text{O}_3$ , valued at \$8,754,770. The price in December, 1940, for metallurgical grade ore, 48 per cent  $\text{Cr}_2\text{O}_3$  was \$32-34 per long ton, c.i.f. Atlantic ports; 43-45 per cent refractory ore brought \$22-24; intermediate grades \$28-30. All prices were nominal. The Geological Survey and Bureau of Mines made extensive explorations for chrome ore in Montana, Wyoming, and Oregon without discovering much ore of metallurgical grade. Some was found suitable for refractory and chemical uses. U.S. consumption of all three grades of chrome ore—metallurgical, chemical, and refractory—was about 500,000 tons. See GEOLOGY.

H. C. PARMELEE.

**CHRONOLOGY.** The following chronology lists the more important happenings of the year 1940 according to the dates of occurrence. In most cases, these events are treated in detail under their respective headings. To such articles, particularly those on leading countries and states, such as UNITED STATES, GREAT BRITAIN, and NEW YORK, the reader is referred for additional information. For a list of prominent persons who died during the past year, reference should be made to the article NECROLOGY and the more important obituary notices there listed. See also EUROPEAN WAR for important military events.

#### JANUARY

- 1—German freighter, *Tacoma*, interned by Uruguay as a naval auxiliary.
- 2—United States protested to Britain against the seizing of American mail on neutral ships.
- 3—Soviet Union and Japan agreed on demarcation of Manchoukuo—Outer Mongolian borders.
- Seventy-sixth Congress convened at Washington.
- 4—President Roosevelt's budget message foresaw a 1940-41 deficit of \$1,716,000,000.
- Attorney General Frank Murphy was appointed to U.S. Supreme Court. Robert H. Jackson named Attorney General.
- Irish parliament gave Prime Minister de Valera special powers to deal with Irish Republican Army agitation.
- 5—Negotiations for United States-Argentine reciprocal trade treaty collapsed.
- 6—King Carol stated that Rumania was determined to defend her borders from invasion.
- 8—Finland destroyed another Russian division.
- Japanese Cabinet approved Wang Ching-wei's terms for establishing pro-Japanese regime at Nanking.
- Stricter deportation law was passed by U.S. Senate.
- Australia and United States established direct diplomatic relations.
- 10—An explosion in Bartley No. 1 coal mine, Bartley, W.Va., killed 91 men.
- 11—Dr. Carlos Arroyo del Rio won Presidential election in Ecuador.
- 13—Belgian soldiers on leave were called back to their posts.
- 14—Furloughs of all British soldiers in France were cancelled.
- Admiral Mitsumasa Yonai named Premier of Japan.
- 15—Russia protested against Swedish and Norwegian aid to Finland.
- Charged with plotting to overthrow U.S. Government, 17 young men, almost all members of the Christian Front, were arrested in New York City.
- 16—President Roosevelt urged financial aid to Finland.
- Great Britain announced loss of three submarines.
- 19—Senator William E. Borah of Idaho died.
- 20—Winston Churchill warned neutrals of Europe that war was inevitable for them and asked them to join the Allies.
- 21—British destroyer *Grenville* and 81 men lost.
- 22—British destroyer *Esmond* and 175 men lost.
- Earl Browder, U.S. Communist leader, was convicted in New York Federal court of using a passport that was falsely obtained.
- Japan protested British seizure of 21 Germans on Japanese ship. Partial settlement was reached February 6.
- 23—Dies Committee was extended for another year by U.S. House.
- 25—Canadian Parliament was dissolved and a general election called for March 26.
- 27—The *City of Flint*, an American freighter, arrived in the United States, after a 116-day voyage through European waters, part of the time under control of a German prize crew.
- Ex-Premier J. B. M. Hertzog's motion to restore peace with Germany was defeated in South African House of Assembly, 81 to 59.
- 28—The Vatican released a denunciatory report on conditions in German-occupied Poland.
- 30—Hitler asserted that the second or more active part of the war was at hand.

#### FEBRUARY

- 1—Russians began heavy assault on Finland's Mannerheim Line.
- 2—Finland asked Soviet Union for "honorable peace."
- U.S. Senate increased the lending authority of the Export-Import Bank, thereby making a loan to Finland possible.
- 7—Two Irish Republican Army members were hanged in Birmingham, England, for complicity in bombing outrage.

9—President Roosevelt sent Under-Secretary of State Sumner Welles on diplomatic tour of Europe.  
10—French Chamber of Deputies gave Daladier Government unanimous vote of confidence.

11—Costa Rican Presidential election was won by Dr. Rafael Angel Calderón Guardia.

12—First contingent of 30,000 Australian troops arrived in Egypt.

Trade treaty between Soviet Russia and Germany signed in Moscow.

14—Finland called the class of 1897 to the army and avowed that she would not surrender to Russia.

15—Great Britain offered, unofficially, to provide convoys for all shipping, regardless of destination.

Prof. Bogdan Philov was called to form a new Bulgarian government.

17—British destroyer *Cossack* invaded Norwegian waters to board the German prison ship *Altmark*, rescuing 326 British captives.

18—President Roosevelt inspected defenses of the Panama Canal.

President Estigarribia established a dictatorship in Paraguay.

19—British destroyer *Darling* was torpedoed and sunk with a loss of 157 men.

20—Russians captured Koivisto, key fortress of Mannerheim Line.

21—Soviet planes bombed a Swedish town near the Finnish border. Sweden accepted Soviet explanation that it was a mistake.

22—Rumania called to the colors all army reserves and barred export of all war material.

24—Prime Minister Chamberlain declared that Britain would never surrender to the present German government.

26—Sumner Welles conferred with Mussolini in Rome.

27—Myron C. Taylor was presented to the Pope as the personal representative of President Roosevelt.

### MARCH

1—Russians entered Vipur (Viborg) after breaking Mannerheim Line.

All-India National Congress executive committee authorized civil disobedience campaign to further independence.

2—Sumner Welles conferred with Chancellor Hitler.

4—Italian ships freighting German coal to Italy were seized by British warships.

6—Russia submitted peace terms to Finland through Sweden.

Land distributed among peasants by Spanish Republic was returned to grantees by decree of Franco Government.

7—The world's largest passenger liner, *Queen Elizabeth*, arrived in New York City.

King Carol reaffirmed Rumania's neutrality in European struggle.

10—Gen. Enrique Peñaranda del Castillo was elected President of Bolivia.

11—Allies proffered full military aid to Finland.

12—The Russo-Finnish war ended with the signing of a peace treaty.

16—President Roosevelt proclaimed his basic terms for "a sound peace."

Sumner Welles returned to Italy for a conference with Mussolini, Count Ciano, and the King.

An explosion in the Willow Grove coal mine, St. Clairsville, Ohio, killed 73 miners.

17—District Attorney William O'Dwyer revealed a crime syndicate in Brooklyn, New York, which committed murder by contract.

German air raiders bombed British fleet anchorage at Scapa Flow.

18—Hitler and Mussolini conferred at Brenner Pass.

19—James H. R. Cromwell, U.S. Minister to Canada, made a pro-Ally speech in Toronto. He was reprimanded by Secretary Hull.

British planes raided German air base at Sylt.

20—Daladier retired as French Premier and was succeeded by Paul Reynaud.

26—Canada's Liberal Government was returned to office with bigger majority in general election.

28—Sumner Welles made his report to President Roosevelt upon his return to the United States.

29—Germany made public documents, claimed to have been obtained from captured Polish archives, which accused American diplomats of helping to bring on the war. They were branded as forgeries by U.S. officials named.

30—Wang Ching-wei's puppet government was established at Nanking.

### APRIL

2—The decennial U.S. census began.

British began an intensified blockade of Germany.

3—Prime Minister Chamberlain revamped his cabinet. Winston Churchill was given general supervision over all Britain's fighting forces.

U.S. Government asked Mexico to arbitrate dispute over expropriation of American-owned oil properties.

The Earl of Athlone was named Governor General of Canada.

4—Supreme Soviet of U.S.S.R. incorporated territory ceded by Finland in new Karelian-Finnish Soviet Socialist Republic.

5—President Roosevelt's power to negotiate reciprocal foreign trade agreements was extended for three years.

9—Germans occupied Denmark and invaded Norway, capturing Oslo, Bergen, Trondheim, and Narvik.

10—German supply line across the Kattegat and Skagerrak to Norway was attacked by British planes and warships.

11—Japan was defeated in attempt to gain control of Municipal Council of Shanghai's International Settlement.

13—British warships forced their way into Narvik harbor, sinking seven German destroyers.

16—British expeditionary force, arriving in Norway, was heavily attacked by German bombers.

17—Secretary of State Hull upheld status quo in Netherlands Indies.

18—A naval appropriation bill of \$963,797,478 was passed by U.S. Senate.

Thousands of Iron Guardists were liberated from Rumanian concentration camps by King Carol.

19—The Ford Motor Company was accused by the National Labor Relations Board of encouraging brutality against union workers in the Ford plant at Dallas, Texas.

Reynaud Cabinet received unanimous vote of confidence from French Chamber.

The Lake Shore Limited, New York Central express between New York and Chicago, jumped the track at Little Falls, N.Y.; 28 were killed, 70 injured.

23—Britain's 1940-41 war budget of £2,667,000,000 was published.

24—The German High Command announced that henceforth Germany would rule Norway with "unrestricted control."

27—Germany attempted to justify invasion of Norway by making public documents purporting to prove that the Allies planned a landing in Norway with Oslo's consent.

30—Germany captured Dombaa and control of the railway between Oslo and Trondheim.

### MAY

2—Philippine National Assembly applied an annual immigration quota of 500 to every nationality including the Japanese.

3—Mexican Government rejected United States bid to arbitrate oil controversy.

Allies were forced to quit Namsos and abandon southern Norway to Germans. The struggle for Narvik continued.

6—U.S. Supreme Court ruled that price-fixing agreement by Mid-West oil companies violated anti-trust laws.

Fire destroyed the municipal palace of Sandona, Colombia, during patriotic celebration, killing 103 persons and injuring 125.

Marshal Timoshenko replaced Marshal Voroshilov as Soviet Defense Commissar.

Chamberlain Government was upheld on foreign policy, 281 to 200, by British House of Commons.

10—Germany invaded the Netherlands, Belgium, and Luxemburg by land and air.

Chamberlain Government resigned and Winston Churchill formed new coalition cabinet with Labor leaders holding important offices. On May 13 both houses of Parliament unanimously endorsed the new government.

11—Allies rushed aid to the Low Countries.

13—German motorized column reached vicinity of Rotterdam, cutting the Netherlands in two. Queen Wilhelmina fled to London.

Dutch and British assured Japan no Allied troops would be landed in Netherlands Indies.

14—Dutch armies ceased resistance, except in Zeeland.

15—Battle of the Meuse began; Germans pierced the hinge of the Maginot Line at Sedan; occupied The Hague.

16—President Roosevelt requested Congress to appropriate \$1,823,000,000 for defense.

17—Germans penetrated 35 miles into France. The British were forced back in Belgium.

18—Germans took Louvain and Brussels in the north, while in the south they pushed to within 85 miles of Paris.

The 21 American republics jointly protested the German invasion of Belgium, the Netherlands, and Luxemburg.

19—Gen. Maxime Weygand succeeded Gamelin as French commander-in-chief.

20—Germans reached Laon, 75 miles from Paris.

21—German drive attained French coast at Abbeville, cutting off British, Belgian, and some French divisions from main French forces.

22—The Allies dug in on the Somme-Aisne front to protect Paris.

British Parliament passed a bill granting the government the right to conscript all persons and properties for defense purposes.

23—Sir Oswald Mosley, British Fascist leader, and many other suspected "fifth columnists" were interned.

24—Earthquakes rocked Lima, Peru, and the surround-

ing area, killing 350 persons, injuring 5000, and destroying many buildings.

25—France replaced 15 generals as German advance continued.

27—The Germans continued to tighten their ring around the Allied armies in Belgium and Northern France.

28—A Council of National Defense, similar to that of 1916, was appointed by President Roosevelt.

King Leopold ordered Belgian army to lay down its arms. The Belgian cabinet disowned the King, asserting government would continue to fight.

Some 400,000 Allied troops began the evacuation from Dunkirk under heavy German pressure.

The Allies captured Narvik, Norwegian iron-ore port, after a long siege.

30—Germany set up civil administration in the Netherlands.

31—President Roosevelt sent a special defense message to Congress requesting \$1,000,000,000 in additional appropriations.

Most of the B.E.F. reached England from Dunkirk.

# JUNE

1—Marseille, France, was bombed by German air raids.

2—Dr. Arnulfo Arias was elected President of Panama.

3—U.S. Senate approved an 11 per cent increase in naval ships and planes, costing \$654,902,270.

Paris was bombed by German planes; 254 persons killed. British evacuation from Dunkirk was completed.

5—Attorney General Jackson ruled that the sale of World War arms and ammunition to the Allies was legal. Approximately 1,500,000 Germans began a drive toward Paris on a 120-mile front from the English Channel to Laon.

6—U.S. Navy transferred 50 naval reserve planes to the Allies.

Premier Reynaud reshuffled his cabinet, dropping Daladier and naming Marshal Henri Pétain as Vice Premier.

8—Germans broke through French lines at four places; advanced to within 48 miles of Paris.

British merchant cruiser *Carinthia* was sunk by German submarine.

Drafting of new Cuban Constitution was completed by Constituent Assembly.

9—Norwegian army surrendered to Germany when the Allies withdrew from Narvik. King Haakon and his fugitive government moved to London.

Manchoukuo-Outer Mongolian border controversy was settled by Russia and Japan.

10—Italy declared war on France and England; the Germans crossed the Seine.

11—The Mediterranean was closed to American shipping by order of the President.

In an air crash near Newtonville, Canada, National Defense Minister Norman Rogers and three others were killed.

12—A \$1,706,053,908 supplemental defense appropriation was passed by the U.S. House.

The Germans crossed the Marne and took Chateau Thierry.

Egypt severed diplomatic relations with Italy.

13—Paris was declared an open city by the French.

Premier Reynaud's urgent "final" plea for aid from the United States was published.

14—The Germans marched into Paris, and pushed on to capture Le Havre and threaten Tours.

15—Germans broke through the Maginot Line on a wide front. The French fell back to the Loire River, 60 miles south of Paris.

16—The Maginot Line was abandoned; Verdun and Chaumont were captured.

17—Marshal Henri Pétain became Premier of France and asked Germany for peace terms; Britain announced that she would fight on alone.

Two bombers locked wings over Bellerose, Queens, N.Y., and crashed, killing 11 army men.

Senate resolution, adopted 76 to 0, warned that the United States would not recognize transfer from one European power to another of "any geographic region in the Western Hemisphere."

Mussolini met in Munich to draw up terms for the French armistice.

19—U.S. Government warns the European belligerents that it will not permit any transfer of territory in the Western Hemisphere from one non-American power to another.

Anglo-Japanese accord was reached ending Japan's blockade of British concession in Tientsin, China.

20—Two Republicans, Henry L. Stimson, former U.S. Secretary of State, and Col. Frank Knox, candidate for Vice-President in 1936, were named Secretary of War and Secretary of the Navy, respectively.

21—Selective military service bill was introduced in U.S. House.

French received German armistice terms at Compiègne in same railway car in which World War armistice was signed.

Rumania was transformed into completely totalitarian state by King Carol's order.

22—Franco-German armistice was signed.

23—U.S. Minister in Montevideo assured Uruguay of Washington's readiness to co-operate in suppressing threatened revolt by German Nazis. Brazil offered similar aid.

24—Republican National Convention opened in Philadelphia.

Armistice between France and Italy was signed, and fighting in France came to an end early the next day.

27—Wendell Lewis Willkie was nominated by the Republicans for President, with Charles Linna McNary as his running mate for Vice-President.

Rumania ceded Bessarabia and Northern Bukovina to Russia.

# JULY

1—Rumania renounced Anglo-French guarantee of her independence.

3—British Navy moved to take over all scattered units of the French fleet; attacked warships at Oran.

Ill health prompted President Ortiz of Argentina to transfer his powers temporarily to Vice-President Ramon S. Castillo.

4—At the New York World's Fair, a bomb found in the British Pavilion exploded when taken outside, killing two policemen and injuring two others.

5—Pétain Government severed relations with Britain.

7—The government candidate, Gen. Manuel Avila Camacho, was declared elected in Mexico's Presidential poll.

9—Duke of Windsor was appointed governor and commander-in-chief of the Bahama Islands.

10—President Roosevelt asked Congress for an additional emergency defense appropriation of \$4,848,171,957; he stated that the administration would not send troops overseas.

French Parliament voted for a totalitarian regime and went out of existence.

11—U. S. Congress completed action on the "two-ocean" navy bill.

Marshal Pétain assumed the full powers of dictator of France.

14—Prime Minister Churchill declared that Britain was ready to continue fighting for years.

Col. Fulgencio Batista, "strong man" of Cuba since 1933, was elected President.

14-15—With candidates restricted to the Communist-controlled "Working People's Bloc," parliaments pledged to "closer union" with Soviet Russia were chosen in Estonia, Latvia, and Lithuania. On July 21 the three countries proclaimed themselves soviet republics and asked for incorporation in Soviet Union.

15—The Democratic National Convention opened in Chicago.

Explosion in a coal mine at Sonman, Pa., killed 63 miners.

16—War Cabinet, including two Opposition leaders, was formed by New Zealand's Labor Government.

17—President Roosevelt was renominated for a third term. His selection for the Vice-Presidency, Henry A. Wallace, was nominated July 18.

Britain was warned by General Franco that Nationalist Spain expected cession of Gibraltar.

18—Prime Minister Churchill announced that Britain had agreed to close the Burma Road to Chinese munitions shipment for three months.

19—Hitler, in Reichstag speech, said Britain must end the war or the British empire would be destroyed.

20—The "two-ocean" navy bill was signed by President Roosevelt.

21—Foreign Ministers of the 21 American republics met in Havana to discuss measures for mutual defense against overseas threats.

22—Prince Konoye formed totalitarian Japanese government.

24—The Pétain Government revoked the citizenship and confiscated the property of ex-Premier Daladier and other former French leaders.

25—President Roosevelt barred export of American oil and scrap metal, except under special license.

27—European colonies in Western Hemisphere threatened with transfer to Germany would be taken over by a joint trusteeship of Pan American countries under agreement reached at Havana Conference.

29—Germany launched mass air raid against Britain.

30—In Anatolia, earthquakes shook down 14 villages and killed more than 1000 persons.

31—President Roosevelt embargoed export of aviation-type gasoline to countries outside of the Western Hemisphere.

Britain extended the blockade to the entire European continent.

# AUGUST

3—Royal Air Force began a more intensive bombing of German factories and naval concentrations.

4—Britain withdrew her troops from Shanghai and North China.

6—United States-Soviet trade agreement was renewed for fourth consecutive year.

British Somaliland invaded by Italians.

8—James A. Farley resigned as U.S. Postmaster General.

U.S. Senate passed bill authorizing President to mobilize National Guard for training and service within the Western Hemisphere.

Hundreds of German bombers intensified German raids on Channel convoys and British towns.

14—British airmen bombed Italian airplane factories.

15—Japan became a one-party State with dissolution of the Minseitō party.

17—Wendell L. Willkie formally accepted the Republican nomination for the Presidency.

President Roosevelt and Prime Minister Mackenzie King of Canada agreed to establish a joint United States-Canadian defense board.

Germany announced a total blockade of waters around Britain.

19—Italy conquered British Somaliland.

Claude B. Wickard succeeded Secretary of Agriculture Henry A. Wallace.

20—Prime Minister Churchill in report to House of Commons announced plan to lease bases in the Western Hemisphere to the United States.

Leon Trotsky was assassinated in Mexico City.

21—Rumania agreed to cede Southern Dobruja to Bulgaria.

22—The Canadian-United States joint defense board members were appointed.

23—President Roosevelt urged Congress to approve military conscription bill within two weeks.

24—Jesse H. Jones succeeded Harry L. Hopkins as U.S. Secretary of Commerce.

Argentine Congress voted 170 to 1 to reject proffered resignation of President Ortiz, thus blocking an anti-democratic conspiracy.

27—The National Guard mobilization bill was signed by President Roosevelt.

Alien registration began in the United States.

28—The Burke-Wadsworth conscription bill was passed by the U.S. Senate.

29—Japanese submarine sank in a storm during maneuvers south of Tokyo Bay; 100 sailors lost.

30—Rumania was compelled by Germany and Italy to cede part of Transylvania to Hungary.

31—Frank O. Walker succeeded James J. Farley as U.S. Postmaster General.

Airliner crash near Lovettsville, Va., killed Sen. Ernest Lundeen of Minnesota and 20 others.

#### SEPTEMBER

1—Sixty thousand U.S. National Guardsmen were called to active service for one year, beginning Sept. 16, 1940.

Two rival congresses were inducted in separate meetings in the Mexican capital.

3—President Roosevelt announced that 50 over-age destroyers would be given to Britain in exchange for naval and air bases in Newfoundland, Bermuda, the British West Indies, and British Guiana.

4—Secretary Hull warned Japan against interference in French Indo-China or the Netherlands Indies.

Hitler threatened to raze British cities if night bombing of Germany continued.

Following an abortive Iron Guard revolt, King Carol dissolved his puppet parliament, suspended the Constitution, and granted dictatorial powers to a new Premier, General Antonescu. On September 6, amid Iron Guard rioting in capital, Carol abdicated in favor of his son, Prince Michael, and fled to Switzerland with his mistress, Magda Lupescu.

5—Prime Minister Churchill defied Hitler, stating that warfare would soon become intensified.

6—Congressional action on the \$5,000,000,000 U.S. defense bill was consummated.

7—The Burke-Wadsworth conscription bill passed the U.S. House.

London was subjected to the heaviest aerial bombing of the war.

The Pétain Government interned ex-Premiers Daladier and Reynaud and General Gamelin.

General Antonescu assumed title of chief of State in Rumania and took over four posts in the new cabinet.

President Estragarrribia of Paraguay, commander of the republic's armies during the Chaco War, was killed in an airplane crash.

9—President Roosevelt signed the \$5,000,000,000 defense bill; contracts were let for 200 warships.

12—The Hercules Powder Company's plant, at Kenil, N.J., was wrecked by fire and explosions causing the death of 51 workers.

13—Buckingham Palace was bombed by German air raiders.

14—Speaker William F. Bankhead of the U.S. House of Representatives died.

Italy invaded Egypt.

15—British claimed that 185 German planes were destroyed in the heaviest air battle of the war over Britain.

16—President Roosevelt signed the Burke-Wadsworth bill.

17—Storms broke up a heavy concentration of German barges and supply ships in the English Channel.

20—Congress authorized \$1,500,000,000 increase in lending powers of Reconstruction Finance Corporation, two-thirds for purchase of strategic materials and aid to defense industries and one-third for development loans to Western Hemisphere countries through the Export-Import Bank.

21—Australian parliamentary deadlock was tightened by Labor gains in general election.

Eight German Nazi leaders in Uruguay were arrested on charge of plotting revolt.

22—British ship carrying refugee children and adults to Canada was torpedoed, with heavy casualties.

France, under strong pressure, agreed to entry of 6000 Japanese troops and establishment of air bases in northern part of French Indo-China. Unauthorized Japanese forces crossed border from China and attacked French and native troops.

23—Nazi press warned Greece and Turkey to recant their ties with England.

24—United States relinquished control of customs collections in Dominican Republic.

A Defense Communications Board was created by the President to co-ordinate U.S. communication systems.

25—China obtained \$25,000,000 loan from the United States.

German Commissioner in Norway placed all civil affairs in the hands of the Norwegian traitor, Major Vidkun Quisling, and ordered dissolution of parliament, the monarchy and the political parties.

"Free French" and British attack on Dakar was repelled after three-day struggle.

26—President Roosevelt placed embargo on export of scrap steel and iron, except to the Western Hemisphere and Great Britain.

A \$20,000,000 U.S. Government credit was granted Brazil for the construction of a large steel mill.

Two thousand Japanese troops landed at Haiphong, French Indo-China.

27—U.S. Senate unanimously ratified Havana Convention, which established inter-American machinery to prevent transfer of sovereignty or control over European colonies in the Western Hemisphere to a non-American state.

Japan signed a military alliance with Germany and Italy.

30—Berlin was bombed for five hours by English planes.

Japanese air raiders bombed Kuning, capital of Yun-nan Province, China.

#### OCTOBER

1—Rationing of foodstuffs in unoccupied France began.

2—U.S. Navy Department announced plans for early establishment of Atlantic naval force of 125 ships plus airplanes.

3—U.S. Attorney General warned that government might withhold defense contracts from firms violating National Labor Relations Act.

Neville Chamberlain resigned from Churchill Cabinet.

4—Hitler and Mussolini met at Brenner Pass for another conference.

6—General Antonescu assumed leadership of Rumanian Iron Guard.

7—London reported that up to September 30 the Royal Air Force had bombed more than 200 "military objectives" in Germany and German-occupied territory.

8—President Roosevelt signed the Excess Profits Tax-Amortization Bill.

U.S. Government advised Americans to leave the Far East.

9—Prime Minister Churchill was elected leader of the Conservative party in Britain.

Col. Fulgencio Batista was inaugurated as President of Cuba.

10—German troops moved into Rumania; Bulgaria began partial mobilization.

Foreign Minister Matsuoka stated that Japan's alliance with Germany and Italy was not directed against the United States.

11—President Roosevelt ordered "freezing" of Rumanian credits in the United States.

Germany admitted widespread damage by British bombers.

12—Clarence A. Dykstra, president of University of Wisconsin, was appointed National Director of Selective Service by President Roosevelt.

14—All-India National Congress began organization of passive resistance campaign to secure independence.

15—Wendell L. Willkie accused Roosevelt administration in Buffalo, N.Y., speech of delaying defense preparations.

British Admiralty reported lowest week's shipping losses in five months.

16—Registration of about 16,000,000 men between 21 and 35 took place under U.S. Selective Service Act. Germans continued heavy air attacks on England. British destroyed German convoy of three supply ships and two escorts.

Berlin began evacuation of children due to British air raids.

18—Ramón Serrano Suñer, Franco's brother-in-law and leader of Falangist (Fascist) movement, became Foreign Minister of Spain.

Jews were barred from high public office and from the press, radio, and movies by decree of the Vichy Government.

Burma Road was reopened by British.

19—London reported that 6954 persons had been killed by air bombing during preceding month.

Japanese airplanes bombed key stations and bridges along the Burma Road.

21—Italian planes bombed Cairo for first time.

22—President Roosevelt established a defense priorities board; requisitioned 110 military planes ordered in United States by Sweden.

London advised British subjects in Japan and Japanese-occupied territories to leave.

23—Japan denounced Bering Sea fur-seal treaty. Hitler and General Franco conferred at the French-Spanish border.

24—Vichy Government was warned by President Roosevelt that French colonies in Western Hemisphere would be occupied under Act of Havana if it gave military aid to Germany.

U.S. War Department announced reinforcement of its air squadrons in Philippines.

25—Military pact between Britain and exiled Czechoslovak Government signed.

John L. Lewis, head of the C.I.O., urged labor to vote for Republican Presidential candidate. He said he would resign his post if President Roosevelt were re-elected.

26—Liner *Empress of Britain* was sunk off the Irish coast.

27—Establishment of a "Free French" government was announced by Gen. Charles de Gaulle in London.

28—Pierre Laval, Vice Premier of Pétain Cabinet, was named Foreign Minister to undertake negotiations with Germany.

Chinese troops recaptured Nanning.

Greece was invaded by Italy.

29—The selection of prospective draftees under U.S. Selective Service Act began.

German planes dropped tons of explosives on English coastal towns and industrial centers in the Midlands.

England admitted shipping losses during the week of October 14-21 were the greatest of either World War—32 vessels totaling 146,528 tons.

30—Reiterating his pledge not to send American youths into foreign wars, President Roosevelt said in Boston campaign speech that U.S. industry had undertaken to produce 12,000 more warplanes for Britain.

31—British Government ordered large number of freighters in United States to offset mounting losses from German submarine and air attacks.

## NOVEMBER

1—German invasion ports were bombed again by R.A.F. 2—Italy unleashed violent air attacks on Greek cities and ports, including Athens and Salonika.

3—British landed forces on Greek territory.

4—Spain assumed jurisdiction over Tangier.

Washington received assurances from Marshal Pétain that France would not surrender her fleet to Reich or join war against Britain.

5—President Roosevelt was re-elected for a third term; Democrats increased their control of House of Representatives.

Prime Minister Churchill declared Britain needed air-naval bases on south and west coast of neutral Ireland to fight German submarine and air blockade.

Tokyo published ten-year plan for creation of self-sufficient Japan-China-Manchoukuo economic bloc.

6—Washington reported an agreement among American republics for joint use of their military, naval, and air bases.

Hawaiian Islands voted for statehood in plebiscite.

7—The new suspension bridge over the Narrows at Tacoma, Wash., collapsed due to wind vibration and fell 190 feet into Puget Sound.

Berlin claimed that German naval and air forces sank between 21 and 27 British merchant ships in attacks on two convoys.

8—Five members of Hungarian parliament were charged with conspiracy to kidnap the Regent and establish Nazi regime.

9—President Roosevelt stated that about half of U.S. production of military planes would be released to Britain and Canada.

Former Prime Minister Neville Chamberlain died.

Italian army division was trapped by the Greeks.

"Free French" forces attacked Libreville in French Equatorial Africa.

10—Rumania experienced the worst earthquake in its history.

Mussolini placed Gen. Ubaldo Soddu in charge of campaign in Albania following Italian reverses.

11—The Greeks, aided by British airmen, routed Italians in the Pindus Mountains.

Wendell L. Willkie in radio broadcast urged his supporters to follow constructive policy as "loyal oppositionists" during President Roosevelt's third term.

12—U.S. Government recognized election of Gen. Manuel Avila Camacho as President of Mexico.

Explosions occurred in following plants working on national defense contracts: United Railway Signal Co., Woodbridge, N.J., 9 persons killed, 23 injured; Trojan Powder Co., Allentown, Pa., 3 killed; American Cyanamid Corp., Edinburg, Pa., 3 killed.

An agreement signed in Batavia gave Japan 1,800,000 tons of Netherlands Indies oil annually.

Soviet Premier and Foreign Commissar Molotov conferred with Hitler in Berlin.

13—British torpedo-carrying planes caused heavy damage to Italian warships at Taranto.

14—British reported 762 British, Allied, and neutral ships "lost as a result of enemy action" during first year of war.

15—Dr. Harry A. Mills of the University of Chicago was appointed chairman of the National Labor Relations Board.

Coventry, English industrial city, was devastated in all-night German air raid.

16—American Communist party voted to sever its connections with Communist International to avoid prosecution under the newly enacted Voorhis Act, requiring foreign-controlled organizations to register with the State Department.

20—Birmingham, England, was heavily bombed.

Hungary joined the German-Italo-Japanese alliance. Rumania followed suit on November 23.

21—John L. Lewis resigned as head of the C.I.O. and was succeeded by Philip Murray.

22—Britain would need U.S. financial aid during 1941, the British Ambassador to Washington announced on his return from London.

26—The Rasmack Bill, putting 200,000 employees of emergency Federal agencies under merit system, was signed by President Roosevelt.

27—Rumania's Iron Guard executed 64 former officials of exiled King Carol's government. Disorder spread throughout the country.

29—Explosion in Nelms coal mine near Daciz, Ohio, caused death of 31 men.

30—Germany annexed French province of Lorraine.

Japan signed treaty recognizing Wang Ching-wei's Nanking regime and providing for permanent Japanese military and economic control of North China and Inner Mongolia.

Washington extended an additional \$50,000,000 credit to Chungking Government.

Provisional President Morinigo established dictatorship in Paraguay.

## DECEMBER

1—Joseph P. Kennedy resigned as U.S. Ambassador to Britain.

3—Italian defense line in Albania was broken by Greeks.

5—Motion for peace overtures was rejected by British House of Commons, 341 to 4.

Washington extended government credits totaling \$50,000,000 to Argentina.

6—Marshal Pietro Badoglio, Italian Chief of Staff, resigned.

Porto Edda fell to Greeks.

7—President Roosevelt promised Greece all possible help short of war.

9—Japanese Foreign Minister said Nippon was bound by its alliance to fight United States if the latter attacked Italy and Germany.

British offensive against Italian army in Egypt began.

10—Great Britain declared it could not permit American food to be sent to countries under German domination, but agreed to allow shipments of medical supplies.

Ohlang Kal-shak's Chungking Government received a British loan of £10,000,000.

11—British captured Sidi Barrani and thousands of Italian prisoners.

British Ambassador in Washington said amount of United States aid to Britain would determine outcome of war.

12—Marquess of Lothian died.

14—Marshal Pétain announced the ousting of Vice Premier Laval from Vichy Government.

15—British forced Italians out of Egypt and invaded Libya.

17—President Roosevelt proposed that the United States lend arms and munitions to countries resisting aggression.



18—German land and air forces were reported massing in Italy.

20—President Roosevelt appointed a four-man defense board to speed up arms production.

21—Viscount Halifax, British Foreign Secretary, was appointed Ambassador to Washington.

Anthony Eden became Foreign Secretary in British Cabinet.

23—Prime Minister Churchill appealed to Italians by radio to renounce Mussolini's leadership and end war.

24—Field Marshal von Brauchitsch, German army commander-in-chief, in Christmas broadcast to his troops said that British resistance would soon be broken.

25—Large-scale movements of German troops into Rumania were reported.

26—Registration of nearly 5,000,000 aliens in the United States neared completion.

27—President Roosevelt called 42,000 additional National Guard troops into active service.

After Christmas truce, British and German air raiders renewed attacks.

29—Calling for increased aid to Britain and ruling out proposals for peace negotiations with the Axis powers, President Roosevelt in national radio broadcast charted a course of "dynamic non-belligerency" for the United States.

31—Hitler, in year-end speech to German people, predicted victory in 1941.

**CHURCHES.** See RELIGIOUS ORGANIZATIONS. For edifices, see ARCHITECTURE

**CHURCHES OF CHRIST.** See DISCIPLES OF CHRIST; RELIGIOUS ORGANIZATIONS

**CHURCH OF CHRIST, SCIENTIST.** See CHRISTIAN SCIENCE; RELIGIOUS ORGANIZATIONS.

**CHURCH OF ENGLAND.** See ENGLAND, CHURCH OF.

**CHURCH OF GOD.** A name used by a number of small religious groups in the United States. For statistics on the larger bodies bearing this name, see RELIGIOUS ORGANIZATIONS; also, KENTUCKY under *History*.

**CIGARS, CIGARETTES.** See TOBACCO.

**C.I.O.** See CONGRESS OF INDUSTRIAL ORGANIZATIONS.

**CITY MANAGER PLAN.** See MUNICIPAL GOVERNMENT

**CITY PLANNING.** See PLANNING.

**CIVIL AERONAUTICS AUTHORITY (CAA).** See AERONAUTICS.

**CIVILIAN CONSERVATION CORPS (CCC).** During 1940, the Civilian Conservation Corps directed its job training program toward skills closely related to national defense. As virtually all of the work done by CCC enrollees is of the type done in wartime by engineering troops, the quartermaster corps, the front line soldiers, and by workers in industries and agriculture behind the lines, this did not necessitate any major change in the training or the job phases of the CCC program. It did however result in a general overhauling of the training program provided enrollees after work hours. In this program emphasis was placed upon all subjects related to national defense.

The Corps operated a chain of 1500 barrack camps throughout 1940, with a maximum enrollment of 300,000, plus 100 camps on Indian reservations and in Alaska, Hawaii, Puerto Rico, and the Virgin Islands. By legislation the maximum enrollment is 270,000 junior enrollees, aged 17 to 23½, and 30,000 war veterans, all housed in the 1500 barrack camps, 10,000 Indians, and 5000 territorials.

Heading the CCC is the Director, now James J. McEntee, appointed by the President and confirmed by the Senate. The salary is fixed at \$10,000 per year. The War Department is in charge of the administration of the camps. The Departments of the Interior and Agriculture are in charge of the work projects. The Office of the Director handles

the selection of junior enrollees and the Veterans Administration the selection of war veterans.

As a result of the disturbed international situation and the rapid expansion of the Army and Navy, Director McEntee issued instructions early in June for all camp officials to emphasize those phases of the academic and vocational training program which bore most directly on national defense. A 15-minute daily calisthenics drill was initiated for all junior enrollees. Instructions also were issued requiring all enrollees and camp administrative personnel to take the standard 20-hour Red Cross First Aid Course.

Congress recognized the possibilities of the CCC as a training agency for national defense by its adoption of Sec. 38, Public Resolution No. 88, which authorized the President to direct that CCC enrollees be trained in skills most vital to military operations. These skills would include, "... but are not restricted to cooking, baking, first aid to the injured, operation and maintenance of motor vehicles, road and bridge construction, photography, signal communications, and other matters incident to the successful conduct of military and naval activities."

By the end of the calendar year, the CCC had in operation 43 Central Motor Repair Shops, where the trucks, tractors, and other pieces of automotive equipment used by the CCC are repaired. As the shops were placed on an operating basis, enrollees were assigned to them to receive training under the direction of skilled automotive mechanics. It is estimated that between 2000 and 3000 enrollees can receive training at one time in these shops when all of the 63 planned are in operation. An additional 5000 or more enrollees are working in the 1500 camp garages as maintenance mechanics, performing all types of maintenance and repair duties except those which require the precision equipment and heavy hoists available only in the Central Repair Shops.

The 43,000 pieces of automotive equipment used by the Corps require the training annually of approximately 60,000 enrollee-operators. They learn to operate trucks, tractors, bulldozers, draglines, power shovels, road graders, and other heavy machinery which are not far removed from the combat cars, tanks, and military engineering equipment used by the armed forces.

Thirty Cooks and Bakers Schools are now being operated by the CCC to train enrollees to man the 1500 camp kitchens. Because of the demand from private employers and the armed forces for competent cooks and bakers, these schools operate continuously. Enrollees who have had experience as kitchen helpers are assigned to the schools, as well as are junior officers who need experience in mess management. Upon the completion of their course, which ranges from two weeks to two months, they are returned to their camps where they gain further practical training as cooks, bakers, and mess stewards. Approximately 9000 enrollees receive training in these fields at one time.

Schools for the training of subalterns, who serve as second in command of the camps, were being established at the close of the year. Subalterns, as well as camp commanders, formerly were reserve officers serving in a civilian capacity. It is now the intention of the Director to train enrollees to assume these positions. There are two reasons for this: one, because it gives the enrollees an incentive to gain a promotion within the Corps itself, and, two, many of the reserve officers who have served

in CCC camps are now being called for active duty because of the experience they gained in handling CCC camp administrative matters.

Instruction in radio operation and maintenance, both code and voice, is given at many camps. In the west, where camps are well removed from cities and sometimes isolated by weather conditions from contact through telephone and telegraph, the radio has been widely used for reasons of economy and practicability. It also finds a valuable use in fighting forest fires and in rescue operations during floods, hurricanes, and other disasters. In the Fourth Army Corps Area, which embraces the southeastern states, a radio school is conducted at Fort McPherson, Georgia, to provide enrollee-operators for the camp stations. These enrollees are required to pass a standard test which qualifies them for positions not only in the Corps, but with the Army, Navy, Coast Guard, and private radio firms.

Telephone line construction has been one of the important activities of the Corps to provide adequate communications systems in forests and parks as part of their protection systems. The CCC has constructed 80,000 miles of telephone lines.

Photography has been carried on principally as a recreational subject, but it has been enthusiastically accepted by enrollees. Most of the camps have equipped a small darkroom for the development and printing of film.

The Corps has constructed in its nearly eight years of operations 115,000 miles of roads and truck trails and 44,000 bridges. This work has provided a wide range of jobs which are closely akin to military engineering. Approximately 60,000 men received training during 1940 in road construction work, including truck, tractor and jack-hammer operation, map making and reading, surveying, blasting, stone masonry, carpentry, and steel and concrete construction.

Supplementing the training given on the work projects and in camp administrative duties are the courses conducted after working hours in the camp classrooms and shops and nearby schools. Courses range from the "three R's" for illiterates to college and vocational subjects related to the work training. More than 90 per cent of the enrollees participate in organized classes and activities.

Under an order effective Jan. 1, 1941, savings accounts are set up for enrollees in the office of the Chief of Finance, War Department, who acts as fiscal officer for the CCC. Previously \$22 of each enrollee's \$30 a month basic pay was sent to his dependents and the remainder turned over to him to meet personal needs in camp. Under the new arrangement, \$7 each month will be placed in a savings account for him, \$15 will be allotted to his dependents, and \$8 will be given him for personal use. At the conclusion of his enrollment the aggregate of his savings account will be given him in a lump sum to provide a "nest egg" until he is earning in private enterprise.

Another change during the last year opened the CCC rolls to a wider range of applicants. The interpretation of the eligibility requirement, "unemployed and in need of employment," was broadened to include applicants whose families were not necessarily in financial distress. It was held by the Director that many young men coming from families of moderate means could not obtain jobs because they lacked job training and therefore were "unemployed and in need of employment." The necessary job training was available in the CCC

and he felt that it was only fair that they be given the chance to acquire this experience. However, youths from families most in need of the \$15 allotments are given preference in selection.

In connection with the national defense program, the Director of the CCC during 1940 approved the assignment of several CCC companies to work projects on military lands in connection with the expansion of the Army. These projects included construction of a military airplane landing stage at Metlakatla, Alaska, requiring two CCC companies totaling 400 men, clearance of land at Fort Benning, Georgia, and Fort Bragg, North Carolina, for training grounds, and the assignment of one company to the Military Reservation in Okaloosa County, Florida. Other military projects were being proposed as the year came to a close.

From April, 1933, when the Corps was established, to Nov. 30, 1940, the CCC furnished employment to 2,798,207 individuals, of which 2,563,007 were junior and veteran enrollees and the remaining 235,200, non-enrolled personnel charged with the administration of the camps, the work projects, and the general program. Total obligations during that period were \$2,570,000,000, of which \$616,000,000 was allotted to dependents of enrollees.

The conservation work program up to Nov. 30, 1940, included the planting of 1,961,000,000 forest trees, improvement of forest stands on 3,728,000 acres, fire hazard reduction of 2,047,000 acres, expenditure of 5,935,000 man days fighting forest fires, planting of shrubs and grasses for erosion control purposes on 3,611,000,000 square yards, planting of 212,000,000 quick growing trees for erosion control, and construction of 5,570,000 erosion control check dams, 80,000 miles of telephone lines, 115,700 miles of truck trails and minor roads, and 44,500 bridges of all types. Tree and plant disease and pest control operations were carried on over an aggregate of 20,470,000 acres.

See EDUCATION, U.S. OFFICE OF; SOIL CONSERVATION SERVICE RELIEF.

JAMES J. McENTEE.

## CIVILIAN PILOT TRAINING PROGRAM. See AERONAUTICS.

**CIVIL SERVICE COMMISSION, U.S.** The unprecedented demands for personnel which have arisen from the national-defense program have been successfully met by the U.S. Civil Service Commission throughout 1940. In normal years only 60,000 to 80,000 appointments are made in the entire classified service, but during the calendar year 1940 over 200,000 placements were made in the War and Navy Departments alone, more than 160,000 of them between June 1 and the first week in November. In August, 1940, the central office of the Commission certified the names of 27,209 eligibles, as compared with 11,166 eligibles in January. Other offices of the Commission experienced similar increases.

Thanks to advance planning which had been done as early as the summer of 1939, the Commission regularly fills the requests of national-defense agencies for personnel within 24 hours after receipt. To do this, it has revived methods which had not been used since the first World War and has devised new ones. Posters stressing the need for personnel in the skilled trades are displayed on bulletin boards in Federal buildings and on mail trucks, and have been reproduced in hundreds of newspapers. Through the generosity of over 800

broadcasting stations which are donating time for this purpose, "spot" notices concerning the need for personnel in certain positions are being read several times daily during breaks for station identification. In addition, the radio industry has arranged several coast-to-coast broadcasts by officials of the Commission on the employment needs of the national-defense program. Consolidated lists of local examinations for which local publicity and recruiting has failed to secure sufficient eligibles are distributed weekly to first-, second-, and third-class post offices, and monthly to fourth-class post offices. A national roster of professionally trained men and women available for specialized defense work is being established, and will be maintained on cards for machine sorting. To make possible the rapid transfer of experienced Government employees to meet emergency needs, the experience and educational background of approximately 600,000 Government employees are being tabulated on punch-cards. Testing procedures are being improved rapidly, faster rating methods have been devised, and arrangements have been made to overcome shortages in certain occupations by resorting to other sources of manpower and by training persons who are potentially qualified. Liaison officers of the Commission have been assigned to many national-defense agencies, with full responsibility for having personnel on the job by the time it is needed.

Nearly all of the defense expansion in the Federal service has come since the delivery of the President's preparedness message in May, 1940. Consequently, detailed statistics on the Commission's national-defense work are not yet available. The figures given below relate, unless otherwise indicated, to the 1940 fiscal year—July 1, 1939, to June 29, 1940—and reflect comparatively little of the expansion which has resulted from the preparedness program.

On June 29, 1940, the classified service included 726,827 positions, or 72.5 per cent of the 1,002,820 positions in the executive civil service on that date. There were 816,610 men and 186,210 women in the executive civil service on June 29, 1940. Within the District of Columbia 39.7 per cent of the employees were women. Outside the District of Columbia 15.3 per cent of the employees were women; this relatively small proportion is caused by the large number of men employed in the Postal Service and in the navy yards, arsenals, and other manufacturing and construction projects.

**Civil-Service Examinations.** During the past fiscal year, 1,052,110 applications for civil-service examinations were received. Ratings were completed and eligible registers established in examinations for which 981,930 persons applied. Of these 846,824 took the examinations, and 381,012 received eligible ratings. The various Federal departments and establishments appointed 68,578 persons from civil-service registers.

Under the act of July 11, 1919, as interpreted by various Executive orders and court decisions, veteran preference is granted all persons discharged under honorable conditions at any time from the Army, Navy, Marine Corps, or Coast Guard. Such preference will be granted to persons inducted into the land or naval forces of the United States under the National Guard Act of Aug. 27, 1940, or the Selective Service and Training Act of Sept. 16, 1940, upon submission of official proof of honorable separation from active military service.

During the fiscal year 1940, 166,340 persons ap-

plied for veteran preference in examinations. Of those who passed civil-service examinations, 47,429 had been granted veteran preference. Of the appointees to the classified service from open competitive entrance examinations during the fiscal year, 20.88 per cent had veteran preference, including 13,686 men and 24 women receiving preference because of their own service, 514 widows of veterans, and 95 wives of disabled veterans.

**Recent Legislation and Executive Orders.** The President approved a number of Executive orders which were recommended to him by the Commission to meet emergency needs of the national-defense program. These emergency needs also affected certain Executive orders of a more permanent character, such as Executive Order No. 8587 of Nov. 7, 1940, which made a number of changes in the civil-service rules. Schedules A and B of the civil-service rules, which are lists of positions exempted from examination or from open competitive examination, were revised by Executive Order No. 8534 of Sept. 6, 1940. Executive Order No. 8576 of Oct. 29, 1940, revised the labor regulations, which govern the appointment of unskilled laborers at a number of Federal establishments such as arsenals and navy yards, and apply to all appointments to unskilled-laborer positions in some cities. Unskilled-laborer positions are not subject to the provisions of the Civil Service Act.

The scope of the Commission's work as the central personnel agency of the Federal Government was extended by the establishment within the Commission, under Executive Order No. 8467 of July 1, 1940, of the Council of Personnel Administration, which had previously been an independent agency. The Council is an interdepartmental committee to deal with personnel matters, and provides machinery for co-ordinating the action of the personnel directors of Federal departments and independent establishments, who are members of the Council.

The act of July 19, 1940, Public, No. 753, 76th Cong., known as the "Second Hatch Act," prohibited "pernicious political activities" on the part of officers and employees of State and municipal agencies whose principal employment is in connection with activities financed in whole or in part by loans or grants made by the United States or by any Federal agency. The United States Civil Service Commission was made an administrative tribunal to pass upon such cases, and a procedure was provided for appeals from its decisions to the courts.

Title I of the "Ramspeck Act" of Nov. 26, 1940, Public, No. 880, 76th Cong., authorized the President to extend the provisions of the Civil Service Act, by Executive order, to all positions previously exempted from it by statute, with the exception of the Tennessee Valley Authority, the Work Projects Administration, assistant United States district attorneys, and persons appointed by the President and confirmed by the Senate. Title II of the act authorized the President to extend the provisions of the Classification Act of 1923, as amended, to positions and employees not at the time subject to its provisions, with certain specified exceptions.

The act of June 29, 1940, Public, No. 680, 76th Cong., extended the provisions of the Alaska Railroad Retirement Act, which it amended, to clerical employees of the Alaska Railroad. The act of June 28, 1940, Public, No. 671, 76th Cong., permits the re-employment in the War and Navy Departments of former employees retired for age under

the act of May 29, 1930, whose re-employment would otherwise be prohibited. This provision is solely in the interest of the recruiting of employees experienced in occupations essential for the national-defense program, and extends in no case beyond June 30, 1942, unless Congress shall otherwise provide.

HARRY B. MITCHELL.

**CLOTHING.** See FASHION EVENTS; GARMENT INDUSTRY; LIVING COSTS AND STANDARDS; SHOE INDUSTRY; TEXTILES.

**COAL AND COKE.** According to the National Coal Association, 1940 output of bituminous coal was 450,000,000 tons. This was more than 50,000,000 tons greater than the production of 1939, and 100,000,000 tons more than that of 1938. It was the best annual production since 1930 when 467,000,000 tons was produced. The dollar value at the mine price was greater than the 1940 combined value of gold, silver, copper, and pig iron.

Fixed prices for bituminous coal at the mines were put into effect October 1, after more than three years of fact-finding investigations by the Bituminous Coal Division of the Department of the Interior.

Electric power generation was still dependent on coal as a source of primary energy, two-thirds of the nation's kilowatt output being produced from coal and one-third from water power.

The accompanying table gives the preliminary estimate of the U. S. Bureau of Mines on production of Pennsylvania anthracite and beehive coke for the year 1940.

**PRODUCTION OF PENNSYLVANIA ANTHRACITE AND BEEHIVE COKE**

	1940 <sup>1</sup>	1939
Anthracite <sup>2</sup> . . . . . (short tons)	50,024,000	51,487,000
Beehive coke . . . . . (short tons)	2,883,500	1,444,300

<sup>1</sup> Preliminary for 1940.

<sup>2</sup> Total production, including colliery fuel, washery and dredge coal, and coal shipped by truck from authorized operations.

New by-product coke ovens built or under construction in 1940 numbered 699, of which 142 replaced some old ovens. This was the largest new construction of coke-making facilities since 1926. Additional construction was in prospect to meet the demand for steel for national defense.

See GENERAL LAND OFFICE; PENNSYLVANIA.

H. C. PARMELEE.

**COAST GUARD, U. S.** A part of the military forces of the United States, operating under the Treasury Department in time of peace and as a part of the Navy in time of war.

The Coast Guard has a personnel averaging for the fiscal year 1941 about 600 commissioned officers, 750 chief warrant and warrant officers, 15,000 enlisted men and 4000 civilian personnel. At present the Coast Guard materiel is composed of a fleet of 267 cutters (consisting of vessels of over 65 feet in length with armaments of 1-pounders, to the largest cutters of 327 feet in length carrying 5-inch broadside batteries); 229 picket boats, 15 auxiliary craft, 30 lightships, and 9 relief lightships. The aviation wing comprises 10 air stations, encircling the coast, and operates 50 planes. The shore establishment includes 197 active Coast Guard lifeboat stations, 47 inactive stations, and 3 houses of refuge. Training facilities include the Coast Guard Academy, 4 training stations for

enlisted men, 4 Maritime Service Training Stations, and the Coast Guard Institute. In addition to these, there are the Coast Guard Depot for the construction and repair of boats and vessels, a communication system consisting of radio stations and some three thousand miles of coastal land wire and submarine cable, administrative offices, stores, and bases. About 2800 small boats are attached to the ships and stations of the Service. All Coast Guard vessels are being equipped on a war time basis.

With a total membership of over 3000 men and with about 2700 boats enrolled and divided into 150 flotillas, the Coast Guard Reserve on October 5 celebrated its first anniversary. Created by act of Congress for the principal purpose of promoting safety at sea through the education of yachtsmen and other small boat operators in the proper handling of their craft, the Coast Guard Reserve movement was instantly accepted by yachtsmen and other owners in possession of small craft. Applications for membership have exceeded the facilities of the Coast Guard and of the various Reserve flotillas, and further expansion has been temporarily retarded to permit of the orderly organization of flotillas and the establishment of an educational program.

In line with the national defense program of the nation, Congress appropriated approximately \$10,700,000 for the needs of the Coast Guard, to be expended in the fiscal year 1941. It is estimated that \$8,200,000 of the total amount requested of Congress will cover the cost of emergency conversion of Coast Guard vessels for Naval use, and of the installation of effective aircraft ordnance. Conversion work involves the revision of armament and ammunition stowage arrangements; installation of guns; enlargement of magazines; fitting of depth charge racks and Y guns; installation of underwater sound detection apparatus; and structural changes incident to these installations. An estimated \$2,500,000 is to be used for pay, allowances, subsistence and equipment of 2500 additional men during the fiscal year 1941. The men would be the first increment of a program to enlist 5000 additional men in the Coast Guard over a period of two years.

A total of 1581 new aids to navigation were established during the past year, consisting largely of daymarks, buoys, and minor lights. In the same period 767 aids were discontinued, leaving a net increase of 815 aids and bringing the total of aids in use to 30,420.

Application of the neutrality laws in the existing international situation has resulted in the Coast Guard establishing its Neutrality Patrol, the duty of which is to prevent any vessel from using United States ports for an unneutral act. Due to the marked decrease and almost total lack of weather data normally furnished the United States Weather Bureau by ships at sea of all nationalities, the Atlantic Weather Patrol was established in February, 1940. Two cutters, equipped as floating weather bureaus, were stationed between the Azores and Bermuda to collect this data. The President's Proclamation of June 27, 1940, gave to the Coast Guard the control of the anchorage and movement of vessels and the supervision of the loading and unloading of explosives and other dangerous cargoes.

In carrying out its functions as the Federal maritime policy agency, the Coast Guard rescued 9249 persons in peril; assisted 32,084 persons on

board vessels; cared for 410 persons in distress; assisted vessels and cargoes valued at \$88,016,268; boarded and examined papers of 39,450 vessels; and seized 21 vessels. The fines and penalties incurred by vessels reported totaled \$235,459. The Coast Guard destroyed 193 derelicts and other obstructions to navigation and recovered property valued at \$82,945. It patrolled 481 regattas and marine parades, and examined 2527 persons for certificates as lifeboatmen.

Other activities of the Coast Guard included: a water-fowl survey for the Biological Survey; transportation of mail where commercial shipping was disrupted; towing vessels of the Maritime Commission; transporting census enumerators to sparsely settled coastal sections of the United States and Alaska; servicing South Pacific Islands for the Department of Interior; co-operating with the Bureau of Fisheries in fishery observations and oceanographic studies in Alaskan waters.

The Coast Guard provided an armed detail to guard approximately 9299 tons of silver bullion valued at \$90,297,200 transported from the Treasury Department in New York to the depository at West Point.

Coast Guard relief forces were dispatched to the aid of communities stricken by the flood of the Susquehanna River during April, 1940, and into southern Alabama during the flood there in August, 1939. Considerable survey work and planning concerning Coast Guard activities in future floods in the Ohio and Mississippi Valleys were undertaken during the past year.

RUSSELL R. WAESCHE.

**COCHIN CHINA.** See FRENCH INDO-CHINA.

**CODLING MOTH.** See ENTOMOLOGY, ECONOMIC.

**COFFEE.** The world coffee crop in 1939-40, according to statistics of the International Institute of Agriculture, totaled 4841 million lb., the least in years except for the small production in 1935-36, and was 91 million lb. below 1938-39, and compared with the 1933-34 to 1937-38 average of 5274 million lb. The season in Brazil was characterized by unfavorable weather conditions from blooming through ripening to drying and in certain areas by crop pests, which continued to reduce volume of production—although conditions in other American countries usually were favorable. Brazilian production approximated 2756 million lb. in 1939-40 compared to 2923 million lb. in 1938-39 from around 8 million acres. Coffee production in other American countries was for Colombia 589 million lb., Venezuela 143 million lb., Guatemala 121 million lb., Salvador 119 million lb., Mexico 110 million lb., Cuba 71 million lb., and Dominican Republic 46 million lb.; and the total for American countries was estimated at 4109 million lb. Netherlands Indies, the leading non-American producer, had a crop of 236 million lb.

The 1940-41 crop of Brazil, as estimated by the New York Coffee and Sugar Exchange, would total about 20,850,000 bags compared to 21,861,000 bags in 1939-40; estimates of world totals in these years were 30,850,000 and 32,361,000 bags.

The Republic of Brazil had pledged 8,628,749 bags against the 1939-40 coffee loan, and had destroyed from July 1, 1939, to Dec. 30, 1940, a total of 4,454,000 bags of coffee. The total destroyed to Oct. 31, 1940, approximated 71,069,000 bags, in addition to 479,000 bags destroyed before June,

1931, by the São Paulo Institute. Exports from Brazil, 1939-40, aggregated 15,553,000 bags, and from Colombia 3,781,864 bags. Coffee delivered in the United States in 1939-40 amounted to 13,886,594 bags. Spot prices in New York in 1940 (Jan.-Dec.) averaged from 5½¢ to 6½¢ per lb. for Santos No. 4 and 6½¢ to 9½¢ for Colombian.

**COFFERDAMS.** See FOUNDATIONS.

**COINS.** See ARCHAEOLOGY. (For value of coins, see INTERNATIONAL BANKING AND FINANCE.)

**COKE.** See COAL AND COKE.

**COLLECTIVE BARGAINING.** See LABOR CONDITIONS; NATIONAL LABOR RELATIONS BOARD.

**COLLEGES.** See UNIVERSITIES AND COLLEGES.

**COLOMBIA.** A South American republic. Capital, Bogotá.

**Area and Population.** Area, estimated at 439,828 square miles; population at the census of July 5, 1938, 8,724,839, of whom 20 per cent were white, 5 per cent Negro, 7 per cent Indian, and about 68 per cent of mixed race. Of 27,437 foreigners in the country in January, 1939, 16.6 per cent were Venezuelans, 13.3 per cent Spaniards, and 8.3 per cent Germans. United States citizens numbered 2191 as of Jan. 1, 1940. The 1938 census populations of the chief cities were: Bogotá, 331,400; Medellín, 170,622; Barranquilla, 152,348; Cali, 110,579; Manizales, 86,346; Cartagena, 86,197; Ibagué, 61,860; Cúcuta, 57,251.

**Defense.** Military training for one year and service in the reserve for nine years is compulsory. The army's peace strength in 1940 was 14,750 men; trained reserves, 100,000; active air force, 1150. Police number about 5000. The navy has 2 modern destroyers, 3 seagoing gunboats, 3 coastal patrol vessels, and 4 river gunboats. The air force has relatively few modern planes. United States military aviation and naval missions were contracted for in 1938 and a French military mission in March, 1940.

**Education and Religion.** About 48.2 per cent of Colombians over 10 years of age were illiterate in 1928 (68 per cent in 1918). Schools, with the number of pupils in parentheses, are as follows: Kindergarten, 293 (12,823); elementary, 8554 (561,948); high, 449 (31,685); colleges and universities, 30 (3548); religious, 31 (1624); special and vocational, 325 (17,036). Roman Catholicism is the dominant religious faith; the Church was disestablished in 1936.

**Production.** The national economy is geared to production of coffee, gold, petroleum, and bananas for export. In 1939 these four products accounted for 95 per cent of the value of all exports. Mineral output in 1939 was: Petroleum, 23,857,000 bbl. (of 42 gal.); gold, 570,017 troy oz.; platinum, 23,671 troy oz.; cement, 167,000 tons; gasoline, 889,000 bbl. Estimated yields of the chief crops were (in metric tons): Coffee, 267,000 in 1939-40; cacao, 11,400 in 1937-38; cane sugar, 41,000 in 1939-40; tobacco, 14,800 in 1937-38; wheat, 90,800 in 1937-38; corn, 490,500 in 1937-38; rice, 74,600 in 1937-38. Manufacturing is confined largely to oil refining and the production of textiles, flour, cigars, cigarettes, etc., for local consumption.

**Foreign Trade.** Exports in 1939 totaled 177,054,000 pesos (163,226,000 in 1938); imports, 183,462,000 (159,259,000 in 1938). The chief 1939 exports by value were: Coffee, 87,125,000 pesos; gold, 40,582,000 pesos; petroleum, 31,903,000 pesos; bananas, 8,679,000 pesos. Cotton cloth, automobiles, iron and steel bars and pipes, pharmaceuticals, and machinery were the leading imports.

The United States supplied 54 per cent of the 1939 imports, Germany 12.8, United Kingdom 9.5. Of the exports, the United States took 66.9 per cent, Curaçao 8.1, Germany 7.3, Canada 7.0. See *TRADE, FOREIGN*.

**Finance.** Ordinary budget receipts in 1939 were 96,095,267 pesos (preliminary), including a surplus of 4,541,419 pesos from 1938, and total ordinary expenditures were 89,331,267 pesos. Total 1940 budget estimates for receipts and expenditures balanced at 91,626,690 pesos (ordinary, 86,107,000; special purposes budget, 2,745,000; budget under Law 12 of 1932, 2,775,000). The national public debt on Dec. 31, 1939, totaled about 200,741,000 pesos (216,873,000 on Dec. 31, 1938). Average exchange rates of the Colombian peso in 1939 were: Controlled, \$0.5714 (\$0.5587 in 1938); curb, \$0.5618 (\$0.5435 in 1938).

**Transportation, etc.** Colombia has slightly over 2000 miles of railway line, 14,700 miles of highways, and a comprehensive network of airways linking all the chief cities. The Magdalena River, on which 849,000 metric tons of freight were carried in 1938, is an important transportation route. The German-controlled SCADTA Airways in 1939 carried 54,621 passengers and 5659 tons of freight. The Pan American Airways west coast route connects at Barranquilla and Cali with the Colombian air network (see *History* for 1940 merger of air lines). Construction of the following railway lines was under way in 1940 or projected with proceeds of the 15,000,000-peso bond issue authorized in 1939: Extension of Nariño Railway and construction of port facilities at Tumaco; completion of the La Virginia-El Pintado and Antioquia sections of Western Trunk Railway; Ibaqué-Armenia line; extension of North Central Railway. A new national radio station was opened at Bogotá early in 1940. Port developments at Santa Marta also were under way in 1940.

**Government.** The Constitution of Aug. 5, 1886, vests executive power in a President elected for four years by direct popular vote and ineligible for re-election for four years after completion of his term. A Congress of two houses exercises the legislative power. The Senate has 56 members, elected for 4 years by departmental assemblies; the Chamber of Deputies, 118 members, elected for 2 years by direct suffrage. Extensive amendments to the Constitution were voted in 1936 (see 1936 YEAR BOOK, p. 174 f.). President in 1940, Dr. Eduardo Santos (Liberal), who assumed office Aug. 7, 1938. In the 1939 elections 77 Liberals and 41 Conservatives were elected to the Chamber of Deputies and 37 Liberals and 19 Conservatives to the Senate.

### HISTORY

Colombia was primarily concerned during 1940 with meeting internal problems that were aggravated by Chancellor Hitler's sensational victories in Europe. One involved Nazi propaganda and military preparations for an attack upon the Panama Canal from Colombian bases. The other was the problem of adjusting Colombia's economy to the drastic fall in coffee prices resulting from the European War.

**The Nazi Threat.** The invasion of European neutrals by Germany, Italy's entrance into the war and the collapse of France aroused further anti-Nazi sentiment in Colombia. There were violent anti-Italian and anti-Nazi demonstrations in Bogotá on June 11, forcing the government to prohibit all demonstrations. Nazi successes in Europe,

however, added new vigor, boldness, and effectiveness to German propaganda and activities. Leaflets attacking the United States and Pan Americanism and promising the return of Panama and the canal to Colombia if she threw in her lot with Germany and Italy were widely distributed. They appeared to have been printed in the Reich and shipped to Colombia on Italian ships. In June Nazi commercial agents offered German manufactures to Colombian merchants at attractive prices, with delivery promised for September. When contracts were made, the Germans were said to have ordered the goods called for in the United States and attempted to conceal its origin.

Although German exports to Colombia had been cut off since the first months of the European War, the German commercial organization was maintained intact, making intensive preparation for the resumption of barter trade when the war was ended. It was closely integrated with efficient propaganda, political and military organizations, all controlled by the leader of the German Nazi party in Colombia and all working in close collaboration with German diplomatic and consular offices.

**Propaganda Inroads.** After the collapse of France, Nazi propaganda was reported to have made rapid progress in winning over many Colombian Conservatives to a pro-German attitude. This was reflected in the changed attitude of some Conservative leaders and newspapers that formerly supported the Liberal policy of close co-operation with the United States. The old resentment over the secession of Panama was stirred up. Conservatives joined in the attacks upon "Yankee imperialism" previously made by Colombian Nazis and Communists. A number of new Nazi and Communist publications were launched that strove to create a breach between the Bogotá and Washington governments. The issue was taken up by the Liberals and became the subject of charges and counter-charges between the leading Liberal and Conservative newspapers.

**Anti-Nazi Precautions.** The Liberal Government took steps to frustrate German plans for using the republic as a base for air attacks upon the Panama Canal. It was announced at Washington March 3 that President Roosevelt during his cruise near the Panama Canal had obtained assurances from Colombia that its air fields would be made available to United States military planes if necessary for defense of the canal against a foreign power.

The elimination of the German local management and the remaining 28 German military pilots and 60 other German technicians holding key positions in the Colombian national airlines company (Avianca) was carried out June 11. Preliminary steps toward this end had been taken on the initiative of President Santos in 1939. United States and Colombian pilots and technicians replaced the Germans. Avianca was thereafter co-operatively owned, managed, and operated by Colombian and United States interests, with Pan American Airways controlling 64 per cent of the stock and the Colombian Government holding a five to ten year option to take over 51 per cent. Pan American Airways undertook to assist in the expansion and re-equipment of the Colombian air lines and to train pilots and technicians for future operation of all Avianca services by a completely Colombian personnel.

By another decree issued in June the govern-

ment established strict control over foreigners residing in Colombia.

**Economic and Financial Measures.** On Dec. 15, 1939, Congress gave President Santos extraordinary powers to deal with the economic and financial crisis arising from the European War. Previous to the expiration of these powers on July 19, 1940, the government issued a series of decrees putting into effect a carefully worked out and comprehensive program for the financial and economic rehabilitation and development of the republic.

The internal public debt was converted at reduced interest rates of 4 and 6 per cent through a 20,000,000-peso loan from the Bank of the Republic. This loan was made possible largely through a \$10,000,000 credit advanced to the Bank of the Republic by the Export-Import Bank of Washington. Co-operation of commercial banks was enlisted in extending agricultural and industrial credits. The state undertook to guarantee loans to individuals and agricultural co-operatives for the development of new crops, such as rubber, quinine, and coconuts. The work of the Ministry of National Economy and the Exchange Control Office was carefully co-ordinated with government trade, credit, and transportation policies and with related private economic interests in order to stimulate farming, stock raising, and manufacturing.

The Institute of Industrial Development was founded with state and private banking capital to promote industrialization. A public works program was adopted calling for completion of existing railway projects (see under *Transportation*), the Tumaco port works, and highways linking roads in the center and south of the country with those of the Atlantic coastal region, on both sides of the Magdalena River. The government undertook to repay most of the debt it owed to the administrative council of the national railways, thus restoring the railways' financial equilibrium and permitting purchase of needed equipment. Another decree provided for conversion of the 1927 and 1928 6-per-cent dollar loans into a new issue of about \$45,000,000 bearing not more than 3 per cent interest.

Among other aspects of this many-sided development plan were such measures as restrictions on rice and wheat imports to encourage home-grown crops; regulation of insurance activities; inauguration of a large public works program in Bogotá in preparation for the Pan American Conference scheduled for 1943; establishment of a national merchant marine, etc. While these measures were in preparation, the government on April 26 granted a temporary export bounty of 1.50 to 2 pesos per sack on coffee shipments to offset drastic price declines. The signing of the inter-American coffee marketing agreement of Nov. 28, 1940 (see *COFFEE*; *PAN AMERICANISM*) led to an improvement in coffee prices and in Colombian economic conditions.

Following a lengthy tie-up of Magdalena River steamers by strikers, the government on October 26 promulgated a law declaring the river services a public utility and prohibiting their suspension through labor troubles. The law authorized the government to establish agricultural colonies or co-operatives to provide work for superfluous laborers engaged in river services.

**Internal Politics.** Although the next presidential election was not due until May, 1942, campaign maneuverings started on July 24, 1940, when

a majority of the Liberal members of Congress agreed to support ex-President Alfonso López as their candidate. The anti-López minority within the Liberal party (see *YEAR BOOK*, 1939, p. 154) retaliated by combining with the Conservatives in the Chamber of Deputies to elect an anti-López president of the Chamber and a Conservative vice-president. The dissenting Liberals also tacitly aided the Conservatives in their attack upon the government's policy of collaboration with the United States.

Although President Santos was leader of the conservative wing of the Liberal party, he denounced the tactics of the minority Liberals. He also charged that the Conservative party's opposition to his request for a large national defense loan was due to the spread of totalitarian ideas in its ranks. Confirmation of this charge was seen in the repudiation of the Conservative leaders by a minority faction of the party in August. This group supported President Santos' policies and accused their leaders of fanatical partisanship. Undismayed by this split in the party ranks, the Conservative leader, Laureano Gómez, on September 26 threatened civil war if Dr. López again became President. He attacked President Santos as an "assassin" and "shielder of criminals." Three days later Gómez received a rebuke from the high command of the army, which invited President Santos to attend a demonstration of loyalty by the cadets of the Military Academy.

After a stormy legislative session that was extended for an additional month by partisan debate, President Santos secured passage of the national defense loan bill, ratification of the inter-American coffee quota agreement, and approval of other important legislation. At the year end he made formal announcement of the government's neutrality in the forthcoming Presidential election and demanded the resignation of all government officials planning to participate in the political campaign.

See *PAN AMERICANISM*; *PAN AMERICAN UNION*.

**COLORADO.** Area, 103,948 square miles, including (1930) water, 290 square miles. Population, Apr. 1, 1940 (census), 1,123,296; 1930, 1,035,791. Population of Denver, the capital (1940), 322,412. The State's urban population (dwelling in places of 2500 or more) rose to 590,756 (1940), from 519,882 (1930).

**Agriculture.** Colorado harvested, in 1940, about 5,559,000 acres of the principal crops; this exceeded 1939's acreage by more than one-tenth and almost equaled the previous ten years' average. Tame hay, on 1,032,000 acres, gave 1,684,000 tons; in approximate value to the farmer, \$12,967,000. Wheat, the chief grain, occupying 1,096,000 acres, made 13,560,000 bu.; value, about \$8,136,000. Of the two great root crops, potatoes, on 78,000 acres, produced 15,210,000 bu. (value, \$7,301,000); sugar beets, on 140,000 acres, 2,304,000 tons (1939's smaller crop was valued at \$7,160,000). Corn, on 888,000 acres, grew 10,656,000 bu. (\$6,394,000); dry beans, 332,000 acres, 1,760,000 100-lb. bags (\$3,929,000); barley, 457,000 acres, 9,368,000 bu. (\$3,841,000); grain sorghums, 500,000 acres—twice the usual area—, 5,000,000 bu. (\$2,000,000); oats, 151,000 acres, 4,530,000 bu. (\$1,495,000).

**Mineral Production.** Colorado's yearly production of native minerals totaled \$60,369,440 for 1938 (U.S. Bureau of Mines' estimate made in 1940). Coal and molybdenum each furnished about



one-fourth of this; gold, over one-fifth; silver, one-twelfth. Coal mines yielded about 5,890,000 net tons for 1939, as against 5,663,144 tons, in value \$14,828,000, for 1938. The mining of molybdenum, after a long rise from small beginnings, declined in production, to 21,796,116 lb. (metal contained in concentrates) for 1939, from 28,242,085 lb. for 1938; the value of these poundages in extracted metal would approximate \$14,570,000 for 1939 and \$19,750,000 for 1938. To the contrary of mines' production, yearly shipments for 1939 exceeded those for 1938. The Climax Molybdenum Company remained the world's chief producer of the metal's ore, the only substantial producer in Colorado, and the chief single mining operation of any sort in the State. Petroleum in relatively small quantity was produced in several fields: in 1939, about 1,391,000 bbl.; in 1938, 1,412,000 bbl. (value, \$1,540,000).

The combined value of recoverable gold, silver, copper, lead, and zinc in mines' yearly production increased to \$24,233,889 for 1940, from \$22,319,041 for 1939. Gold, still the main element in these totals, rose to 368,798 oz. (1940), from 366,852 oz. (1939); by value, to \$12,907,930, from \$12,839,820. Production of silver increased, to 9,559,762 oz. (1940), from 8,496,488 (1939), and to \$6,798,053, from \$5,767,313. Copper totaled 24,592,000 lb. (1940) and 26,430,000 lb. (1939); by value, \$2,778,896 (1940) and \$2,748,720 (1939). The less important yield of lead was valued at \$1,118,900 for 1940, and that of zinc at \$630,110.

**History.** The movement for the payment of old-age pensions at the rate of \$45 a month in Colorado strove by two routes in 1940 toward its goal—to bring into actual effect advantages won, in law but to no great extent in fact when pension-seekers put through the pension amendment to the State constitution in 1936. Litigants obtained from the District Court of Denver two decisions: first, that the pension fund was entitled to 85 per cent of all ad-valorem taxes on stocks of liquor, collected since 1937, whether by State, counties, cities, or school districts; second (January 8), that the pensions must be paid at the full rate and not scaled down, as was the monthly practice of the Board of Social Welfare, in accordance with the money available. The National Annuity League moved to create possibly \$5,000,000 of further revenue by bringing about, through a popular referendum, the taxation of intangible values at the rate of five mills a year on the dollar of valuation. A petition to this effect was circulated for several months, went to the Secretary of State (June 19) with 46,174 names to it, and won a place on the November ballot. The pro-pensioner decisions of the District Court, being appealable, awaited rulings from the higher courts before going into effect. The actual monthly payments of the pensions continued much below the required \$45; in May they averaged \$26.08 and went to about 43,000 recipients. Proposed pro-pensioner amendments to the constitution failed at the polls (see *Elections*, below).

Efforts to establish Colorado's contentions in the long-standing disputes with other interested States over respective shares of the flow of rivers crossing Colorado's borders fell into some confusion. Governor Carr, differing with Attorney General Rogers over how to handle the defense against Wyoming's suit before the U.S. Supreme Court, as to withdrawal of water from the Laramie River, ordered Rogers not to act for Colorado. Rogers ignored the order and presented a brief, while Carr

deputed the task to another attorney. The decision (April 22) while dismissing the actual proceedings against Colorado for contempt of the existing court order limiting the water for use in Colorado, reaffirmed the limit set by that order. Carr was left with the recourse to a direct negotiation with Wyoming for better terms, and this was tried. Inveterate disputes with the downstream States of Nebraska (as to the North Platte) and Kansas (over the Arkansas River) remained at the time unsettled, and the turn of the Wyoming case offered other States some inducement to press their own demands by litigation.

The State Supreme Court ruled, April 9, that two of its former members, who had retired before the enactment in 1939 of a system of pensions applying to this court, could not qualify for the pensions; their previous retirement, it was held, had cost them their pensionable status. In a case of interest to stock-raisers, the court upheld the State's law of 1877 making it lawful to kill dogs chasing or attacking livestock.

One of the most important of public works in the State, the Colorado-Big Thompson undertaking, to divert water from the western slope through the Continental divide, for irrigation on the eastern slope, was advanced by the holing-through of a 13-mile tunnel under the divide (June 23).

**Denver.** The State called on Denver to pay over to it (as constitutionally marked for old-age pensions) \$121,500 of the collections from the municipal fees for liquor licenses; this further pinched the city's income in January. Despite strong objection to more local taxes, licenses to conduct various businesses were made more expensive and other businesses were added to the licensed list. Figures of April 1 showed about one-fifth of the city's population to be receiving support from public aid of the divers sorts. In an effort to put the administration of Denver's civil-service system on a better basis the District Court judges appointed a new member, John J. Cory, to the Civil Service Commission, in place of an ousted member (April 3).

**Elections.** In the popular vote for President on November 5 the State went to Willkie (Rep.), total 279,576, by a narrow margin, the total for Roosevelt (Dem.), 265,554, falling short of that which he had obtained in 1936. Ralph L. Carr (Rep.) was re-elected Governor, defeating George E. Saunders (Dem.). Republicans took two of the four seats in the U.S. House of Representatives, as against none in 1938. The voters rejected four submitted proposals for amendments to the State constitution: one would have replaced the high but uncertain old-age pension with a "guaranteed" pension at \$30 a month, to rank with the State's ordinary expenses as a first charge on the general fund; another would have prevented reduction of the rates of taxation on income and permitted the taxation of intangibles for pension money; a proposed law, also rejected, would have allowed horse racing and a system of betting thereon, under the pari-mutuel system.

**Officers.** Colorado's chief officers, serving in 1940, were: Governor, Ralph L. Carr (Rep.); Lieutenant Governor, John C. Vivian; Secretary of State, George E. Saunders; Auditor, Homer F. Bedford; Treasurer, Charles M. Armstrong; Attorney General, Byron G. Rogers; Superintendent of Public Instruction, Inez Johnson Lewis.

**COLOR, DYES, PIGMENTS.** See **CHEMISTRY; CHEMISTRY, INDUSTRIAL; FASHION EVENTS;**



FOOD AND DRUG ADMINISTRATION; LEATHER; MOTION PICTURES; NEWSPAPERS AND MAGAZINES; PHOTOGRAPHY.

**COMETS.** See ASTRONOMY.

**COMMERCE.** See BUSINESS REVIEW; FEDERAL TRADE COMMISSION; INTERSTATE COMMERCE COMMISSION; TRADE, FOREIGN; and the countries under *Foreign Trade*.

**COMMERCE, U.S. Department of.** See UNITED STATES under *Administration*; PATENT OFFICE.

**COMMERCIAL BUILDINGS.** See ARCHITECTURE.

**COMMODITY CREDIT CORPORATION.** A Federal lending institution making loans principally to producers of farm commodities. Such loans are designed to protect and increase farm income, to stabilize farm prices and to assure adequate supplies of farm products. Under its charter, the Corporation is empowered, among other things, to buy and sell, lend upon, or otherwise deal in commodities, agricultural or otherwise. Except for certain legal technicalities attributable to the corporate form of organization, the Corporation operates as a regularly established bureau of the Department of Agriculture under the control and supervision of the Secretary of Agriculture.

The Commodity Credit Corporation has made loans on butter, corn, cotton, dates, figs, mohair, peanuts, pecans, prunes, raisins, rye, tobacco, turpentine and rosin, wheat, and wool. All loans made by the Corporation have been secured by commodities pledged as collateral under either warehouse receipts or chattel mortgages.

Under the provisions of the Agricultural Adjustment Act of 1938 loans are mandatory, under certain conditions, on three commodities; namely, cotton, corn, and wheat. On cotton and wheat the minimum rate of the loan is 52 per cent of parity price and the maximum rate of loan is 75 per cent of parity, but within these limits the rate of loan is discretionary. In the case of corn, the rate of loan is fixed by a statutory formula with a maximum of 75 per cent of parity price.

Commodity Credit Corporation was created as an agency of the United States, under the laws of the State of Delaware, on Oct. 17, 1933, pursuant to Executive Order No. 6340, dated Oct. 16, 1933. It has an authorized and paid in capital of \$100,000,000. Under the act of Mar. 8, 1938, as amended, the Corporation is authorized, with the approval of the Secretary of the Treasury, to issue and have outstanding at any one time, bonds, notes, debentures, and other similar obligations in an aggregate amount of not to exceed \$1,400,000,000.

On Nov. 30, 1940, the Commodity Credit Corpo-

ration reported that it had disbursed since its inception a total of \$1,503,301,803, of which \$635,804,454 was outstanding. Loans held by the Corporation totaled \$289,275,231 and loans held by banks through arrangement with the Corporation totaled \$346,529,105. As a result of its operations the Corporation owned on the above date 6,199,915 bales of cotton, 154,325,327 bu. of corn, and 1,091,231 bu. of wheat. The total disbursements, by commodities, as reported on Nov. 30, 1940, are shown in the accompanying table. See DAIRYING.

CARL B. ROBBINS.

**COMMODITY EXCHANGE ADMINISTRATION.** The agency of the U.S. Department of Agriculture which provides regulation of futures trading in the principal agricultural commodities. The functions of the Administration include the prevention of manipulation of commodity prices on exchanges, the enforcement of limitations on speculative trading, and the elimination of harmful types of trading operations and trade practices. Such regulatory work is designed to strengthen the futures trading system, to the end that futures prices will truly reflect actual conditions of supply and demand, and thus facilitate the orderly marketing of agricultural products.

Originally established under the Grain Futures Act of 1922 as the Grain Futures Administration, the agency became known as the Commodity Exchange Administration in 1936 when Congress amended the original act in many important respects and extended its provisions to cotton, butter, eggs, potatoes, and other commodities. An act of Congress in 1938 added wool tops; and another in 1940, known as the Pace act, added all fats and oils, soybeans, and several other commodities.

The total amount of futures trading in commodities supervised by the Commodity Exchange Administration was estimated at \$10,376,000,000 for the fiscal year ended June 30, 1940. This represented a sharp increase over the amount for the preceding fiscal year which was \$6,715,000,000. However, both figures were far below the \$23,000,000,000 annual average for the 10-year period, 1929-38.

The outbreak of war in Europe tended to upset normal forces of supply and demand, and increased speculative activity in futures trading. Many foreign markets were closed and futures exchanges in the United States became the only world markets not subject to wartime restrictions. To guard against the possibility of manipulation or attempts to depress prices by foreign traders, the Commodity Exchange Administration carefully investigated the transactions of foreigners in both the grain and cotton markets.

In May and June, 1940, the German invasion of the Low Countries and France demoralized grain markets and grain futures prices were temporarily pegged by the exchanges at the request of the Secretary of Agriculture. After panic selling had ceased the pegged prices were lifted by the exchanges. During the last part of 1940 the Administration began the regulation of futures trading in fats and oils, and other commodities, as provided in the Pace act.

To conduct a futures market in any of the specified commodities, an exchange or board of trade must be designated as a "contract market" by the Secretary of Agriculture; and all futures commission merchants and floor brokers operating on these markets must register with the Secretary

Commodity	Dollars
Cotton	775,237,036.09
Cotton Pool	51,415,841.82
Corn	482,863,609.04
Tobacco	14,768,362.50
Turpentine, Rosin	34,550,579.17
Figs	260,061.23
Peanuts	13,437,388.54
Prunes	3,134,748.73
Raisins	5,795,701.34
Wheat	80,719,407.83
Wool, Mohair	3,355,913.00
Butter	34,953,566.03
Dates	61,302.00
Pecans	485,941.63
Hops	1,520,930.85
Rye	658,633.13
Barley	82,780.22

each year. During the fiscal year ended June 30, 1940, a total of 1338 registration certificates were issued.

In addition to the main office in Washington, the Commodity Exchange Administration maintains field offices in Chicago, New York, and five other cities where important commodity exchanges are located.

JOSEPH M. MEHL.

**COMMODITY PRICES.** See **BUSINESS REVIEW.**

**COMMONWEALTH FUND.** This endowment, established in 1918 by Mrs. Stephen V. Harkness "to do something for the welfare of mankind," and later increased by gifts from the founder and from Mr. Edward S. Harkness, President of the Fund from its inception until his death on Jan. 29, 1940, now amounts to approximately \$49,000,000. In 1940 the Fund appropriated some \$2,000,000. Of this total more than two-thirds was devoted to the promotion and maintenance of physical health. Appropriations for needs arising out of the war amounted to \$135,000. Public health activities, designed to raise standards of rural service, centered in Tennessee, Mississippi, Oklahoma, and Alabama. The twelfth in a group of rural community hospitals built or remodeled with aid from the Fund was opened in 1940; two more are under way. These hospitals stress opportunities for professional education as well as standards of medical, nursing, and technical service. Fellowships were offered to instructors in medical schools, without restriction as to field of study, as a means of encouraging able young investigators and strengthening teaching resources; continued aid was given to departments of preventive medicine and psychiatry, to extension teaching and other forms of postgraduate medical education, and to teaching arrangements designed to promote interplay between pediatrics and psychiatry. Some \$450,000 was given for medical research. The Commonwealth Fund Fellowships for British graduate students at American universities were curtailed but not suspended. The Fund continued to aid child guidance enterprises in England; maintained an advisory service for community mental hygiene clinics in the United States; supported studies in administrative law and legal history; and published in 1940 eleven books and pamphlets of educational significance in its fields of operation. The Fund directors for 1940 were Malcolm P. Aldrich (President), Robert A. Lovett (Vice-President and Treasurer), Phil W. Bunnell, Samuel H. Fisher, George Welwood Murray, Dean Sage, and William E. Stevenson. Headquarters are at 41 East 57 Street, New York City.

BARRY C. SMITH.

**COMMUNICATIONS.** See **FEDERAL COMMUNICATIONS COMMISSION**; **RADIO**; **TELEGRAPHY**; **TELEPHONY**; and the countries under *Transportation*.

**COMMUNISM.** The orthodox, or Stalinist, world Communist movement exhibited four main aspects during 1940—expansion of the area and population under direct Communist rule, the progressive revision of Communist ideology and practice in the U.S.S.R., the spread of Communist influence in northwestern China and in parts of the Balkans, and an immense decline in the prestige and strength of the movement throughout the rest of the world.

Of no less importance was the assassination of Leon Trotsky in a Mexico City suburb on August 20. This removed Joseph Stalin's most able critic and principal rival for the leadership of world communism. Both the Mexican police and Trotsky's adherents accused Stalin's secret agents in Mexico and the Mexican Communist party of complicity in the crime. See *NECROLOGY*; *MEXICO under History*.

**Extension of Communist Rule.** The Russian Soviet political and economic system was extended in March into that part of Finland ceded by the Russo-Finnish peace treaty. In June the Baltic States—Estonia, Latvia, and Lithuania—and the Rumanian provinces of Bessarabia and Northern Bukovina were annexed to the Soviet Union. Virtually the entire population of the newly acquired Finnish territory withdrew to what was left of that republic before the Soviet occupation. But relatively few of the anti-Communist elements in the Baltic States, Bessarabia and Northern Bukovina had an opportunity to escape. They were squeezed into the Soviet mould by the same methods of arbitrary confiscation, force and terror applied to opposition groups in Russia since 1917 and to large numbers of Poles after the seizure of Eastern Poland in 1939. See *ESTONIA, FINLAND, LATVIA, LITHUANIA, POLAND, and RUMANIA under History* for details.

This new demonstration of the aims and methods of Russia's Communist regime revived anti-Communist sentiment throughout most of the non-Communist world. It forced many countries in Eastern Europe threatened with Soviet aggression and domination into closer co-operation with Nazi Germany and Fascist Italy (see *BULGARIA, FINLAND, HUNGARY, RUMANIA, SLOVAKIA, and SWEDEN under History*). On the other hand, Russian occupation of the newly annexed territories in Eastern Europe gave many Soviet troops their first contact with the relative economic abundance prevailing in areas retaining the capitalist system. According to neutral observers, this tended to undermine the faith of the Russians in the Soviet system. A similar effect was attributed to the fierce Finnish resistance offered to the Soviet invasion. This discredited Communist propaganda which had induced the Red Army to believe that the Finnish masses would welcome incorporation in the Soviet Union as a means of deliverance from their "capitalist masters."

**Changes in Soviet Union.** The trend toward a more nationalistic form of dictatorship led to the progressive revision of Communist ideology and practice within the Soviet Fatherland. This was reflected in the abolition of Communist political commissars and of "pseudo-democratic" customs in the armed forces, the tightening of labor discipline, the greater powers, privileges, and honors bestowed upon the higher officials of the bureaucracy and Red Army, the abolition of free higher education, and especially in the subordination of Communist doctrine to Russia's national interests in the realm of foreign policy. See *UNION OF SOVIET SOCIALISTIC REPUBLICS under History*.

The annual May Day manifesto of the Comintern predicted the spread of the war in both Europe and Asia, denounced the "Socialist reactionary trade union leaders" who supported the Allied cause, and urged workers in all countries to unite against capitalism and war under the banner of communism. However the main propaganda effort of the international Communist movement was

aimed at "Anglo-American imperialism." In the interests of Stalin's uneasy partnership with Hitler, no effort was made to revive the Comintern's pre-war propaganda offensive against "Fascist aggressors."

This policy aroused bitter criticism both within and without the world Communist movement. In the *New York Times* of June 19, 1940, Leon Trotsky wrote that Stalin's unexpected jump "into the camp of the 'Fascist aggressors'" had "paralyzed the military power of the 'democracies'" and demoralized the popular masses in Europe and elsewhere. The results of these policies, he asserted, were the capitulation of France, the freeing of Germany's mighty army for "a gigantic move toward the East," and the worsening to an extreme degree of the international position of the Soviet Union. The attack upon Finland had revealed the demoralization and weakness of the Red Army to the world. Trotsky concluded that "only the overthrow of the Moscow totalitarian clique" and "the regeneration of Soviet democracy" could protect Russia "against the inevitable and fast-approaching blow of imperialist Germany."

**Communism in China.** Stalinist influence spread in northwestern China due to Gen. Chiang Kai-shek's growing dependence upon Russian aid in his struggle with Japanese militarism. By threatening to cut off war supplies and other aid, Moscow forced the Chungking Government in April to end a minor civil war between Communist and anti-Communist elements in northwestern China in a manner satisfactory to the Chinese Communists. The subsequent closing of the Burma Road by Britain increased Chungking's dependence upon Soviet assistance. These and other circumstances enabled Moscow to strengthen its influence in China and tighten its hold upon Sinkiang and parts of the provinces of Shensi, Kansu, and Ninghsia. See CHINA under *History*.

**Gains in the Balkans.** Similar circumstances enabled the Communist movement to make headway in the Balkans. The German victory over France in June and Italy's entrance into the war left the Balkan countries seemingly at the mercy of the Axis powers. Rumania, forced to choose immediately between Russia and Germany, accepted the role of vassal to the Reich. Bulgaria and Yugoslavia, hoping to stay out of the war and retain their independence as long as possible, sought closer relations with the Soviet Union to counter growing pressure from the Rome-Berlin Axis. This policy obliged them to adopt a more lenient attitude toward Communist propaganda within their own boundaries.

Expertly guided from Moscow, Balkan Communists availed themselves of this opportunity to agitate for still closer co-operation with the Soviet Union. They revived the Pan Slav propaganda that Czarist Russia had used so effectively in strengthening its influence among the Slav peoples of the Balkans. At the same time, they attacked the "imperialist war" between the Allied and Axis powers as responsible for the growing economic hardships of the Balkan countries. A Utopian version of Russian communism was spread among discontented Balkan peasants. This propaganda was reported to be effective among the Balkan masses. The more literate classes regarded the Communist propaganda as a Russian instrument for combating both Axis and Allied influence in the Balkans and preparing the way for a Soviet effort to obtain control of the Straits. See BULGARIA, GREECE,

HUNGARY, RUMANIA, TURKEY, and YUGOSLAVIA under *History*.

**Revulsion against Stalinism.** Throughout the democratic and pro-democratic world, violent hostility to the Stalinist brand of communism, fired by the Hitler-Stalin pact of August, 1939, gained new strength. It was intensified by the Soviet attack upon Finland, the rape of the Baltic States, the seizure by threat and force of Rumanian territories, and the treatment accorded the non-Communist majorities in Poland and in the other newly annexed areas.

An object lesson as to the aims and consequences of Stalinist policies was given in France. The Communist anti-war agitation and sabotage program played an important part in the republic's demoralization and defeat. It helped to produce a French Fascist regime under which Communists suffered more persecution than under the Daladier and Reynaud war governments. In Finland, in Britain and the other Allied countries, and in the non-belligerent democratic and pro-democratic countries, the Stalinists displayed equal readiness to sacrifice their individual and national interests to the interests of the Soviet Union as conceived by Stalin and proclaimed by the Comintern. This not only aroused the contempt and hatred of non-Communists but provoked deep dissensions within the Communist movement itself.

Great Britain remained the only belligerent country in which Communists retained full political rights. A few Communists were detained as suspected "fifth columnists" but the British Communist party's organ, the *Daily Worker*, and its single member of Parliament suffered no official discrimination. In Australia and Canada, however, the Communist parties were outlawed during 1940 and their political activities prohibited. In New Zealand Communists were classified as subversive elements and barred from public services. See AUSTRALIA, CANADA, and GREAT BRITAIN under *History*.

Among democratic non-belligerent countries, Switzerland and Chile passed legislation dissolving their Communist parties. Similar legislation was sought in Sweden, the United States, Cuba, and Mexico. In all countries where Communist political activities were permitted, there were numerous resignations of Communist party members and of "innocents" and "fellow travelers" affiliated with Communist front organizations.

**Schisms in Latin America.** Dissensions within the Communist party organizations and between Communist and democratic elements were particularly acute in Latin America. The Soviet-German pact, Communist-Nazi collaboration in conducting anti-British and anti-American propaganda, and Communist attacks upon the inter-American movement for mutual solidarity and defense all ran counter to the basic democratic principles and objectives of the Latin American masses. Their nationalist sentiments were outraged by Moscow's interference in the internal affairs of the Latin American republics.

These resentments led some Latin American Communists to oppose Moscow's new policies, as relayed from the New York office of the Comintern, at an inter-American conference of Communist leaders held in Santiago, Chile, in October. The Stalinists brought the Latin American party organizations into line only by ousting many influential members and introducing factional struggles in many branches of the party. See BRAZIL,

CHILE, COSTA RICA, CUBA, and MEXICO under *History*.

**Communism in United States.** The American reaction to the Hitler-Stalin pact and the ensuing switch of Soviet foreign policy was tested indirectly by a poll taken by the American Institute of Public Opinion early in January, 1940. The question whether it was more important for the Dies Committee to investigate Communist or Nazi activities in the United States was put to a cross-section of voters in all walks of life. Of those expressing opinions, 70 per cent believed an investigation of Communist activities was more important. The Institute pointed out that a similar poll taken less than a year before indicated that the American people were at that time more concerned with Nazi than with Communist activities.

Another of the Institute's polls, taken early in October during the Presidential campaign, revealed further evidence of widespread anti-Communist sentiment. Of persons expressing opinions, 71 per cent opposed allowing the Communist party's candidate the same amount of time on the radio as the Democratic and Republican Presidential candidates, while 63 per cent did not believe the Communist candidate should be allowed any time on the radio. The Institute pointed out that the public's attitude toward the Communist party was conditioned by the widespread belief that it was "just a tool of Russia."

**Dies Committee Findings.** This belief was deepened by two additional reports on Communist activities in the United States, issued by the Dies Committee on January 3 and November 28, respectively, and by supplementary revelations made at various hearings of the Committee during the year. In its January report to Congress, the Committee asserted that the American Communist party was the primary instrument of the Russian Communist party in protecting the interests of the Stalin dictatorship. The November report, describing Communist plans for sabotaging American industry in the event of war, contained data which the Committee set forth as proof of "the Communist party's supreme loyalty to the Soviet Union." See DIES COMMITTEE.

**Communist Party Activities.** The public activities of the American Communist party were another source of mounting anti-Communist sentiment. To many Americans, these activities fully confirmed the Dies Committee charge that orthodox communism in the United States was following a program dictated in Moscow with Russian rather than American interests in mind.

The American Communist party's national convention in New York City at the beginning of June adopted a platform conforming in every respect to the new party line adopted by the Comintern following the Nazi-Soviet pact. It opposed the rearmament program of the Roosevelt administration and any American intervention in Latin America, China, or the Netherlands East Indies, while endorsing the "peace policy of the Soviet Union." Other planks called for better pay and working conditions for labor, pensions of \$60 a month for all persons over 60 years of age, additional social legislation, expansion of the Federal youth and farm aid programs.

The convention unanimously re-elected William Z. Foster and Earl Browder as national chairman and general secretary, respectively. Browder and James W. Ford, Negro, were nominated as the party's candidates for President and Vice-Presi-

dent. Browder conducted his campaign while at liberty on appeal from his conviction for passport fraud, carrying a four-year Federal prison sentence. Forbidden to leave the jurisdiction of the Federal District Court of Southern New York, he was obliged to campaign with phonograph records in other States. However he was able to present his case to the public by radio under the Federal Radio Law requiring broadcasting companies to give all qualified political parties equal facilities. During the campaign Browder and his associates stressed a demand for an alliance of the United States, the Soviet Union, and China as a "people's peace movement." Ruled off the ballot in 24 States, the Communist candidate received only 48,789 votes as against 80,159 in 1936 and 102,991 in 1932.

**Federal Anti-Communist Measures.** Meanwhile the growing anti-Communist trend of popular sentiment was reflected in a series of laws and measures designed to expose and curb Communist activities. A Federal jury in New York City on January 22 convicted Earl Browder of using a United States passport obtained by making a false statement. He was immediately sentenced to four years in prison and a \$2000 fine, but was given his liberty on a \$7500 bond pending appeal.

Clarence A. Hathaway, editor of the Communist party organ, the *Daily Worker*, was convicted of criminal libel by New York County jury on May 3, 1940. He was sentenced to 30 days in the workhouse and fined \$500. A similar fine was imposed on the Comprodaily Publishing Company, publisher at the time the libel was committed. The complaint was made by Mrs. Edith Liggett, widow of a Minneapolis, Minn., editor. The effort to secure the deportation of Harry Bridges, Australian-born leader of West Coast maritime workers, on the ground that he was a Communist was ended when Secretary of Labor Perkins on January 8 cancelled the deportation proceedings. This action was based on the finding of James M. Landis, dean of the Harvard Law School, that the government had failed to prove that Bridges was a member of the Communist party. J. Edgar Hoover, chief of the Federal Bureau of Investigation, on December 16 issued a report stating the Bridges was a Communist and that the party advocated overthrow of the United States Government.

The Department of Justice early in the year conducted an investigation of the Communist party and its organ that led to the registration of the *Daily Worker* with the State Department in April, under the law requiring registration of agents of foreign principals. This was followed late in July by the sale of the *Daily Worker* to three women sympathetic to the Communist cause and the announcement that it had ceased to function as "the official central organ of the Communist party." However it was stated that the paper would receive the party's "whole-hearted, continued, and ever-extending support."

On November 16 a special national convention of the Communist party in New York City voted to terminate its affiliation with the Communist International and all other foreign organizations "for the specific purpose of removing (the party) from the terms of the so-called Voorhis Act." This law, signed by President Roosevelt in October and effective Jan. 1, 1941, required foreign-controlled organizations engaging in political activity to register with the Attorney General, report the names and addresses of all persons contributing or paying dues, and file detailed reports on their activi-

ties. The constitution of the party was revised in line with the special convention's decision, but the delegates reaffirmed the "unshakable adherence of our party to the principles of proletarian internationalism of Marx, Engels, Lenin, and Stalin." Asserting that the Voorhis Act was aimed directly at the Communist party, Browder declared that the party had decided to sever its formal tie to the Communist International to prevent it from being driven underground.

Congress also tightened the naturalization laws so as to make it harder for Communists, Fascists, and other anti-democratic elements to obtain citizenship. The 1940 Relief Appropriations Act barred Communists and Nazis from the WPA rolls. On January 2 Attorney General Murphy accused 8 persons and 3 business houses, all with alleged Communist party connections, with military espionage. The charges were submitted to an extraordinary grand jury in Washington. In November and December, charges that Communists were responsible for initiating and prolonging strikes in airplane and other defense industries provoked numerous demands in Congress for further restrictive legislation.

**Action by States.** Many of the State governments also enacted laws or regulations curbing or penalizing Communist activities. In the 1936 Presidential campaign Earl Browder, the party's Presidential candidate, appeared on the ballot in 35 States. In 1940 he was permitted to appear on the ballot in only 24 States. The principal grounds given for barring Communist candidates in 1940 were fraud or misrepresentation in the party's election petitions, failure to poll sufficient votes in prior elections, and the party's advocacy of the overthrow of the American form of government. The Dies Committee on September 26 reported that its investigation of Communist party petitions in 10 States had revealed evidence of fraud in every case.

The Communist candidate for Governor of West Virginia was convicted on August 6 of fraudulent solicitation of names to a nominating petition. He was sentenced to 1 to 10 years in prison. On October 8 the wife of the secretary of the Maryland Communist party was convicted of perjury in connection with the circulation of nominating petitions. In cases where Communist candidates were barred, however, their supporters retained the customary right of writing in their names. Browder received 10,206 write-in votes in New York State.

In Oklahoma the drastic State Criminal Syndicalism Act of 1919, prohibiting membership in any organization advocating overthrow of the government by violence, was revived. Under this law the secretary of the State's Communist party, Alan Shaw, was convicted on December 9 by an Oklahoma City jury. The jury recommended and the court imposed a sentence of 10 years in prison and a fine of \$5000 for party membership. Shaw was one of 12 persons arrested on August 20 on criminal syndicalism charges. He was freed on \$7500 bail pending appeal.

**Communism and Labor.** The struggle between Communist and anti-Communist forces also had wide repercussions within the labor movement. The American Labor party, which made its appearance in New York State in the 1936 campaign, was split wide open in 1940 by the struggle for control between the pro-Communist left wing and the anti-Communist right wing. In the Sep-

tember primaries the right wing captured a majority of the delegates to the State convention while the left wing won control of the party machinery in Manhattan. The State convention subsequently adopted a platform attacking the left-wing faction as "tools of the Communist-Nazi alliance."

In scores of labor unions and civic organizations the issue of Communist influence or control caused heated controversy and not a few schisms. The demand for ousting Communists from the labor movement was voiced by Secretary of Labor Perkins on June 4. American Federation of Labor unions conducted an active drive to expel Communist influences. Many local unions amended their constitutions to bar Communists, Nazis, Fascists, and their sympathizers from either membership or official positions, and this position was supported by most of the State and national leaders of the Federation. See AMERICAN FEDERATION OF LABOR.

Similar efforts to oust Communists and their "fellow-travelers" from positions of control in some of the newly organized C.I.O. unions met with less success. The Dies Committee report of January 3 asserted that Communist leadership was entrenched in the following C.I.O. unions: National Maritime Union, United Cannery, Packing and Allied Workers, Federation of Architects, Engineers, Chemists and Technicians, Fur Workers International Union, International Longshoremen's and Warehousemen's Union, Transport Workers Union, United Office and Professional Workers Union, American Communications Association, United Electrical, Radio and Mechanical Workers of America, United Furniture Workers of America. The leaders of these unions for the most part supported policies identical with the Communist party line during the Presidential campaign and at the C.I.O. national convention in November. See CONGRESS OF INDUSTRIAL ORGANIZATIONS; LABOR CONDITIONS.

Other unions torn by controversy over Communist influence during the year were the American Federation of Teachers, the American Newspaper Guild, and the Workers Alliance of America. David Lasser, president of the latter organization, resigned on June 19 in protest against Communist domination and control. On August 14 he started a new movement of unemployed WPA workers and others.

The third national Negro conference held in Washington in April split on the issue of Communist intervention in the struggle of the Negroes for equality of opportunity. The American Civil Liberties Union in February barred from office or committee membership both Communists and Fascists and their sympathizers. Turmoil continued in the American Youth Congress, which at its "citizenship institute" in Washington in February and at its annual convention in College Camp, Wis., in July, again demonstrated its adherence to the Communist party line. There were further secessions of non-Communist youth groups from the Youth Congress, and in August a rival organization of "pro-American groups," the National Foundation for American Youth, was founded under the chairmanship of Gene Tunney. A similar schism took place within the American Artists Congress when the Congress on April 4 endorsed the Soviet invasion of Finland and declared Britain and France responsible for the European War.

Many of the organizations under Communist

domination participated in an "emergency peace mobilization" in Chicago on August 31-September 2. Senator Nye of North Dakota, Senator Clark of Missouri, and a number of other prominent figures who accepted invitations to address the conference withdrew when charges were made that the sponsoring Committee to Defend America by Keeping out of War was "Communist inspired and controlled from end to end."

See also ARIZONA, ARKANSAS, CALIFORNIA under *History*; BELGIUM, BRITISH MALAYA, FINLAND, and SLOVAKIA under *History*; DIES COMMITTEE; EDUCATION; FASCISM; LABOR CONDITIONS.

**COMMUNITY CHESTS AND COUNCILS, Inc.** A membership association of community chests and councils of social agencies, organized in February, 1918, as the American Association for Community Organization. For organization and purpose see the 1939 YEAR BOOK.

Of the 552 chests and councils in operation, 536 are in continental United States, 2 in the territory of Hawaii, 1 in the Virgin Islands, 11 in Canada, and 2 in foreign countries. All but five cities of 100,000 population and over in the United States have community chests. More than 9,000,000 contributors in 552 cities gave \$86,186,466 to community chests to be used for private social work in their communities during 1940.

The officers in 1940-41 were: Honorary president, George E. Vincent, Greenwich, Conn.; president, Robert Cutler, Boston, Mass.; vice-presidents, John Stewart Bryan, Richmond, Va., and Kenneth Sturges, Cleveland; treasurer, J. Herbert Case, Plainfield, N.J.; secretary, Lynn Mowat, Los Angeles, Calif.

**COMMUNITY SERVICE FOR CHILDREN.** See JUVENILE DELINQUENCY.

**COMMUNITY TRUSTS.** The charitable resources of the 76 Community Trusts established in the United States, Canada, and Hawaii since 1914 increased by upwards of \$4,000,000 during 1939 and totaled approximately \$52,000,000 at the beginning of 1940. These philanthropic trusts were created to provide a mechanism for the administration of multiple funds dedicated to charitable uses. Customarily the donor of a fund selects a bank or trust company as trustee and lodges in it responsibility for the custody and fiscal management of the contributed sum.

Outpayments of distributable proceeds are directed by a central Distribution Committee, a portion of whose members are nominated by such public sources as the presidents of the Bar Association, Chamber of Commerce, and Academy of Medicine. This Committee is responsible for the observance of the desires of the founders of the funds but is empowered to take remedial action if the execution of these desires should be rendered impossible or impracticable by changes in social or economic conditions—thus constituting an effort, in the words of the late Newton D. Baker, "to substitute contemporary wisdom for foresight." The placement of fiscal power in the trustee and sociological authority in the Distribution Committee provides, in the opinion of Col. Leonard P. Ayres, "a business control of the investments and a social control of expenditures."

At the beginning of 1940, the Chicago Community Trust held principal funds aggregating \$9,734,331, and the New York Community Trust had resources of \$8,779,225. The Cleveland Foundation's resources were \$6,100,761. Other sizable accumulations were held by foundations in Bos-

ton, Winnipeg, Indianapolis, and Minneapolis. Combined disbursements in 1939 exceeded \$1,000,000 for the ninth consecutive year, aggregating \$1,277,927. The New York Community Trust disbursed \$205,028, Boston \$181,874, Cleveland \$163,321, and Chicago \$159,640. Fifty-four individual funds constitute The New York Community Trust, organized in 1923 and located at 120 Broadway, New York City. Its outpayments of over \$1,000,000 during the past five years have been the largest made by any Community Trust.

**COMORO ISLANDS.** See under MADAGASCAR.

**COMPENSATION, Workmen's.** See LABOR LEGISLATION; also, ARKANSAS under *History*; INSURANCE under *Casualty Insurance*.

**CONCENTRATION CAMPS.** See JEWS; FRANCE, NETHERLANDS INDIES, POLAND, and UNION OF SOVIET SOCIALIST REPUBLICS under *History*.

**CONCILIATION SERVICE, U.S.** Congress, in creating the Department of Labor, gave the Secretary of Labor authority to mediate or conciliate labor disputes. This function was carried on in the Secretary's office until 1917 when a Division of Conciliation was established.

The activities of the Service for the fiscal year ended June 30, 1940, embraced work in 46 States, the District of Columbia, and Alaska. It rendered service in 3751 situations involving directly 1,145,205 workers. Of the total number of situations, 1977 were classified as labor disputes which included strikes, threatened strikes, lockouts, and controversies. These accounted for 1,015,540 workers. The remaining 1774 situations involving 129,665 workers were classified as other services rendered and included arbitrations, conducting consent elections, technical services, supplying information, consultations with employees or employers, and complaints.

The most significant work of the Service was in the prevention of threatened strikes, these being defined as situations in which a definite commitment has been made with regard to a strike. Because Commissioners of Conciliation were made available in 322 of these situations, the Service prevented approximately 300 of them from developing into actual strikes. These involved over 194,000 workers and if computed on the basis of Bureau of Labor Statistics man days lost by strikes, would reveal a potential saving of 3,882,900 man days of work and wages.

Of the total situations handled during the fiscal year, over 700 were terminated on the basis of signed agreements. This indicates clearly the establishment of better relationships between labor and management, and further, that they are finding it more advantageous to reduce their agreements in collective bargaining to written instruments. Eighteen major provisions were included in these signed agreements—the most important having reference to hours of labor, wages, overtime, grievance procedure, and union recognition. Under the grievance procedure it is revealed in numerous instances that either an arbiter is to be designated by the Conciliation Service or that a conciliator shall be called in before there is an actual stoppage of work.

There has been a marked interest on the part of both labor and management in the work of the Conciliation Service—in numerous instances this Agency has been called upon to explain to labor as well as to managerial groups, its functions, and all seem especially interested in the fact that it has no

law to enforce. Commissioners of Conciliation—acting as interpreters of principles, clarifying issues, and making suggestions for shortcuts based on practical experience as to methods, practices, and procedure—have aided materially in establishing more satisfactory relationships between employee and employer.

All this work has assumed even greater importance under the defense program. The adaptation of the Conciliation Service to emergency conditions may be summarized as: (1) Designation by the Secretary of Labor of seven of the Service's most experienced Commissioners of Conciliation to work in constant touch with labor and management in seven of the key defense industries; (2) The practice of giving every priority to situations affecting defense; (3) The closest possible co-operation with the National Defense Advisory Commission and with the Departments of War and Navy on government contracts. The U.S. Conciliation Service has been designated a defense agency by the U.S. Civil Service Commission.

During the calendar year 1940 the Conciliation Service participated in 4665 situations involving 1,709,348 workers.

J. R. STEELMAN.

**CONGO, Belgian.** A Belgian colony in central Africa. Area, 902,082 square miles; population (Jan. 1, 1939), 10,304,084 natives and 25,200 whites. The language spoken by the natives is Kiswahili. Chief towns: Léopoldville (capital), Matadi, Elizabethville, Jadotville, Stanleyville, and Coquilhatville. Education (1939): 228,101 students in 4295 schools.

**Production and Trade.** The chief agricultural products comprise palm and palm-kernel oil, cotton, coffee, copal gum, cacao, sugar, maize, rubber, groundnuts, timber, and bananas. Copper (120,000 metric tons exported in 1939), diamonds, gold, silver, tin, manganese, radium, uranium, cobalt, and iron are the principal minerals. Cattle raising is successfully carried on in districts free from tsetse flies. Trade, with Belgo-Luxemburg Economic Union only (1939): Imports, 370,800,000 francs; exports, 1,622,400,000 francs (franc averaged \$0.3328 for 1939).

**Communications.** The river Congo and its tributaries form an important means of transport to the interior. On Jan. 1, 1939, there were 43,923 miles of roads, 3051 miles of railways, 4209 miles of telegraph lines, and 4000 miles of telephone lines. During 1938 the railways carried 274,800 passengers and 4,187,921 metric tons of freight. The interior airplane services of the Belgian Congo are operated over 4757 miles of routes.

**Government.** Budget estimates (1940): 747,208,000 francs for revenue and 779,822,000 francs for expenditure. The preliminary 1939 figures indicate actual revenue of 675,453,000 francs and expenditure of 730,780,000 francs. The administration is under the control of the Belgian minister for the colonies, aided by a colonial council of which he is president. The Belgian government is represented in the colony by a governor-general (aided by a vice-governor-general, state inspectors, and six provincial commissioners). Governor-General, Pierre Ryckmans (appointed December, 1934).

**Ruanda-Urundi.** Two districts mandated to Belgium by the League of Nations. Area, 21,230 square miles; population (Jan. 1, 1939), 3,752,742. Capital, Usumbura. The chief products are maize,

cotton, potatoes, groundnuts, tin, and gold. Live-stock raising is an important occupation. Trade (1938): Imports, 83,963,498 francs; exports, 93,860,221 francs. Finance (1939): Revenue, 45,165,000 francs; expenditure, 42,158,400 francs. The public debt on Dec. 31, 1938, was 150,000,000 francs. Both districts were united, for administrative purposes and placed under the supervision of a vice-governor.

**History.** The future of the Belgian Congo was linked to the outcome of the European War when Germany invaded Belgium on May 10, 1940. When King Leopold surrendered, the refugee Belgian cabinet in Paris on May 28 informed the Governor-General of the colony that he was to ignore the King's action as Belgium was still at war. At the same time the British Government gave assurances of its support of the Belgian administration in the colony as long as Belgium's elected representatives functioned as British allies. In a broadcast from Elizabethville on July 22 Governor-General Ryckmans declared that the Belgian Congo was determined to stand by Britain until victory was achieved and Belgium liberated.

Anglo-Belgian co-operation in Africa became progressively closer as the war progressed, especially in the economic field. On May 31 the Belgian Congo government ordered the sale to it of all gold produced in the colony and its delivery to the South African Reserve Bank at Pretoria. In June the Belgian Congo franc was pegged to sterling at 176.625 to the pound. The Governor-General announced in September that a British military and economic mission had arrived at Léopoldville to help organize the colony's defenses and to mobilize its economic and financial resources in the Allied cause. British aid was extended in supplying essential imports and providing markets for exports formerly sent to Belgium. A consequence of this collaboration was the extension of the colony's air network to Entebbe in Uganda and Takoradi in the Gold Coast. This provided rapid communication with the British West and East African colonies, the Cape-to-Cairo trunk air route, and Egypt.

Belgian Congo authorities also granted refuge to French colonial citizens and officials from French Equatorial Africa who were sympathetic to General de Gaulle's movement. This aid enabled the Free French forces to win control of French Equatorial Africa at the end of August and ended the immediate threat of the seizure of the Belgian Congo by Germans operating from Equatorial Africa on the north and Angola on the south. A large number of German agents were said to have been concentrated in Angola for this purpose.

See BELGIUM, FRENCH EQUATORIAL AFRICA, and GREAT BRITAIN under *History*.

**CONGO, French.** See FRENCH EQUATORIAL AFRICA.

**CONGREGATIONAL CHRISTIAN CHURCHES.** The General Council of the. A general council was instituted at Seattle, Wash., June 27, 1931, when the National Council of the Congregational Churches in the United States and the General Convention of the Christian Church merged their activities in this new organization. The International Congregational Council to have been held at Wellesley, Mass., July, 1940, has been indefinitely postponed because of war conditions. The General Council's biennial meeting at Hanover, N.H., June, 1942. For the officers elected at



the last biennium, see the YEAR BOOK for 1939.

The headquarters of the General Council of the Congregational Christian Churches are at 287 Fourth Avenue, New York City, those of the Board of Home Missions at the same address, with offices also at 14 Beacon St., Boston, Mass., and those of the American Board at 14 Beacon St., Boston, Mass. For statistics, see RELIGIOUS ORGANIZATIONS.

CONGRESS, U.S. See REPRESENTATIVES, U.S. HOUSE OF; SENATE, U.S.; UNITED STATES under Legislation.

**CONGRESS OF INDUSTRIAL ORGANIZATIONS.** Substantial organizational advances of the Congress of Industrial Organizations in 1940 were reflected in a succession of Labor Board election victories in most of the basic industries, and in many new and renewed collective bargaining agreements with the country's biggest industrial employers.

The third constitutional convention of the C.I.O., was held in Atlantic City, N.J., from November 18 to November 22. At this convention, Pres. John L. Lewis and Vice-Pres. Sidney Hillman declined to run for re-election, and the following officers were elected: President, Philip Murray; Secretary, James B. Carey; Vice-Presidents, Joseph Curran, S. H. Dalrymple, Emil Rieve, Reid Robinson, Frank Rosenblum, and R. J. Thomas.

The report of retiring Pres. John L. Lewis to the 1940 convention noted that C.I.O. unions during the year received 60 per cent of all the votes cast in Labor Board elections and three times as many votes as were cast for unions of the American Federation of Labor. It continued:

"The General Motors election, the largest Labor Board election ever held, was won overwhelmingly by the C.I.O. United Automobile Workers of America, as were elections in nearly all the other major automobile plants.

"The United Electrical, Radio and Machine Workers of America is another C.I.O. union which has won election after election in the past year in the great plants of General Electric, Westinghouse, RCA, and other companies.

"The Packinghouse Workers Organizing Committee can also record an almost unbroken record of election victories in the plants of Armour and the other big meat packing companies.

"These are but a few examples of the many election successes of C.I.O. unions in industry after industry. Through their votes the workers have registered their emphatic preference for the modern industrial form of organization which the C.I.O. was formed to promote.

"New and improved contracts in the steel, automobile, electrical, packing, glass, and scores of other industries have testified to the solidity and permanence of the new C.I.O. unions and their ability to raise the wages and improve the conditions of the workers.

"The C.I.O. has also pushed ahead into new territory during the past year, as witness the progress of the United Construction Workers Organizing Committee and the advances into unorganized territory of many other already established unions.

"Noteworthy among the new organizing campaigns launched during the past year are the campaign to organize the employees of the Ford Motor Company, the expanding drive in the aircraft industry, the campaign to complete organization in the steel industry, notably in the plants of Bethlehem steel and other independents, and the organizing drive among the wood workers of the northwest."

On the legislative field, the report noted that during the year "the C.I.O. has had to devote most of its energies to preserving existing labor and social legislation against vicious attacks. Its outstanding achievement in the past year has been the preservation of the National Labor Relations Act against determined efforts to force through destructive amendments. Amendments designed to destroy the Wage-Hour law were also defeated, due chiefly to the efforts of the C.I.O.

"Other important legislative actions of the C.I.O. have included defense of American civil liberties against the flood of anti-alien, anti-labor, and generally restrictive bills that usually accompany a period of war hysteria."

The report also stressed the efforts of the C.I.O. during the year to obtain Congressional action or a Presidential executive order to require observance of the National Labor Relations Act and other labor laws on government contract work.

The attitude of the C.I.O. toward the question of national defense was expressed in a declaration adopted at the Organization's executive board meeting in Washington on June 4, 1940, and this position was later reaffirmed at the Atlantic City convention. The declaration follows in full:

"The Congress of Industrial Organizations, its officers, constituent unions, and membership are fully prepared to discharge our responsibilities in the approaching national emergency, to the best interests of the United States of America.

"At the outset let us state most unequivocally that we are, and always shall be, unalterably opposed to any movement or activity of subversive character, Trojan horses, or fifth columns, which are aimed against our nation and government, or the basic free and democratic institutions upon which our Republic has been founded.

"The Congress of Industrial Organizations is the labor movement in our first line of defense—the mass producing industries of mines, mills, factories, and workshops. By the strength and discipline of our organizations, the affiliates of the Congress of Industrial Organizations have substituted industrial peace and stability for industrial warfare, in these first lines of defense.

"We are prepared to lend practical, wholesome, and feasible co-operation in any undertaking to protect this nation and prepare for national defense.

"The ideals and objectives of the Congress of Industrial Organizations are an essential part of national policy. They are inherent in our democratic society. They are predicated upon the maintenance and preservation of labor's rights, so clearly set forth in the Constitution of the United States; in Congressional statutes, and in Supreme Court decisions validating such statutes.

"Throughout any national emergency, labor's rights, as embodied in the National Labor Relations Act, the Wage and Hour Act, the Walsh-Healey Act, the Guffey Coal Stabilization Act, the Social Security Act, and other legislation must be preserved.

"These rights are:

- "1. The right of wage earners to organize into unions of their own choosing.
- "2. The right of organized wage earners to bargain collectively with their employers.
- "3. The right of wage earners to freedom of speech, assembly, action, and worship.

"This declaration of labor's rights is designed to stabilize industrial relations and promote industrial peace. It does not contemplate industrial strife. It seeks to improve the relationship between wage earners and their employers; to increase the productive efficiency of industry; to maintain labor's existing wage and hour standards, and to improve these standards with changing economic conditions.

"Any national defense program must contemplate this kind of co-operation.

"It is imperative for the national welfare that steps be taken to end unemployment.

"It is recognized that large numbers of idle workers will be re-employed through the impetus given our economy by the present situation. But it must also be recognized that industry generally, especially the mass producing industries, is capable of turning out maximum production with a much smaller working force than ever before, due to tremendous strides in technology.

"This means that large numbers of able-bodied and willing workers will not find places in private employment; and sight must not be lost of the necessity of providing for them.

"And after the current war-stimulated recovery has run its course, what then?

"When war orders stop, as stop they will, millions who will have been employed in the armament and related industries will be cast out of their jobs. For them, their families, and for millions of others like them, provision must be made, lest misery and suffering, the like of which no civilized country has seen before, trail in the wake of 'war boom' dislocations.

"Our industrial unions constitute a great reservoir of productive, technical, and administrative skill and resourcefulness. The brains of labor should be utilized to



serve the nation in its national defense undertaking. Organized labor must be given adequate representation on boards, agencies, administrative bodies, and policy-making groups concerned with the execution and administration of any national defense program.

"Finally, we the executive board of the Congress of Industrial Organizations, meeting this 4th day of June, 1940, in the nation's capital, declare in unequivocal terms that we will defend the free institutions of this Republic, under which the Declaration of Independence and the Constitution give us the greatest democracy on earth—a government of the people, for the people, and by the people.

"We offer this program in a sincere endeavor to make our contribution toward achieving the goal which is in the heart of every true American—to assure the security of our nation, to preserve the peace for our people, and not to become involved in the present horrible war raging in Europe."

Among important resolutions adopted at the Atlantic City convention were:

1. A resolution calling for the protection of labor in the administration of the conscription law. This called for labor being given an active voice in the administration of the draft law and for "equal treatment without discrimination." Safeguards were demanded against discrimination because of union activity and attempts "to break down and destroy union standards through repressive means"; reinstatement of workers without loss of seniority or other rights upon completion of their service; continuation of benefits under the Social Security laws; adequate housing and sanitation facilities; protection of the civil rights of conscripted men; and provisions against foreclosures, evictions, and lapsing of insurance policies were among the points stressed in this resolution.

2. A resolution against "foreign entanglements which may in any way drag us down the path of entering or becoming involved in foreign wars."

This resolution reiterated the support of the C.I.O. for national defense and its determination "to protect and defend this nation not only against our foreign enemies who may dare to attack us directly but also against those forces within our nation who place the profits of their financial and industrial enterprises above the well-being of the millions of common people."

3. A resolution calling for guarantees of collective bargaining in government contracts, loans, and purchases.

4. A statement reaffirming the Americanism of the C.I.O. and its opposition to "any policies emanating from totalitarianism, dictatorships, and foreign ideologies such as Nazism, Communism, or Fascism."

The main objects of the Congress of Industrial Organizations, as outlined in its constitution were reaffirmed at the 1940 convention as follows:

"First. To bring about the effective organization of the working men and women of America regardless of race, creed, color, or nationality, and to unite them for common action into labor unions for their mutual aid and protection.

"Second. To extend the benefits of collective bargaining and to secure for the workers means to establish peaceful relations with their employers, by forming labor unions capable of dealing with modern aggregates of industry and finance.

"Third. To maintain determined adherence to obligations and responsibilities under collective bargaining and wage agreements.

"Fourth. To secure legislation safeguarding the economic security and social welfare of the workers of America, to protect and extend our democratic institutions and civil rights and liberties, and thus to perpetuate the cherished traditions of our democracy."

The 1940 convention of the C.I.O. also adopted a resolution rededicating the C.I.O. to "its primary purpose of organizing workers into modern industrial unions as the surest guarantee that the power of labor will reach its full estate."

The C.I.O. movement started with a membership of less than 1,000,000. It was able to report a membership of approximately 4,000,000 to its third constitutional convention in 1940, with 42 national and international unions and organizing committees affiliated. In addition, the C.I.O. has affiliated to it 225 state, county, and city Industrial Union Councils and 419 Local Industrial Unions. Headquarters are at 1106 Connecticut Avenue, N.W., Washington, D.C.

The following is the list of national and international unions affiliated to the C.I.O.:

Aluminum Workers of America  
Architects, Engineers, Chemists and Technicians, Federation of  
Automobile Workers of America, United  
Cannery, Agricultural, Packing and Allied Workers, United  
Clothing Workers of America, Amalgamated  
Communications Association, American  
Die Casting Workers, National Association of  
Electrical, Radio and Machine Workers of America, United  
Federal Workers of America, United  
Fishermen and Allied Workers of America, International Union of  
Fur and Leather Workers Union, International  
Furniture Workers of America, United  
Glass, Ceramics, and Silica Sand Workers, Federation of  
Inlandboatmen's Union of the Pacific  
Iron, Steel and Tin Workers, Amalgamated Association of  
Longshoremen's and Warehousemen's Union, International  
Marine Engineers' Beneficial Association, National  
Marine Cooks' and Stewards' Association, National  
Marine and Shipbuilding Workers of America, Industrial Union of  
Maritime Union of America, National  
Mine, Mill and Smelter Workers, International Union of  
Mine Workers of America, United  
Newspaper Guild, American  
Office and Professional Workers of America, United  
Oil Workers International Union  
Paper, Novelty and Toy Workers International Union, United  
Stone and Allied Products Workers of America, United  
Retail, Wholesale, and Department Store Employees of America, United  
Rubber Workers of America, United  
Shoe Workers of America, United  
State, County and Municipal Workers of America  
Textile Workers Union of America  
Transport Workers Union of America  
Woodworkers of America, International

Following is the list of C.I.O. organizing committees:

Barbers and Beauty Culturists of America, Natl. Organizing Comm. of  
Construction Workers Organizing Committee, United  
Department Store Workers Organizing Committee  
Distillery Workers Organizing Committee  
Farm Equipment Workers Organizing Committee  
Packinghouse Workers Organizing Committee  
Steel Workers Organizing Committee  
Utility Workers Organizing Committee

See COMMUNISM; LABOR CONDITIONS.

PHILIP MURRAY.

**CONNECTICUT.** Area, 4965 square miles, including (1930) water, 145 square miles. Population, Apr. 1, 1940 (census), 1,709,242; 1930, 1,606,903. Cities (1940): Hartford, the capital, 166,267; New Haven, 160,605; Bridgeport, 147,121; Waterbury, 99,314; New Britain, 68,685. The rural population, increasing nearly thrice as much as the urban, attained 551,080 (1940).

**Agriculture.** Connecticut harvested, in 1940,

about 450,300 acres of the principal crops. Tame hay accounted for some three-fourths of this area, or 348,000 acres; these yielded 484,000 tons; in estimated value, \$7,889,000. Tobacco, under intensive cultivation on only 17,400 acres, produced 22,996,000 lb., in value, about \$7,135,000, or fairly close to that of hay. Potatoes, 18,900 acres, gave 3,402,000 bu. (\$2,449,000); corn, 49,000 acres, 1,960,000 bu. (\$1,509,000); apples, 1,210,000 bu. (\$1,331,000). Farms: 21,163 in 1940 (17,195 in 1939).

**Manufacturing.** Yearly production of manufactured goods in Connecticut totaled \$1,229,615,773 for 1939; \$1,261,788,693 for 1937. Other totals for 1939 (each with that for 1937 subjoined): 2936 (2892) manufacturing establishments employed 233,525 (262,620) persons for wages of \$276,274,243 (\$312,269,732), paid for materials, etc., and contract work \$537,399,081 (\$581,001,594), and added to value of material, by process of manufacture, \$692,216,692 (\$680,787,099).

**History.** Plans for over \$50,000,000 in Federal works to check the ravages of floods in New England, including Connecticut, were still in the Army engineers' hands for revision in the spring of 1940. Additional protection for Hartford and East Hartford was under consideration. The continued enterprise of improving the State's highways was advanced by a program calling for the expenditure, by the Highway Department, of about \$10,000,000 during the year. Plans called for developing the southwestern and northeastern ends of the Wilbur Cross Parkway (extension of the Merritt Parkway); its middle part was not yet to be constructed, but improvements instead were provided for U.S. 5 between Meriden and Hartford. The State undertook the preliminaries to constructing a new highway bridge over the Thames River at New London. The last-completed section of the Merritt Parkway, that from Nichols through Stratford and over the Housatonic River, was opened on September 2. The noted stone-arch bridge over the Middlebury-Naugatuck road was removed in November as an accident-trap.

Connecticut's conviction of Newton Cantwell, of the sect of Jehovah's Witnesses, for soliciting funds in New Haven without the required license, was reversed (May 20) by the U.S. Supreme Court, on the ground of infringement of religious liberty. The State's Supreme Court of Errors sustained (March 20) Connecticut's law prohibiting measures against conception, in cases against the Waterbury Maternal Health Center and against physicians, rejecting as a defense the need of such measures for a patient's health. (See BIRTH CONTROL.) Two bankers of Waterbury and Bridgeport, directors of McKesson and Robbins when that company was wrecked by the operations of the late F. Donald Coster, alias Musica, were tried in the Federal District Court in New York, with other defendants, for conspiracy in Musica's huge illicit operations; the two were acquitted; seven other defendants formerly connected with the big Connecticut company pleaded guilty or were convicted (May 18).

The manufacturing of a variety of goods made in the State was stimulated by demand on account of war abroad and of defensive preparations in the United States. A striking example was that of Pratt and Whitney (part of the United Aircraft Corporation) at Hartford; this firm built in 1939-40, partly with British money, great additions to its works and multiplied its monthly output of aircraft engines tenfold.

**Elections.** In the general election (November 7) Roosevelt, for President, carried the State getting 417,621 votes to 361,819 for Willkie (Rep.); the total vote of both major parties' Presidential candidates exceeded that of 1936 by about 119,000, or over one-sixth, the Republican total increasing by about 83,000 and the Democratic by about 36,000. Francis T. Maloney (Dem.) was re-elected United States Senator, defeating Paul L. Cornell (Rep.). Robert A. Hurley (Dem.) was elected Governor, defeating Raymond E. Baldwin (Rep.), who sought re-election. Six Democrats won the State's seats in the House of Representatives, four of them sweeping out Republicans.

**Officers.** Connecticut's chief officers, serving in 1940, were: Governor, Raymond E. Baldwin (Rep.); Lieutenant Governor, James L. McConaughy; Secretary of State, Sara B. Crawford; Treasurer, Joseph E. Talbot; Comptroller, Fred R. Zeller; Attorney General, Francis A. Pallotti; Commissioner of Education, Alonzo G. Grace.

**CONSCIENTIOUS OBJECTORS.** See DRAFT, MILITARY.

**CONSCRIPTION.** See AUSTRALIA, CANADA, ECUADOR, MEXICO, and NEW ZEALAND under *History*. For conscription in the United States, see DRAFT, MILITARY and the topics there referred to.

**CONSERVATION WORK.** See AGRICULTURAL ADJUSTMENT ADMINISTRATION; CIVILIAN CONSERVATION CORPS; EDUCATION, OFFICE OF; FORESTRY; GENERAL LAND OFFICE; LAND UTILIZATION, OFFICE OF; NATIONAL RESOURCES PLANNING BOARD; PLANNING; SOIL CONSERVATION SERVICE.

**CONSTRUCTION INDUSTRY.** The vast importance of the construction industry in the progress and welfare of the United States is not generally recognized. But it caused a total expenditure of approximately seven billion dollars in 1939, including residential building and all public and private engineering construction. With a natural increase and the "emergency" conditions created by the foreign war and the call for defensive activities at home, this total rose to eight and one-half billion dollars in 1940. Of this great total, nearly half was in engineering construction, according to a review by *Engineering News-Record* which showed \$2,824,989,000 for public works construction and \$1,162,254,000 for private construction, or a grand total of \$3,987,243,000.

ENGINEERING CONSTRUCTION: 1940

Type of Construction	Million dollars	% increase or decrease
Public buildings, including Federal industrial plants (\$300-million) and defense housing	1,196	+102
Highways and streets	678	+ 5
Industrial buildings	595	+110
Commercial buildings	400	+ 3
Earthwork, irrigation and drainage	234	+ 1
Bridges	120	- 20
Sewers and sewage treatment plants	91	- 43
Water works and treatment plants	70	- 57
Unclassified: airports, air bases, shipyards, etc.	603	+ 54
Total	3,987	+ 33

These two first totals were respectively 34 and 31 per cent above those of 1939, while the grand total was an increase of 33 per cent. Of the public works construction, \$1,451,726,000 was for Federal work. In the accompanying table is given a summary of the engineering construction, showing for each class the total expenditure and its in-

crease or decrease as compared with 1939. These figures are exclusive of innumerable minor engineering works and residential and miscellaneous construction, which go to make up the construction total of 8½-billion dollars. The first census of the construction industry was taken in 1940 by the U.S. Bureau of the Census, to record the activities in 1939 in each State and in many large cities. It summarized the reports of general contractors and some 25 classes of sub-contractors. Day-labor work was not included. See separate articles on the branches of the industry, as BRIDGES, BUILDING, WATERWORKS, AND WATER PURIFICATION; also, BUSINESS REVIEW.

E. E. RUSSELL TRATMAN.

**CONSUMER EDUCATION, Institute for.** In 1937 the Institute for Consumer Education was established at Stephens College, Columbia, Mo. It is a project of the Alfred P. Sloan Foundation which is "devoted to the increase and diffusion of economic knowledge." In accord with this purpose, the Institute aims to aid consumers to solve the problems which affect their well-being.

Director of the Institute is Dr. John M. Cassels, formerly of the economics staff of Harvard University. Its Educational Director is Dr. James E. Mendenhall, from the research staff of the Lincoln School of Teachers College, Columbia University.

At present, the Institute for Consumer Education has two main fields of work. As a Division of Stephens College, it endeavors to give young women the skills, knowledge, and attitudes which will make better managers of their personal resources, as students and as future homemakers. It also aims to assist these young people to gain a better understanding of the economic system in order that they become more effective consumer-citizens. As a national agency, the Institute works to serve the growing number of teachers and leaders who are interested in developing improved programs in this vital area of education.

The Institute carries on economic research which appears in the form of scientific monographs and popular booklets on consumer topics. It conducts surveys of what high schools and colleges are doing in the field, and makes the results available to the educational public. It co-operates not only with school people but also with leaders of adult groups which are including consumption either as a major or a minor field of study and activity. A monthly news letter (October to June) is published by the Institute.

Annually, the Institute holds a national conference. This conference has been attended by more than 600 teachers and others concerned with raising the quality and effectiveness of consumer education.

**CONSUMER GOODS.** See BUSINESS REVIEW.

**CONSUMER GROUPS.** See CO-OPERATIVE MOVEMENT; LIVING COSTS AND STANDARDS; and the consumer organizations listed under SOCIETIES AND ASSOCIATIONS.

**CONSUMER PROTECTION.** See NATIONAL DEFENSE ADVISORY COMMISSION.

**CONTAINERS.** See FOOD AND DRUG ADMINISTRATION; GLASS.

**CONTRACT BRIDGE.** The contribution of contract bridge to the science of domestic discord was lessened somewhat in 1940 as a result of a campaign by the American Contract Bridge League to substitute better manners, courtesy, and equanimity for the natural primitive instinct of the human animal as exemplified in card games. This and the gradual emergence of new stars were the highlights of the past season.

Following in condensed form are the results of the outstanding contests of 1940:

*Eastern championship*—Goldman pairs, M. D. Maier and Charles Lochridge.

*Master's individual*—Morris Ellis.

*Vanderbilt cup matches*—Harold S. Vanderbilt, Baron Waldemar von Zedtwitz, Edward Hymes Jr., Robert McPherran, and Charles Lochridge.

*Summer nationals, Asbury Park*—Women's pairs, Mrs. John Waidlich, Rosemont, Pa., and Mrs. Edith W. Atkinson, Wayne, Pa.; men's pairs, M. D. Maier and Robert McPherran; mixed teams, Mrs. Marie Black, Baron Waldemar von Zedtwitz, Mrs. Olive Peterson, Philadelphia, and Henry Chanin, Atlanta, master's pairs, Morris Ellis and Harry J. Fishbein; master's teams, Alvin L. Roth, Washington; Oscar J. Brotman, Washington; Sam Katz, Newark, and Bertram Lebar, New Rochelle.

*Winter nationals*—Women's team of four, Mrs. Adelaide Neuwirth, Mrs. Lottie Zetoch, Mrs. Helen Levy, Jersey City, and Mrs. Humphrey Wagar, Atlanta; mixed pairs, Mrs. Ralph C. Young, Philadelphia, and Sidney Silodor, Philadelphia; open team of four, Morris J. Glick, Cleveland, Harry Feinberg, Cleveland; Louis Newman, Washington, and Jeff Glick, Miami, open pairs, Mrs. A. M. Sobel and Charles H. Goren, Philadelphia.

**CONTRACTS.** See LAW under *Private Law*.

**CONVICT LABOR.** See PRISONS, PAROLE, AND CRIME.

**CO-OPERATIVE MOVEMENT.** Consumer co-operatives haven't gone into the face-lifting business. But in 1940 "face-lifting" got into the co-operatives. From Washington, D.C., to Schenectady, N.Y., from Cambridge, Mass., to the Messabi iron range in Minnesota and Berkeley, Calif., co-ops moved from side streets, around the corner to Main Street. Smart, "kitchen clean" fixtures in self-service food stores placed cheek-to-jowl with chains and super-markets gave evidence of a determination on the part of independent, locally-owned consumer stores to meet and better the record of the mammoth chains. In every instance the physical modernization of co-op stores brought in new members, increased business, and cut operating costs.

The score of co-op shops that had their faces lifted in 1940 will be followed by a hundred this coming year and "modernization" is expected to push forward rapidly until the thousand co-operative grocery stores now in operation become the outstanding shops in their communities. Central Co-op Wholesale, Superior, Wis., serving two hundred stores in northern Minnesota, Wisconsin, and Michigan, has established an architecture department to plan and supervise store modernization. Midland Cooperative Wholesale, Minneapolis, and its grocery co-ops in southern Minnesota and Wisconsin have adopted simple, uniform store front and layout keyed to "Swedish modern." Consumer Distribution Corporation, founded by the late Edward A. Filene, working with Eastern Co-op Wholesale, Brooklyn, has taken the leadership in the modernization program among the 200 grocery co-ops in twelve Eastern States.

Co-op testing kitchens in Brooklyn and Superior check the quality of merchandise handled by the co-operatives—giving for the first time consumer control of quality. Uniform CO-OP labels have been introduced in all co-ops affiliated with National Cooperatives, Inc., the national buying federation. And in the last two years, the co-operatives have pioneered in the introduction of government ABC grade labelling of food products.

Contrary to the general impression, co-op gro-

cery stores are only part—a relatively small part—of the consumer co-operative movement. These consumer-owned enterprises, operated democratically according to Rochdale principles (named after the original consumer co-operative opened in Rochdale, England, in 1844) take in almost every phase of economic life. Farm supply depots, co-op gas and oil associations, co-operative insurance companies, electric distribution co-ops, telephone associations, housing, health, and restaurant co-operatives, student co-op dormitories, eating clubs, and bookstores, credit unions, and burial societies make up the American consumer co-operative movement as we know it today. Because operations are so all-inclusive, many of its members look on co-operation as a way of life, or point to it as the nucleus of an economic system that follows the "middle way" between the extremes of communism and fascism. Two million American consumers were, at the end of 1940, doing a total business estimated at \$600,000,000 a year. In addition, there were 2,250,000 members of co-op credit unions (loaning and borrowing associations sometimes referred to as "baby banks") which have accumulated assets of over \$200,000,000.

Farm supply purchasing is the largest single factor in consumer co-operative business. During the 1939-40 fiscal year these co-ops handled \$448,000,000 worth of supplies according to statistics just released by the Farm Credit Administration. This represented an increase of \$23,000,000 over the previous year.

Co-operatives have broken the hold of the "fertilizer ring" and have emerged as "trust-busters" in a field vitally important to the American farmer. By building fertilizer factories, the co-ops forced down the price of commercial fertilizer four dollars a ton, saving farmers in Ohio alone more than a million dollars last year.

Petroleum products distributed by 2000 gas and oil co-ops last year amounted to nearly \$100,000,000. In less than 20 years co-operatives have moved from retail oil distribution all the way back to refining and drilling and operating oil wells. In 1940 three oil refineries were opened—in Phillipsburg, Kans.; Mt. Vernon, Ind., and Regina, Saskatchewan. Ninety-two miles of pipe line were built by the Consumers Cooperative Association to connect the Kansas co-op refinery with nearby wells. The co-ops thwarted an attempt on the part of a major oil company to cut off their source of crude oil—and as a protective measure to provide an assured source of supply, the first co-op oil wells in the world were drilled and started production late in 1940.

Insurance is an essentially co-operative undertaking and many mutual companies are co-operative in several respects but not part of the consumer co-operative movement. For that reason the 2000 farmers' mutual fire insurance organizations with three million members and eleven billion dollars worth of insurance in force are not included in the statistics stated above. There are, however, a number of insurance co-operatives handling automobile, fire, and life insurance. Notable in this field is the Farm Bureau Cooperative Insurance Services, which started with assets of \$10,000 in 1926 and last year had a \$10,000,000 premium income providing auto, fire, and life insurance to 380,000 consumer members in eleven States.

Electric power co-operatives received their greatest impetus with the creation of the Rural Electrification Administration in 1935. Only 50

electric co-ops were in existence at that time. By April, 1940, a total of 548 such co-ops were operating 198,000 energized miles of line serving 483,000 rural families. Ninety-two per cent of the loans made by the REA were handled by co-operatives which have carried on a lion's share of the job of bringing electric light and power to rural America.

Co-operative burial associations received widespread publicity a few years ago when the then attorney general of Minnesota ruled that a consumer co-operative must be made up of ultimate consumers. Since the ultimate consumer of a burial co-operative would be a dead person, he contended that such associations were illegal. By the time the ruling was reversed several additional communities had decided to set up burial co-ops to help cut the cost of dying. Forty co-op burial societies are now serving 31,000 members in five mid-western States. A U.S. Bureau of Labor Statistics study completed in 1940 showed that the average cost of a funeral in a co-op was \$166 as compared with \$363 for the average private-profit mortuary.

On 160 American campuses more than 200 student co-ops are helping over 100,000 students make their way through college by cutting the costs of food and lodging, books, laundry, cleaning, and medical service. Federations of campus co-ops have been set up on the Pacific Coast, in the Plains States, and in the mid-west. A National Committee on Student Cooperatives acts as a clearing house for information on the organization of student co-ops.

Other co-operatives include housing, health, and restaurant service, which reported gains during the year. New housing units were completed in Minneapolis, St. Paul, Madison (Wisconsin), and in Nova Scotia, while at the close of the year the largest housing co-op in New York City—the Amalgamated Cooperative Apartments housing 630 families in the Van Cortlandt Park area—voted the fourth expansion since it was founded in 1927. A dozen co-operative health associations are in operation. Outstanding, of course, is the Cooperative Hospital in Elk City, Okla. Other noteworthy health services have their headquarters in Washington, D.C., Greenbelt, Md., New York City, St. Louis, Superior, Wis., and St. Paul. The 21-year-old chain of co-op cafeterias, Consumers Cooperative Services, in New York City, still leads the field. Its eight recently modernized eating spots served a million meals last year.

There is a growing awareness of the importance of co-operation between co-operatives. Most of the important co-operatives are federated into a national educational organization, The Cooperative League of the USA, which on Mar. 18, 1941, celebrates its 25th year of active education. Twenty regional and national associations of co-operatives with 1,115,000 patron-members are affiliated with The Cooperative League. Through its offices in Chicago, New York, and Washington, the League is responsible for the national education, organization, publication, publicity, research, and contact work of the movement.

Paralleling The Cooperative League and including most of its members is National Cooperatives, Inc., the purchasing federation of co-operatives. Organized in 1933 and maintaining offices with the League in Chicago, National Cooperatives co-ordinates the purchasing of its member associations where economies can be made by large-scale purchases. It also serves as a clearing house for technical information, holds and polices the CO-OP

label and is responsible for uniform standards of excellence of products distributed under the CO-OP label.

**European Co-operatives.** Co-operatives in Europe have been seriously affected by the war. Even before hostilities were declared, the powerful co-operative movements in Austria and Czecho-Slovakia were destroyed or taken over by the Nazis. The Polish co-operatives have been very severely hit. It is too early yet to have complete reports on Denmark, Norway, Belgium, Holland, and France. We must assume, however, that the fate of the co-operatives there will be similar to the fate of the co-operatives in Germany itself.

Prior to the Nazi Regime, the German co-operative movement was looked upon as one of the strongest in the world. Its 3,644,000 members did a retail business of RM1,095,000,000 in 1932. But with the ascendancy of totalitarianism, Nazi officials were put in charge of co-operatives, democracy was ruled out, surplus funds were diverted to the Nazi war chest through the purchase of government bonds, and under Nazi administration co-operatives were dissolved as rapidly as was feasible.

The co-operatives in Sweden are still a dramatic example of co-operative accomplishment. They handle 20 per cent of the retail business of the country; they have broken flour milling, rubber, margarine, and electric lamp bulb trusts and have pioneered in efficient retail distribution. Since the outbreak of the European war, the Swedish co-operatives have served as a yardstick to keep prices from rising as a result of unjust profiteering.

The British co-operatives have been growing rapidly since the declaration of war although they are severely hampered by war-time restrictions which are forced on all business and by the loss of many of their workers who are in the armed services. About 8,500,000 British consumers are members of the co-operatives. Total co-operative retail business in 1939 was \$1,500,000,000. The co-operatives had become the largest single distributive business in Britain.

International trade between co-operatives has been so severely hit by the war that the International Cooperative Trading Agency has suspended operations temporarily, but the International Co-operative Alliance, the educational organization with members in 39 countries, is carrying on.

See ALASKA under *Agriculture*; *HORTICULTURE*; *INDIAN AFFAIRS*, OFFICE OF.

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**COPPER.** The full impact of the European war and the national defense program of the United States did not strike the mineral industries until about the fourth quarter of 1940. By that time, however, the domestic copper mining industry was operating almost at capacity (considering the price of the metal), and arrangements had been made to import a large tonnage from Latin America.

The price of the metal was fairly stable throughout the year, and particularly in the fourth quarter after the Defense Commission had announced its intention to prevent unwarranted price

rises in commodities. Opening the year at 13¢ per lb., the price declined to a low of 10.5¢ in July and rose gradually to 12¢ in September, where it remained until the year end. The average price for the year was 11.296¢, f.o.b., refinery, according to *Engineering and Mining Journal*, compared with 10.965¢ for 1939.

No price was quoted in London during 1940, because trading was suspended on the London Metal Exchange, and the Ministry of Supply fixed the price at which consumers could obtain copper.

The Census of Manufacturers, 1939, revealed some interesting facts about primary smelting and refining of copper in comparison with conditions in 1937. The number of establishments was the same in each year, 23. Moderate decreases were noted, however, in employment, wages, and production. Salaried personnel in 1939 numbered 1783, a decrease of 6.7 per cent compared with 1937. Number of wage earners decreased from 14,514 in 1937 to 12,234 in 1939, or 15.7 per cent. Wages were correspondingly down from \$20,941,462 to \$17,443,834. Value of products was down from \$715,354,577 to \$633,994,537.

In December, 1940, the Metals Reserve Company, a subsidiary of the Reconstruction Finance Corporation (q.v.), contracted to buy for the Government 100,000 tons of copper from Latin America during 1941. The price for 72,000 tons was 10¢ per lb, f.a.s. New York, on the condition that if at any time the cost of freight and insurance exceed ½¢ per lb., such excess will be borne by the Metals Reserve Company. The price for the remaining 28,000 tons was 9½¢ per lb., f.a.s. Chilean ports, on the condition that for such portion of this copper as the sellers can furnish transportation, the Metals Reserve Company will allow ½¢ per lb. for transportation, war, and marine insurance.

According to the U.S. Bureau of Mines smelter and refinery output of copper from domestic ores in 1940 were at the highest levels since 1929, surpassing the record for 1937 by 10 to 15 per cent. United States imports of unfabricated copper were larger than in any other year since 1929, due to war disturbance. Exports were a little higher than in 1939, and the largest recorded since 1929. Japan was the principal buyer.

The Copper Institute reported the following summary of statistics for 1940.

#### U.S. DUTY-FREE COPPER

	1940	1939
<b>Production</b>		
Crude*..... (short tons)	992,095	836,074
Refined..... " "	1,033,710	818,289
<b>Deliveries</b>		
Domestic..... (short tons)	1,001,886	814,407
Export..... " "	48,537	134,152
Total..... " "	1,050,423	948,559
<b>Refined Stocks</b>		
End of period..... (short tons)	142,772	159,485

\* Mine or smelter production or shipments and custom intake, including scrap.

Estimated smelter production in 1940 from domestic ores was 1,814,000,000 lb., an increase of 27 per cent over the output of 1939. The output of new, refined copper from domestic and foreign sources in 1940 amounted to 2,616,000,000 lb., an increase of 30 per cent over 1939. The production of secondary copper was 232,000,000 lb., about the same as in 1939. Total primary and secondary output was 2,848,000,000 lb., 26 per cent larger than in the preceding year.

In 1940, according to the Bureau of Foreign and Domestic Commerce, copper imports amounted to 729,994,264 lb., valued at \$73,492,234; exports, 855,-887,957 lb., valued at \$110,118,658.

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**COPTS.** See under EGYPT and ITALIAN EAST AFRICA.

**COPYRIGHT.** Registrations for the fiscal year 1939-40, according to the report of the U.S. Register of Copyrights, numbered 176,997, as compared with 173,135 for the preceding year. Of these 110,715 were classed as books, but included pamphlets, leaflets, and contributions in periodicals. Those printed in the United States numbered 107,252, those printed abroad in a foreign language, 2502, while the remainder, 958, were English books registered for ad interim copyright. The chief classes of the remaining registration were: Periodicals (numbers), 80,356; musical compositions, 46,152; dramatic or dramatico-musical compositions, 7052; works of art, models, or designs, 4014; drawings or plastic works of a scientific or technical character, 3931; photographs, 4403; prints and pictorial illustrations, 7136; maps, 3242; lectures, sermons, addresses, 1277; motion pictures not photoplays, 1533; motion-picture photoplays, 1583; reproductions of works of art, 647. The renewals numbered 10,207 as compared with 10,177 in the preceding year. The fees applied during the year amounted to \$320,082. The total number of separate articles deposited during the fiscal year ended June 30, 1940, was 272,041. The gross receipts of the Register's office for the fiscal year were \$341,061, the total expenditures for salaries, \$274,285, and for supplies, \$2340. See PATENT OFFICE, U.S.

**CORN.** The corn crop of the United States in 1940 was estimated by the U.S. Department of Agriculture at 2,449,200,000 bu., 6 per cent smaller than the 1939 crop of 2,602,133,000 bu. and compared with the 1929-38 (including three drought years) average of 2,299,342,000 bu. The total acreage harvested for all purposes was 86,449,000 acres compared with 88,430,000 acres in 1939, 13 per cent below the 10-year average of 98,986,000 acres, and was the smallest acreage since 1894. Yield per harvested acre averaged 28.3 bu. versus 29.4 bu. in 1939, the highest since 1920, and compared with the 10-year average of 23.2 bu. Increased acreages of high-yielding hybrids and more extensive use of high-speed power machinery kept the yields above average in spite of severe drought damage in Illinois, Indiana, and Ohio. Corn harvested for grain was estimated at 2,170,902,000 bu., the 4,443,000 acres harvested for silage produced 32,359,000 tons of silage, and the remainder of the crop, about 5,648,000 acres, was harvested for forage or grazed by livestock. The states leading in production of corn for grain were: Iowa 437,580,000 bu., Illinois 318,296,000, Indiana 136,937,000, Minnesota 135,136,000, Ohio 112,912,000, and Missouri 112,789,000 bu. Wisconsin, Minnesota, New York, Pennsylvania, and Iowa again led in order of silage production. The season average price per bu. (preliminary) received by farmers averaged 62.4 cents in 1940 and the value of production was estimated at \$1,528,440,000 versus 56.7 cents and \$1,476,300,000 in 1939. See *Crop Production Table* under AGRICULTURE; AGRICULTURAL ADJUSTMENT ADMINISTRATION; COMMODITY CREDIT CORPORATION; ENTOMOLOGY, ECONOMIC; FARM MACHINERY AND EQUIPMENT.

**CORONADO CUARTO-CENTENNIAL.** See FAIRS, EXPOSITIONS, AND CELEBRATIONS.

**CORONARY DISEASE.** See MEDICINE AND SURGERY.

**CORPORATE REORGANIZATIONS.** See BUSINESS REVIEW.

**CORPORATIVE STATE.** See FRANCE, ITALY, PORTUGAL, RUMANIA, and SLOVAKIA under *Government and History*; FASCISM.

**CORRESPONDENTS, Foreign.** See NEWSPAPERS AND MAGAZINES.

**CORRUPTION IN GOVERNMENT.** See the States under *History* as LOUISIANA, MAINE, MASSACHUSETTS, MICHIGAN, MISSOURI, NORTH DAKOTA, PENNSYLVANIA, RHODE ISLAND, WISCONSIN.

**COSMETICS.** See FASHION EVENTS; FOOD AND DRUG ADMINISTRATION.

**COSMIC RAYS.** See PHYSICS.

**COSTA RICA.** A Central American republic Capital, San José.

**Area and Population.** Area, 23,000 square miles; estimated population, 639,197 on Dec. 31, 1939. The people are largely of Spanish and other European descent, except for some 18,000 Negroes in the Atlantic banana zone and about 3000 aboriginal Indians. Live births in 1938 numbered 26,830; deaths, 10,422; net immigration, 416. Estimated populations of the chief cities (1938): San José, 70,568; Cartago, 20,452; Limón, 16,699; Alajuela, 11,877; and Puntarenas, 8514.

**Education and Religion.** The illiteracy rate is one of the lowest in Latin America. At the beginning of 1939 there were 669 elementary schools with 66,317 pupils, 2 secondary schools with 1228 students, a normal school with 562 students, and 2 colleges, at Cartago and Alajuela. A law establishing the University of Costa Rica in the capital was signed Aug. 26, 1940. The existing Schools of Law, Pharmacy, Agriculture, Pedagogy, and Art were incorporated in the new institution, and Schools of Engineering, Sciences, Liberal Arts, Dentistry, and Medicine were to be added as resources permitted. Roman Catholicism is the state religion.

**Production.** Coffee, bananas, and cacao comprised 84.8 per cent of the 1939 exports. The value of the 1938-39 coffee crop was \$4,644,301. Banana exports in 1939 (calendar year) were 3,429,787 stems; cacao, 7,672,374 kilograms (of 2.2 lb.). Other 1939 crops were estimated as follows: Corn, 59,300 bu.; beans, 19,000 bu.; rice, 7050 metric tons; sugar, 10,950 metric tons; potatoes, 8100 bu. Fruits and vegetables are grown for local consumption. Gold and salt are the only minerals produced. A few articles for domestic use are manufactured, as cigars, cigarettes, furniture, candles, cheese, etc.

**Foreign Trade.** Imports in 1939 in U.S. currency totaled \$16,884,992 (\$12,620,721 in 1938); exports, \$9,086,498 (\$10,145,614 in 1938). The 1939 imports included \$3,873,475 worth of special imports for development of the United Fruit company's new Pacific Coast banana plantations. Exports of coffee in 1939 were \$4,644,301; bananas, \$1,911,084; cacao, \$1,150,856. The United States took 45.6 per cent of the 1939 exports, Germany 25.1, United Kingdom 16.9. Of the imports, the United States supplied 58.8 per cent, Germany 17.7, Japan 5.1, and the United Kingdom 3.9. See TRADE, FOREIGN.

**Finance.** Estimated receipts and expenditures for 1940 balanced at 32,835,000 colones. Actual 1939 receipts were 42,717,000 colones; expendi-

tures, 40,288,000. The public debt on Dec. 31, 1939, totaled 133,088,480 colones (external, 100,169,428; internal, 32,919,052). This represented a reduction of 16,183,807 colones since Apr. 30, 1936. Average exchange rates of the colon: Controlled, \$0.1779 in 1938 and 1939; uncontrolled, \$0.1770 in 1938, \$0.1764 in 1939.

**Transportation.** There were 413 miles of railways in 1940, 405 miles of improved roads, about 1400 miles of unimproved roads and trails, and a domestic air network connecting with Pan American Airways. Receipts of the state-owned Pacific Railway connecting San José with the Pacific port of Puntarenas rose from 4,629,578 colones in 1937 to 5,651,069 in 1939. A total of 661 ships of 1,587,-837 tons entered and cleared the ports in 1938.

**Government.** Executive power is vested in a president elected for 4 years and legislative power in a Congress of 44 members, half of whom are elected (for 4 years) every 2 years. President at the beginning of 1940, León Cortés Castro (Republican National party), who assumed office May 8, 1936. See *History* for 1940 elections.

**History.** The arrangement made by opposition parties in 1939 to run a coalition candidate against Dr. Rafael Angel Calderón Guardia, nominee of the Republican National (government) party, fell through and Dr. Calderón Guardia was the victor in the Presidential election of Feb. 11, 1940. He received 82,220 votes as compared with 9676 for the Communist candidate, Manuel Mora, and 6174 for Prof. Vergilio Salazar Leiva, nominee of the Guanacasteca party, a regional, anti-Communist movement, the stronghold of which is the province of Guanacaste. Voting was secret and compulsory for the first time. In his campaign, the President-elect pledged himself to follow Costa Rica's democratic tradition and his predecessor's economic policy as well as to support the Pan American movement. Dr. Calderón Guardia was inaugurated May 8 following a pre-inaugural visit to Washington on March 25-29. There he received a cordial welcome in both official and unofficial circles.

Both President Cortés Castro and his successor devoted their major efforts during 1940 to the development of a defense program in co-operation with the United States and to measures necessitated by the adverse economic effect of the European War. It was announced at San José January 16 that U.S. Navy planes and warships had been authorized to enter Costa Rican territorial waters on both coasts at any time in connection with the enforcement of the Pan American security zone. Upon President Roosevelt's return to Washington from his Caribbean tour on March 3, it was unofficially reported that the Costa Rican Government had consented to the use of its air fields by United States planes if necessary for wartime defense of the Panama Canal.

On March 26, during his visit to Washington, Dr. Calderón Guardia stated in a press interview that his country was ready and willing to take all necessary measures for joint defense of the Canal. In August United States army officers visited San José and were reported to have reached an agreement on the details of joint military co-operation. Enlargement of Costa Rica's tiny army of 500 men and its training by a United States military mission was contemplated.

The United States Government on September 5 proposed a plan for the development of rubber plantations in Costa Rica with United States financial and technical aid. The following day Presi-

dent Calderón Guardia announced that his government had offered to lease Cocos Island in the Pacific to the United States for the establishment of a naval and air base. The U.S. Treasury on September 24 advanced a \$4,600,000 loan to Costa Rica for the construction of the section of the Pan American Highway between San José and the border of Panama. The loan was guaranteed by the National Bank of Costa Rica and was to be repaid from proceeds of the gasoline tax.

In January the Costa Rican Government withdrew its objections to canalization of the San Juan River, linking Lake Nicaragua with the Caribbean and forming the eastern sector of the Nicaraguan-Costa Rican frontier (see 1939 YEAR BOOK, p. 172). A treaty authorizing construction of a barge canal and providing for free navigation by Costa Rican traffic was signed with Nicaragua on Apr. 5, 1940.

Costa Rica's co-operation with the United States was aided by the growing anti-German and anti-Italian sentiment manifested by the population as a result of European developments and of Nazi activities in Costa Rica. The government in May began to eliminate pro-Nazi Germans from important positions and to curb their propaganda. On July 10 popular indignation was aroused by the revelation that the German Minister to the Central American republics had sent notes to the Costa Rican and other neighboring governments stating that it would be "disadvantageous" if they supported any measures at the forthcoming Havana Conference affecting their neutrality. Costa Rica replied in substance that it could not permit foreign interference to influence its policy of co-operation with other Latin American countries and alignment with the United States.

The decline of coffee exports to Great Britain as a result of the European War made the country more than ever dependent upon trade with the United States and placed growers of coffee and other export crops in a difficult position. The government met the situation in part by advancing credit on liberal terms to farmers. In mid-year a National Agricultural Council was created to adjust agricultural production to the country's domestic needs and to changing export markets. On July 24 it was announced that the coffee crop would be marketed in the United States and Canada with government financial aid in the future. A Sugar Board to assist and control the sugar industry was established Aug. 29, 1940. The collapse of Costa Rica's European markets was offset in part by the United Fruit Company investments, totaling about \$3,000,000 annually, in new banana plantations on the Pacific Coast. However, the company curtailed its shipping services to Puerto Limón on the Atlantic Coast with adverse effects upon the tourist trade.

See NICARAGUA under *History*; PAN AMERICANISM; PAN AMERICAN UNION.

**COST OF LIVING.** See LIVING COSTS AND STANDARDS.

**COTTON.** The United States cotton crop for 1940, as estimated by the U.S. Department of Agriculture on Dec. 9, 1940, amounted to 12,686,000 bales of 500 lb., as compared with 11,817,000 bales in 1939, 11,943,000 bales in 1938, and the record crop of 18,946,000 bales in 1937. The lint yield averaged 252.4 lb. per acre compared with 237.9 lb. in 1939, the record of 266.9 lb. in 1937, and 198.1 lb., the 1929-38 average. Four per cent of the 25,-073,000 acres in cultivation July 1, 1940, were abar-



doned later, leaving 24,078,000 acres for harvest, compared with 23,805,000 acres in 1939.

The world carry-over of American cotton on Aug. 1, 1940, as estimated by the New York Cotton Exchange Service, was about 12,649,000 bales compared with 14,137,000 at the end of the previous season and 13,787,000 two years before. The carry-over of American cotton in the United States, estimated at 10,469,182 running bales, together with the above estimate of world total, indicated the carry-over of American cotton in foreign countries on Aug. 1, 1940, at about 2,053,280 bales. Of the total domestic stocks in the United States as of Aug. 1, 1940, slightly more than 8,700,000 bales were under Government loan or owned by the Government, which would indicate a total of only 1,900,000 bales of "free" stocks, including nearly 100,000 bales of foreign cotton. World mill consumption of American cotton during the season ended July 31, 1940, was estimated at 12,889,000 bales compared with 11,249,000 bales in 1938-39, and 12,400,000, the 1929-38 average.

The world supply (carry-over plus production) of all cotton for the 1940-41 season was estimated in December to total about 49,777,000 bales. This season was the fourth consecutive year that the total world supply of cotton was close to 50 million bales, for prior to these years it had never reached 45 million. World production also had been unusually high in recent years. Nevertheless, the carry-over had become much larger relative to production and in the last three years made up 41 to 45 per cent of the total supply. World carry-over of all cotton on August 1 was about 20,322,000 bales, compared with 21,569,000 bales a year earlier and the 10-year average, 15,500,000 bales.

The world supply of American cotton prospective for the current season, 1940-41, was indicated at about 25,300,000 bales, about 400,000 bales less than in 1939-40 and slightly below the record supply, 26,224,000 bales of 1932-33. The 1940-41 season was the fourth consecutive year that the world supply of American cotton had approximated 25 million bales; except for 1931-33 and 1926 the supply never before exceeded 21 million bales. In the last three years the carry-over constituted 50 per cent or more of the supply, with 50 to 78 per cent of the carry-over consisting of Government loan stocks.

Cotton production in 1940 in the countries reported was estimated to be, for the United States, 12,686,000; India, 4,405,000; U.S.S.R. (Russia), 4,300,000; China, 2,350,000; Egypt, 1,922,000; Brazil, 2,199,000; Mexico, 275,000; Italy, 44,000; Chosen, 198,000; Turkey, 360,000; Uganda, 290,000; Iran, 230,000; Greece, 80,000; and Bulgaria, 46,000 bales. The total world production in 1940-41 was tentatively indicated by the U.S. Department of Agriculture late in 1940 at 30,500,000 bales compared with 28,900,000 in 1939-40.

World production of commercial cotton in 1939 was estimated by the U.S. Bureau of the Census to be 27,875,000 (478 lb.) bales, of which the United States produced 11,481,000 (running) bales; India, 5,000,000; U.S.S.R. (Russia), 4,000,000; Egypt, 1,801,000; China, 800,000; Brazil, 1,982,000; Peru, 390,000; Mexico, 243,000; and all other countries, 2,178,000 bales. In 1939-40, Argentina produced 362,481 bales; Uganda, 289,000 bales; Belgian Congo, 161,000 bales; and Anglo-Egyptian Sudan, 245,000 bales.

The cotton crop of the United States for 1939, as reported by the U.S. Bureau of the Census, the

estimated crop for 1940 and the quantity reported ginned to Dec. 13, 1940, are shown in the accompanying table.

UNITED STATES COTTON CROP 1939-40

States	Crop in 1939 500-lb. bales	Estimated crop, 1940 500-lb. bales	Bales <sup>1</sup> ginned Dec. 13, 1940
United States .....	11,815,759	12,686,000	11,433,304
Alabama .....	781,602	790,000	738,510
Arizona .....	202,502	195,000	117,823
Arkansas .....	1,421,694	1,540,000	1,331,177
California .....	442,327	525,000	495,116
Florida .....	9,026	20,000	17,845
Georgia .....	919,349	1,020,000	979,847
Louisiana .....	744,898	455,000	445,811
Mississippi .....	1,585,149	1,280,000	1,149,204
Missouri .....	431,774	380,000	337,104
New Mexico .....	95,320	123,000	99,124
North Carolina .....	460,166	740,000	717,078
Oklahoma .....	517,373	805,000	673,791
South Carolina .....	873,288	970,000	927,505
Tennessee .....	445,489	515,000	433,920
Texas .....	2,858,525	3,285,000	2,936,528
Virginia .....	10,285	25,000	19,937
All others .....	16,992	18,000	12,984

<sup>1</sup> Running bales.

The table includes for 1940, under the ginning report, 3482 round bales counted as half bales and also 23,560 bales of American-Egyptian cotton and 4520 bales of Sea Island cotton, grown largely in Georgia and Florida. The 1940 crop of Arizona was estimated to include 37,000 bales of American-Egyptian cotton grown on 68,600 acres.

The cotton of the 1940 crop ginned up to Dec. 13, 1940, averaged slightly higher in grade and considerably longer in staple compared to that ginned up to Dec. 13, 1939, according to reports based on the 11,405,224 bales of American upland cotton ginned to that date. About 85.9 per cent of the cotton ginned up to Dec. 13, 1940, was tenderable on future contracts compared to 92.6 in 1939.

Oil mills in the United States, during the cotton year ended July 31, 1940, crushed 4,150,755 tons of cottonseed. The products of the seed included 1,072,339 bales of lint, 1,054,778 tons of hulls, 1,882,217 tons of cake and meal, and 1,325,241,460 lb. of oil.

The consumption of all cottons in the United States rose in 1939-40 to 7,783,774 bales from 6,858,426 bales in 1938-39, and that used by American mills was consumed largely, more than 85 per cent, in the cotton growing States. Cotton consumption in the United States had fluctuated between 5 and 8 million bales per season since 1913-14. In the 1940-41 season domestic consumption was expected to exceed 8,500,000 bales in response to the general improvement in industrial production, increased factory employment, larger consumer purchasing power, and large Government purchases of cotton textiles for national defense purposes.

World consumption of cotton (exclusive of linters in the United States) for the year ended July 31, 1940, as indicated by estimates based on reports of the New York Cotton Exchange Service and the U.S. Bureau of the Census, were equivalent to about 28,345,000 bales, compared with 28,486,000 in 1938-39 and about 2,300,000 bales above the 1929-38 average. Of the total consumption in 1939-40, about 15,456,000 bales were foreign and 12,889,000 American. World mill consumption in the last four years, of 28 million to 31 million bales, had been considerably higher than ever before. The British blockade, if continued, together with other developments, seemed likely to reduce materially world consumption in 1940-41 despite a record



high consumption in the United States. Consumption of American cotton in countries other than the United States rose in 1939-40 to 5,234,000 bales, while non-American cotton in countries other than the United States decreased to 15,327,000 bales. The near-record consumption in the United States in 1939-40 largely offset the low consumption of American cotton in foreign countries, the world total being about average. World consumption of American cotton during the 1940-41 season seemed likely to drop considerably below average even with a record high domestic utilization.

Prices of middling  $\frac{7}{8}$ -inch cotton at the 10 spot markets averaged 9.90 cents per lb. during the year ended July 31, 1940, compared with 8.70 in 1938-39, 8.66 in 1937-38, 12.70 in 1936-37, and 11.32 cents, the 1928-37 average. Prices averaged in January, 1940, 10.62 cents, February 10.63, March 10.42, April 10.45, May 9.93, June 10.29, July 10.19, August 9.72, September 9.28, October 9.17, November 9.45, and closed on December 31 at an average of 9.87 in the southern spot markets, and at 10.43 cents in New York and at 8.72d. at Liverpool. Since August, 1939, spot prices in domestic markets have been based on middling  $\frac{15}{16}$ -inch cotton and between August, 1939, and December, 1940, the monthly average ranged from 0.17 to 0.22 cents above  $\frac{7}{8}$  inch. Prices received by producers at local farm markets on Dec. 15, 1940, were estimated to average 9.33 cents per lb. for lint and \$24.08 per ton for cottonseed compared with 9.71 cents and \$24.75, respectively, on Dec. 15, 1939. The value of production of cotton lint was estimated (preliminary) at \$595,720,000 in 1940 and of cottonseed \$121,232,000 compared with \$536,923,000 and \$111,589,000 reported in 1939.

Since the 1940 loan was announced August 9, the average spot price of  $\frac{15}{16}$ -inch cotton in the 10 designated markets exceeded the average loan rate of 9.3 cents usually by amounts ranging up to 0.75 cent per lb. Nevertheless, about 2,666,160 bales had been pledged as collateral for Government loans through December 30, totaling \$128,510,831.

See AGRICULTURAL ADJUSTMENT ADMINISTRATION; AGRICULTURAL MARKETING SERVICE; COMMODITY CREDIT CORPORATION; FERTILIZERS; TEXTILES. For the Cotton Stamp Plan, see SURPLUS MARKETING ADMINISTRATION.

**COUNTERFEITING.** See SECRET SERVICE, U.S.

**COUNTERVAILING DUTIES.** See CUSTOMS, BUREAU OF.

**COURT GAMES.** Court Tennis. The strenuous game of court tennis continued to claim the attention of fans and principals throughout 1940. James H. Van Alen of Roslyn once again succeeded to the national amateur court tennis championship, outplaying Alstair Bradley Martin, a sensational newcomer to the game, in the final. Ogden Phipps, the winner in 1939, was unable to participate in the competition because of an injury to his legs. Teamed with his elder brother, William Laurens Van Alen, the new champion also plucked the doubles title. Earlier in the season, Ogden Phipps defeated James Van Alen to carry off the Tuxedo Gold Racquet in court tennis. Pierre Etchebaster of New York, world's open court tennis champion, was not called upon to defend his title and thus automatically it remained with him. The Payne Whitney Trophy was won by the Philadelphia team.

Racquets. Robert Grant 3d of New York, un-

defeated in racquets for two years, injured an ankle in the semi-final frame of the open invitation tournament for the Clarence C. Pell Cup and was vanquished several weeks later in the final by Kenneth Chantler of Montreal. The injury kept Grant out of the national amateur championship competition.

A strange coincidence occurred in the final championship when Warren Ingersoll of Philadelphia also sustained an ankle injury. At the time, he was leading Reginald Fincke Jr. of New York by two games to none. Following a postponement of many weeks the match was resumed and Ingersoll emerged the winner. Grant also eschewed the national doubles, in which he had shared the title with Clarence C. Pell Jr. The new champions are J. Richard Leonard and Malcolm Kirkbride of Tuxedo. Leonard was top man at the Tuxedo gold racquet tournament. David S. Milford of England retained his world's open championship.

**Squash Racquets.** The amateur squash racquets title was won by A. Willing Patterson of Philadelphia, who defeated H. Sherman Howes of Boston in a four-game struggle. The retiring champion, Donald Straghan, did not participate in the match.

For the fourth year in succession, the Bostonians carried away the national team championship. Philadelphia captured the national veterans' title when Roy R. Coffin outdid Ralph A. Powers of Connecticut in the final. Kin Canavaro of Harvard grabbed the intercollegiate laurels.

Alfred Ramsay of Cleveland regained the national professional championship by vanquishing Eddie Schaffer of Pittsburgh in the final. The 1939 winner, Lester Cummings of New York did not enter the contest.

Miss Cecile Bowes of Cynwyd, Pa., captured the women's United States squash racquets championship, outplaying Miss Barbara Williams of Rockaway Hunt in the final test at the Junior League courts.

**Squash Tennis.** In the field of squash tennis, Tommy Iannicelli, of the Short Hills, N. J., Club, continued his hold on the world open professional championship. He defeated Joseph J. Lordi, New York A. C. amateur, in the final, and thereby annexed the title for the sixth straight time. For the 11th successive year, Harry F. Wolf of the New York A. C. reigned as king of the national amateurs.

Phil Moore of the Columbia University Club defeated the former national champion, Rowland B. Haines, for the veterans' title.

**COURTS. General.** Current reviews contain: "Circuit Courts and the Nisi Prius System," 38 Mich., L. Rev. 289 (W. W. Blume); "Need for Three Judge Trial Court" (apropos of 1939 Michigan statute providing therefor), 24 *Int. Am. Jud. Soc.* 76; Rule Making: "Recent Developments," 18 *N. Car. L. Rev.* 167; "Powers of Equity Court in State Tax Litigation," *ibid.* 610 (M. S. Culp); "Judicial Review of Private Tribunals' Decisions," 4 *Md. L. Rev.* 179 (L. Snyder). "Organization of Courts," (1940, pp. IX, 322), R. Pound (reviewed, 27 *A.B.A. Jnl.* 25).

**Lower Federal.** "(Legislative) History of the Federal Judicial System," 60 *Sup. Ct. Reporter*, VII (Judge E. A. Evans); "Administration of, 28 *Georgetown L. Jnl.*, 383 (R. T. Murphy); 25 *A.B.A. Jnl.* 738 (W. Shafer); 875 (I. W. Jayne); "Following State Decisions," 12 *Rocky Mt. L. Rev.*, 1; 14 *Tulane L. Rev.* 1 (F. Zengel); *Cities Service*

*Oil Co. v. Dunlap*, 308 U.S., 208, (Comment, 88 *U. of Pa. L. Rev.* 481, 18 *Tex. L. Rev.*, 89); "*Moore v. R. Co.*," 28 *Fed. Supp.* 804 (Mo.W.D.) (Comment, 88 *U. of Pa. L. Rev.* 220; 34 *Ill. L. Rev.* 623; 26 *Va. L. Rev.* 375); "Must lower state court decisions be followed?" *Field v. Trust Co.*, 108 *Fed.* (2d) 521 (Comment, 53 *Harvard L. Rev.* 880; 88 *U. of Pa. L. Rev.* 487; 24 *Minn. L. Rev.* 692); reversed by Supreme Court, December 9. An Act of Congress of July 3, extends the U.S. Court for Hawaii's jurisdiction to eight additional islands, including Midway and Wake, whose importance has been greatly enhanced as way stations for the China Clipper.

**State. Illinois.** "Rules Under New Probate Act," 5 *Jno. Marshall L. Quar.*, 171 (J. F. O'Connell); **Louisiana.** "Supreme Court's Work, 1938-39," 2 *La. L. Rev.* 31; **Mississippi.** Same, 12 *Miss. L. Jnl.*, 1; **Missouri.** Same for 1938, 4 *Mo. L. Rev.*, 345; **New York.** "Surrogate's Jurisdiction over Subject Matter and *Res.*," *re Mills' Estate*, 11 *N.Y.S.* (2d) 992, *New York reviewed*, *Cornell L. Quar.*, 146; **Wisconsin.** Supreme Court's Work, 1938-39; 1940 *Wis. L. Rev.* 5.

**Foreign. Sacra Romana Rota.** (See 20 *Georgetown L. Jnl.* 14.) The latest juridical year of this six century old tribunal was inaugurated at Rome on October 1, in the presence of the Pope who in reply to an address by Monsignor Grazioli, Dean of the Consistorial lawyers (reciting that of the 69 cases presented to the court in 1939, 65 were for annulment, which was granted in 16) called it the tribunal of the Christian family, ready to safeguard its sanctuary, but equally to recognize its non-existence when matrimony had not been validly contracted. Of the 10 *auditores* constituting the *Rota* all were present except the American member, Rev. J. F. Brennan, who had been delayed.

**British Courts Martial.** To secure passage of its bill to set up one-man courts in the war zone, the Government was obliged to promise judicial review of capital sentences and of those for serious offences not capital.

**Judges.** Current articles are "The Judicial Office Today," 25 *A.B.A. Jnl.* 731 (R. Pound); "Judicial Selection and Tenure," 15 *Ind. L. Jnl.* 215 (M. N. Feightner); "Evils of Brief Tenure," 11 *Rocky Mt. Rev.* 217 (F. Swancara) Prof. Max Radin, Boalt Hall of Law, Univ. of Calif., nominated by Governor Olson under the system of selection adopted in 1934 for Supreme Court judges, failed of confirmation by the Judicial Qualifications Commission. Of its three members, the Presiding Appellate Court Judge and the Attorney General gave as their reasons for voting against the nominee that he "was without judicial experience and lacking in judicial temperament"

On November 5, Missouri adopted a constitutional amendment for a non-partisan judiciary, embodying most features of the California system (24 *Jnl. Am. Jud. Soc.* 118; 27 *A.B.A. Jnl.* 9). Maryland adopted one for "People's Courts"; but West Virginia rejected one for a "reform judiciary" to displace Justices of the Peace and constables with summary courts.

**Norway.** During Dec. 12, 1940, the members of the Norwegian Supreme Court resigned in protest against the autocratic and illegal action of the Quisling (Nazi) government in arresting one of their number and assuming the power to dismiss judges and other officials of the judicial branch.

**Mexico.** President Camacho, shortly after his

inauguration, appointed new *magistrados* of the *Tribunal Supremo* and they chose as *Presidente*, thereof, Salvador Urbina, a former member.

**Discipline.** Hulon Capshaw, New York City Magistrate, appointed originally by Mayor Walker in 1929 (upon the recommendation, it is said, of such prominent citizens as Bishop Manning, John W. Davis, and Frank L. Polk) was removed on January 27, by order of the appellate Division, for misleading testimony in the *Hines Case* (1938 *YEAR BOOK*, 397). Three of the five justices found him guilty of "bias and unjudicial conduct which must have been influenced by considerations outside the record." Two days earlier, Philippine President Quezon had removed a Justice of the Peace in Rizal Province, adjoining Manila, for his "propensity to utilize his position to wreak vengeance upon his enemies." Judge Yang Chi, President, Second Special District Court, in the French Concession, Shanghai, was suspended from office for five years by the Central Chinese Government for implication in an opium deal for which a relative and court official had been sentenced to life imprisonment.

**Juries.** The District of Columbia District Court announced a reduction of the 550 persons periodically summoned there for jury duty. "Peremptory Challenges of Jurors" (those allowed as of right and not for cause) are discussed in 14 *St. John's L. Rev.* 142 (R. A. Klein); "Directing Verdict," 12 *Miss. L. Jnl.* 350 (S. Sanders); "Impeaching Verdict by Juror's Affidavit," 12 *Rocky Mt. L. Rev.*, 222; "Involuntary Non-Suit," 16 *Tenn. L. Rev.* 366; "Verdicts by Lot," *Vogt v. Curtis*, 200 *Wash.* 692 (Comment, 15 *Wash. L. Rev.* 124.)

The question whether women jurors impair the constitutional rights of litigants, was considered in "*People ex rel. Denny v. Traeger*," 372 *Ill.* 11 (Comment, 18 *Chicago-Kent L. Rev.* 103); effect of witness' refusal to swear secrecy, in *Goodman v. U.S.* 108 *Fed.* (2d) 516 (Comment, *ib.* 309). Justice McGeehan (who first heard the Russell case) refused a certificate of incorporation of the "Grand Jurors Association of the Bronx, N.Y., Inc.," numbering 35, some no longer active, lest it "might tend to stifle freedom of thought and action" in their deliberations.

**The Bar.** The "Bar Integration movement" (1939 *YEAR BOOK*, 422) now includes half of the States and an act therefor has been drafted for the Tennessee Bar Ass'n. to be presented to the legislature (26 *A.B.A. Jnl.* 653 & references); "Integration by Supreme Court Rule," 24 *Marquette L. Rev.* 901 (R. D. Jones); "Some Problems Facing Integration," 19 *Or. L. Rev.* 1 (R. R. Bullivant); "Is it Needed?" 14 *Ind. L. Jnl.* 529 (H. M. Dowling); "More Effective Bar Organization," 15 *ib.* 297 (C. A. Beardsley).

**Admission.** "Judicial Control of," 8 *G.W.L. Rev.* 1085, (A. R. Poore); *Lineberger v. State*, 174 *Tenn.* 538 (Comment, 16 *Tenn. L. Rev.* 239; cf. *ib.* 422, W. R. Blackard). Another side of the question is disclosed by the refusal of Judge Thomas Brown, of the New Jersey Circuit Court, to permit a New York lawyer to appear in a case before him on June 3, unless the lawyer was "a believer in God." The judge did "not believe that any witness nor any . . . applicant for public office, has the right to take oaths, unless he can swear to God." Such a test would have barred Dr. Einstein, who, on October 1 following, was admitted to citizenship in the same State by Federal Judge Forman, who described the applicant as one

"who thinks in terms of all the universe" and whose "presence here becomes America's gain." But the problem of a satisfactory character test still baffles the bar examiners. Before a committee of the New York Bar Association, at its 63d annual meeting, Dean Wilkinson of the Fordham Law School, advocated character examination before beginning legal study and strict sponsorship during the course thereof. See "The Sponsor System under Law School Auspices," 25 *A.B.A. Jnl.* 849; "Character Examination in Pa." *ib.* 873 (R. T. McCracken).

**Conduct and Discipline.** The Secretary of the Treasury's right to exclude a retired army officer from practicing before that department was upheld in *Morgenthau v. Barrett*, 108 Fed. (2d) 481 (cert. denied 309 U.S. 672; reviewed 8 *G.W.L. Rev.* 974). In 28 *Georgetown L. Jnl.* 226, W. J. Deem discusses the bill to prevent discrimination between law schools in selecting government attorneys; Max Radin, "Contingent Fees in California," 28 *Cal. L. Rev.* 587; J. P. Curry, "Grounds for Disbarment and Suspension in Kentucky," 28 *Ky L. Jnl.* 336. Conviction of illegally selling an opiate is such a ground. *In re McNeese*, (Mo.) 142 S.W. (2d) 33; also claiming the privilege against self-incrimination *Matter of Ellis* 282 N.Y. 435 (Comment, 53 *Harv. L. Rev.* 871); and "shadowing" jurors, *In re Doe*, 95 Fed. (2d) 386 (Comment, 15 *Notre Dame Lawyer*, 84). "Demoralization of the Legal Profession in the 19th Century," 16 *Tenn. L. Rev.* 314 (W. R. Blackard); Professor Rodell's "Woe Unto You Lawyers" (reviewed, 25 *Cornell L. Quar.* 581, H. D. Laube); Esther L. Brown's "Lawyers and the Promotion of Justice" (reviewed, 26 *Va. L. Rev.* 1077, Murray Seagood, who published a separate edition, supplying omitted passages). (For legal societies, see SOCIETIES AND ASSOCIATIONS.)

**Procedure.** "In Civil Law Jurisdictions," 2 *La. L. Rev.* 401 (R. L. Henry); "Louisiana Counterparts of Discovery," *ib.* 525 (F. S. Craig, Jr.); "Streamlined Procedure," 8 *U. of Kan. Cy. L. Rev.* 205; "A Septennium of English Civil Procedure, 1932-39," 25 *Wash. U. L. Quar.* 525 (R. W. Millar); "Some Modern Procedural Developments," 46 *W. Va. L. Quar.* 134 (W. W. Dawson); "Procedural Aspects of the New State Independence" ("Erie R. Co. v. Tompkins," 304 U.S. 64), 8 *G.W.L. Rev.* 1230 (C. E. Clark); "A Possible Solution of the Pleading Problem," 53 *Harv. L. Rev.* 169 (S. P. Simpson); (Ill., Probate), 5 *Jno. Marshall L. Quar.* 389 (S. Love) (Tenn.), "A Badly Needed Reform," 16 *Tenn. L. Rev.* 350 (L. E. Burch); cf. *ib.* 379 (W. P. Armstrong), (Tex.), 18 *Tex. L. Rev.* 1 (P. P. Brown); *ib.* 426 (C. T. McCormick), "Appellate Procedure" (Cal.), 13 *Cal. L. Rev.* 461 (R. G. Berry) (Ohio), 15 *Notre Dame Lawyer*, 162 (S. L. Devine); (Wis.), 1940 *Wis. L. Rev.* 579 (M. M. Volz). A statute authorizing an official "to sue and be sued," subjects him to garnishment proceedings. *Fed. Housing Admin. v. Burr*, 309 U.S. 242.

**Proof.** "The Rules of Evidence—An Empirical Study in Psychology and Law," 25 *Cornell L. Quar.* 556 (S. H. Britt); "Scientific Gadgets in the Law of Evidence," 53 *Harv. L. Rev.* 285; "The Uniform Evidence Acts," 6 *O. St. U. L. Jnl.* 256 (J. E. Hallen); (in Pa.), 14 *Temple U. L. Quar.* 267 (and physicians), 6 *U. of Pittsburgh L. Rev.* 59 (J. R. McCraight); "Science Can Get the Confession," 8 *Fordham L. Rev.* 334 (W. G. Summers).

Tentative Draft No. 1, comprising four chapters (304 Rules) of the proposed "Code of Evidence," submitted to the American Law Institute as its first item of new business at its 18th annual meeting, evoked a preliminary discussion of plan and form. Dean Wigmore, the chief consultant, favored specific rejection or adoption of each concrete rule in the various jurisdictions. Judge Clark urged broad grants of power with details left to the trial judge's discretion. The latter, which was the plan of the twelve draftsmen, was adopted;

but only 115 rules were considered, all of Rule 4, except par. 1, was deleted and Rule 115 was changed slightly. The others will not be passed upon until the 1941 meeting.

**Admissibility. Blood Tests**, in paternity cases, are discussed in 15 *Notre Dame Lawyer*, 153 (R. F. Sullivan); 44 *Dickinson L. Rev.* 205 (A. M. Ash); *State ex rel. Slovak v. Halod*, 63, App. 16; *State v. Wright*, (Comment, 59, O. App. 191; 25 *La. L. Rev.* 823; (Comment, 14 *U. of Cincinnati L. Rev.* 443; 6 *O. St. U. L. Jnl.* 200). Such tests were ordered, for the first time in the District of Columbia District Court, in *Beach v. Beach* (3 *Fed. Rules Service*, 35 A. 5) and for husband, wife, and child.

**Fingerprints** taken by the FBI aggregated 12,086,951 by Jan. 31, 1940. After June 29 were added not only those taken in course but those of all aliens who registered under the act of that date.

**Hearsay.** "The Role of, in a Rational Scheme," 34 *Ill. L. Rev.* 788 (G. F. James); "and the English Evidence Act," *ib.* 974; "Business Records" (statutory), 6 *U. of Pittsburgh L. Rev.* 9 (J. A. Metz). Dying Declarations were received as *res gestae* in *Mitchell v. N.Y.L. Ins. Co.*, 136 *O. St.* 55, a civil case (Comment, 14 *U. of Cincinnati L. Rev.* 449).

**Lie Detector** (Polygraph) is used as an aid to law enforcing agencies in seven States and fifteen cities, and is reported as reducing the time for investigations and in relieving innocents of suspicion. Its admissibility is discussed in 15 *Notre Dame Lawyer*, 159 (E. F. Grogan, Jr.).

**Res Ipsa Loquitur**, 14 *Canadian Bar Rev.* 480 (G. W. Paton), is declared to "raise merely an inference of fact" whose weight the jury should determine. Rule applied in *Brown v. St. Louis Co. Gas Co.*, (Mo.) 131 S.W. (2d) 354 (Comment, 8 *U. of Kan. Cy. L. Rev.* 51).

**Self-Incrimination.** "The Privilege Against," 49 *Yale L. Jnl.* 1059; Rule applied to truckdrivers' time cards, *People v. Creedon*, 281 N.Y. 413 (Comment, 88 *U. of Pa. L. Rev.* 747); Failure to call witness, *Milho v. Motor Trucking Co.*, 257 App. Div. 640 (N.Y.) (Comment, 25 *Cornell L. Quar.* 442).

**Survivorship.** "Evidence of, in Common Disaster Cases," 38 *Mich. L. Rev.* 801 (J. J. Adams).

**Wire Tapping** for evidence is discussed in 53 *Harv. L. Rev.* 863; 28 *Cal. L. Rev.* 101; 34 *Ill. L. Rev.* 758; 28 *Georgetown L. Jnl.* 550; 14 *Temple U. L. Quar.* 287; 9 *Brooklyn L. Rev.* 214; 15 *St. John's L. Rev.* 179; 3 *U. of Detroit L. Jnl.* 85.

See JUVENILE DELINQUENCY; LAW; MEDICINE AND SURGERY; NATIONAL LABOR RELATIONS BOARD; SUPREME COURT; WAGE AND HOUR ADMINISTRATION; WORLD COURT. For decisions in State courts, see States under History as COLORADO.

C. SUMNER LOBINGER.

**CRANBROOK FOUNDATION.** See BENEFRACTIONS.

**CREDIT CONDITIONS, CREDIT CONTROL.** See AGRICULTURE; BANKS AND BANKING.

**CREDIT UNIONS.** See Co-OPERATIVE MOVEMENT.

**CRETE (KRETE).** A Greek island comprising the four departments of Canea, Erakleion, Lasithion, and Rethymnon. Area, 3235 square miles; population (Jan. 1, 1939), 386,427. Capital, Canea (Khania), 26,604 inhabitants.

Crete was drawn into the European conflagration by the Italian attack upon Greece at the end

of October, 1940. British military, naval, and air forces were immediately rushed to Suda Bay on the northwestern coast of the island. They strengthened Crete's fortifications and converted it into a base for offensive air and naval operations. The towns of the island were subjected to repeated Italian bombings. See *EUROPEAN WAR*; *GREECE under History*.

**CRICKET.** In the jolly game of cricket, there were several notable matches here in America, not to mention less publicized contests in England itself. There was an absence of teams from abroad, but an international flavor was provided by a match during July between British Americans and British West Indians, in which the former rode to victory.

The British Purchasing Commission put a team in the field against a picked aggregation representing the New York and Metropolitan District Cricket Association, the New York eleven carrying off the honors.

After playing a series of games in Canada, the Philadelphia General Electric C. C. took part in the annual championship of the New York and Metropolitan District Cricket Association and finished first. The Brooklyn C. C. was second.

**CRIME.** See *ANTHROPOLOGY under The Criminal*; *FEDERAL BUREAU OF INVESTIGATION*; *JUVENILE DELINQUENCY*; *LAW*; *PRISONS, PAROLE, AND CRIME CONTROL*; *PSYCHOLOGY under Social Psychology*; and the States where leading cases have occurred, as *NEW YORK under History*.

**CROATS.** See *YUGOSLAVIA*.

**CROPS.** See *AGRICULTURE* and the topics there referred to, especially the major crops; also the countries under *Production*.

**CROSS-COUNTRY RUNNING.** Don Lash, who in private life is an Indiana State policeman, captured the national A.A.U. cross-country championship for the seventh successive year in 1940, and thereby added another record to his long list. On one occasion he outpaced Greg Rice, his two-mile nemesis, over a 200-yard course and on another he set a record for the 10,000 meter distance of 30:25.8, leaving a number of noted runners behind him on the track.

Luigi Beccali, the 1932 Olympic 1500-meter champion, who was a member of the New York A. C. in 1940, Gene Venzke, Joe McCluskey, and Walter Mehl were some of the stars who felt his dust in their faces. The New York A. C. carried off the team championship.

Leslie MacMitchell of N. Y. U. was the outstanding collegiate performer of the year. He first won the metropolitan intercollegiate title and then the intercollegiate A.A.A.A. crown, both of them in record time. MacMitchell to date has never known the sour taste of defeat in cross-country competitions.

Rhode Island State College won the team competition in the I. C. 4-A, with Michigan State and Manhattan following in that order. Nevertheless, in the National Collegiate A. A. meet at East Lansing a week later, the New Englanders could do no better than third, yielding to Indiana and Michigan Normal. Gilbert Dodds of Ashland College was the individual victor, MacMitchell refraining from that competition.

John Ayer of Cornell and his team captured the Heptagonal honors, Wayne Tolliver and Indiana the Western Conference championship.

**CUBA.** An island republic of the West Indies. Capital, Havana (Habana).

**Area and Population.** Area, 44,164 square

miles; estimated population on Jan. 1, 1939, 4,227,597 (about 60 per cent white, 40 per cent Negro). United States citizens living in Cuba on Jan. 1, 1940, numbered 5121. Estimated populations of the chief cities in 1938 were: Havana, 568,913; Holguin, 140,854; Camaguey, 139,295; Santiago de Cuba, 107,125; Santa Clara, 99,509; Cienfuegos, 92,258; Matanzas, 72,826; Guantánamo, 68,372; Manzanillo, 65,965.

**Defense.** The active army on Nov. 1, 1940, numbered 14,262 officers and men; trained reserves, 29,389. The air force comprised 266 men with about 16 planes. The navy consisted of 2 escort vessels, 5 gunboats, an armed transport, and various small coastguard vessels, staffed with 2530 men and 130 officers.

**Education and Religion.** About 39 per cent of the adult population was illiterate at the 1931 census. Statistics for 1938-39 showed 424,094 pupils in 8786 public classrooms, 31,023 pupils in 360 private schools, 3089 pupils in 145 communities taught by travelling teachers, 8972 pupils in 138 night schools for workers, 21 high schools, 8 normal schools. The University of Havana has about 6000 students. Roman Catholicism is the dominant religion but there is no state church.

**Production.** Agriculture is the main occupation and sugar and tobacco are the chief crops. Raw and refined sugar accounted for 71.7 per cent of the value of all exports in 1939. Sugar production in 1939 amounted to 2,720,127 long tons (of 2240 Spanish lb.) as against 2,975,683 tons in 1938. The value of the crop was 91,885,890 Cuban pesos (96,650,090 in 1938). The sugar production quota for 1940 fixed in the decree of Jan. 13, 1940, was set at 2,753,903 Spanish long tons. The 1940 tobacco crop was 55,426,000 lb., the largest since 1931. Corn, cacao, rice, fruits, and vegetables are other crops. Livestock in 1938 included 5,074,108 cattle, 587,463 horses, and 83,989 mules. Mineral production in 1939 was valued at about \$10,025,000, the chief items being: Manganese ore, 100,797 long tons, \$2,497,737; sea salt, 125,000 short tons, \$2,224,000; copper concentrates, 36,629 short tons, \$1,306,686. Iron ore, chrome ore, barite, petroleum, gypsum, and gold are mined in small quantities. Tourists entering Cuba in 1939 numbered 135,635 (158,013 in 1938). Manufacturing is expanding, the chief products being vegetable oils, meat products, clothing, footwear, furniture, textiles, etc. The 1939 unemployment census showed 384,614 jobless (338,447 men and 46,167 women).

**Foreign Trade.** Imports in 1939 were valued at 105,862,000 pesos (106,007,000 in 1938) and exports at 147,676,000 pesos (142,678,000 in 1938). The chief 1939 exports were: Raw sugar, 84,216,000 pesos; refined sugar, 21,633,000 pesos; leaf tobacco, 11,058,000 pesos; molasses, 8,893,000 pesos; minerals, 4,621,000 pesos. The United States supplied 74.1 per cent of the 1939 imports (70.9 per cent in 1938) and took 75.3 per cent of the exports (76.0 in 1938). See *TRADE, FOREIGN*, for 1940 trade with the United States.

**Finance.** Budgetary revenues collected during 1940 totaled 75,670,000 pesos (71,229,000 in 1939) and expenditures were 79,238,000 pesos (76,000,000 in 1939). By a decree of Dec. 31, 1940, the 1940 budget was extended into the first quarter of 1941. The public debt on Jan. 31, 1940, totaled \$135,905,000, excluding the floating debt variously estimated at 50,000,000 to 80,000,000 pesos. The funded debt on Feb. 28, 1939, was \$141,278,000. The Cuban peso, equivalent to \$1 (U.S. currency)

at par, had an average exchange value of \$0.98 in 1938, \$0.93 in 1939.

**Transportation.** Cuba in 1938 had 3130 miles of common carrier railway lines and 5781 miles of industrial (chiefly sugar plantation) lines. The 23 common carrier railways reported a combined deficit of 5,685,078 pesos in 1937-38. Highway mileage in 1939 was 2214 (see *ROADS AND STREETS*). Air traffic statistics on international lines serving Cuba were, for 1939: Passengers, 43,082; mail, 105,913; express, 75,785 lb. The merchant marine consisted of 39 steamers of 29,947 gross tonnage in July, 1939.

**Government.** Cuba at the beginning of 1940 was governed under the Constitution of June 12, 1935 (see *YEAR BOOK*, 1935, p. 189). A Constituent Assembly was elected Nov. 15, 1939, to draw up a new Constitution; it completed its work June 8, 1940 (see below). President at the beginning of 1940, Dr. Federico Laredo Bru. Formerly Vice-President, he was sworn in as President Dec. 24, 1936, following the impeachment of President Miguel Mariano Gómez. The dominant political power was Col. Fulgencio Batista, who became Chief of Staff of the army as a result of the so-called "sergeants' revolt" of 1933.

#### HISTORY

**Political Developments.** The promulgation on Oct. 10, 1940, of a new Constitution drawn up by a freely elected Constituent Assembly, and the election to the Presidency on July 14 of Col. Fulgencio Batista, the island's "strong man" who resigned as army Chief of Staff to enter the campaign, brought a considerable degree of order out of the political confusion that had prevailed since the overthrow of the Machado regime on Aug. 12, 1933.

**The New Constitution.** The controversies over the date of the general election and the powers of the Constituent Assembly (see *YEAR BOOK*, 1939, p. 176) were settled by a compromise agreement negotiated Feb. 5, 1940, by President Laredo Bru between the parties supporting Colonel Batista and the opposition coalition. It was decided to postpone the general election until May 18, to elect a complete new Congress, but to permit half the existing members of Congress to complete their terms.

This accord permitted the convening of the Constituent Assembly on February 9. On February 14 the opposition leaders, Dr. Ramón Grau San Martín, chief of the Cuban Revolutionary party, and Dr. Joaquín Martínez Sáenz, head of the ABC party, were elected president and vice-president, respectively, of the constitutional convention. On May 3 the Constituent Assembly extended its deliberations for three months beyond the time limit originally fixed. Agreement on the basic points of the new Constitution had been reached on February 22, but it was not until June 8 that the Constituent Assembly approved the last of the 318 articles of the organic law. The delegates signed the organic law on July 1 at a ceremony in the town of Guaimaro, Camagüey Province, where the island's first Constitution was signed on Apr. 10, 1869. It went into effect on October 10.

The Constitution provided for a President elected for four years; a Senate of 54 members (9 from each province) elected for six years, with one-third replaced every two years; and a House of Representatives containing 1 member for each 35,000 inhabitants (about 120), one-half the members

being elected every two years for four-year terms. The President as well as members of Congress and provincial and municipal officials are elected by direct popular male and female suffrage, which was made compulsory. Colonel Batista was specifically exempted from a clause barring the Presidential candidacy of anyone connected with the armed forces within one year of an election.

In many respects the Constitution resembled preceding Cuban fundamental laws. An important innovation was the establishment of a semi-parliamentary form of government, under which the President appoints a Premier who retains office only so long as he receives the support of a majority of the House of Representatives. Other provisions provided for an independent judiciary; the fair administration of justice; and restriction of political patronage through civil service rules preventing purges of public employees on political grounds.

The Constitution contained a complete code of social welfare and labor laws, establishing a 44-hour work week, a month's paid vacation for each employee annually, and a system of old age, unemployment and accident insurance. It barred all except naturalized Cubans from the practice of the professions, prohibited immigration of common laborers, established equal wages for men and women doing the same work, and empowered the government to fix minimum wages, settle labor disputes, and intervene in all questions affecting labor. The amount of land owned by individuals and corporations was restricted, capital punishment was abolished, and the mortgage moratorium in effect since 1934 was "liquidated" by a transitory provision cancelling accrued interest and allowing debtors to pay off their mortgages in 10 to 30 years at annual interest rates of from 1 to 3½ per cent.

Certain provisions of the Constitution aroused strong protests from Cuban business circles. They declared the additional costs imposed by the social welfare and labor code would force many businesses to close. The liquidation of the mortgage moratorium was challenged in the courts. A wave of unauthorized strikes to force employers to accept the labor provisions of the Constitution occurred during the last weeks of the year.

**The Elections.** At the beginning of 1940 Colonel Batista's chances of victory appeared none too bright. He was supported by the so-called Socialist-Democratic coalition of Liberals, Nationalists, Communists, National Democrats, and National Realists. But they had been defeated by the opposition parties in the Constituent Assembly elections on Nov. 15, 1939. And early in 1939 the opposition bloc united behind the popular ex-President, Grau San Martín, as Batista's opponent.

The wily army leader reversed the political situation and insured his election by making a political deal on March 18 with ex-President Mario G. Menocal, chief of the opposition Democratic Republican party. In return for Batista's pledge that Menocalistas would be nominated on the Socialist-Democratic ticket for Vice-President, mayor of Havana, three of the six provincial governorships, and 12 seats in the Senate, Menocal deserted Grau San Martín's coalition and threw in his lot with the Batista bloc. As the Democratic Republicans held the balance of power in the Constituent Assembly, this gave Batista's supporters control of that body also. On May 22 they elected Dr. Carlos Márquez Sterling and Dr. Simeón Ferro, both Batista adherents, to succeed Grau San Martín and

Martínez Sáenz as president and vice-president of the Constituent Assembly.

In order to keep his own party and other supporters in line during the complicated maneuvering for nominations and positions that preceded the election, Dr. Grau San Martín temporarily withdrew as the opposition candidate for the Presidency on April 25, but re-entered the contest five days later. During the campaign, fought largely on personalities, Dr. Grau San Martín's supporters charged Batista with using the army to intimidate their voters. They demanded the suspension of the elections in Camagüey and Matanzas Provinces and in parts of Havana and Pinar del Río. However the Supreme Electoral Tribunal suspended voting only in three or four small areas. Election day disorders were relatively minor, with about six persons killed and 40 wounded. Batista defeated Grau San Martín by a majority of more than 200,000 votes, and most of the government candidates won by a similar margin. Besides the President and Vice-President, members of the new Congress and municipal and provincial officials were chosen on July 14.

**The Batista Regime.** Despite opposition efforts to interpose legal obstacles, Batista was sworn in as President on October 10. His cabinet, announced October 8, was headed by Sen. Carlos Saladrigas, a follower of ex-President Menocal, as Premier. The 18 ministers were drawn from five of the seven parties forming the government coalition, the Communists and the small Popular party alone failing to gain representation.

The newly elected Congress was scheduled to convene in September, but the opposition bloc filed petitions with the Superior Electoral Tribunal seeking annulment of the elections in various provinces and in more than 40 municipalities. Consequently it was November 21 before both houses were finally seated and organized. On that date the government bloc controlling both houses elected Sen. Antonio Mendieta Beruff (Nationalist) as President of the Senate and Dr. Gustavo Gutiérrez Sanchez (Liberal) as President of the House.

The major problems facing President Batista and the new Congress were the adaptation of the country to the semi-parliamentary system established by the new Constitution; the adverse effects of the European War upon Cuban economy, the re-appearance of political terrorism, especially among students at the University of Havana; and Cuba's relations with the United States and the other American republics in the face of a growing threat from the European dictatorships.

The spread of the European conflict eliminated markets that normally absorbed 25 to 30 per cent of Cuba's exports. Norwegian and Danish ships handled a considerable part of the island's overseas trade, and the dislocation of their merchant marine operations by the war added to Cuba's economic difficulties. By July the price of sugar had fallen to about the 1934 level. Together with similar reductions in tobacco prices, this dealt a severe blow to Cuban purchasing power and increased unrest.

On September 14 the outgoing Congress authorized the negotiation from the United States Government of a loan or credit not exceeding \$50,000,000 to tide the country over the economic emergency. A commission was sent to Washington early in October to negotiate the loan, apparently without first consulting the State Department. It met with no success up to the end of the year and most

of the members of the mission returned to Cuba. Meanwhile, to strengthen Cuba's credit, Congress on September 16 passed legislation authorizing payment of the defaulted \$20,000,000 public works loan of 1931. The unused balance of \$9,883,500 from the \$85,000,000 bond issue authorized in 1938 was allocated for this purpose, together with a new \$9,000,000 4½ per cent loan.

On March 1 an attempt was made in Havana to assassinate Dr. Orestes Ferrara, former Ambassador to the United States. Prof. Ramiro Valdés Daussá of Havana University was murdered by a hostile student faction on August 15. Three students were killed and nine wounded in a shooting fray in Havana on September 30. The political assassination of Prof. Raúl Fernández Fiallo shortly afterward led the university council to close Havana University until Jan. 7, 1941. A series of student strikes in high schools throughout Cuba were interpreted as other indications of popular unrest.

President Batista also aroused opposition among some of his former army associates by carrying out his campaign pledge to eliminate military influence from his administration.

**Foreign Relations.** Despite the anti-American agitation carried on by Communists, Nazis, and pro-Franco elements, the economic and political repercussions of the European War drove Cuba into closer relations with the United States. During the Presidential campaign both Colonel Batista (January 6) and Dr. Grau San Martín (May 7) advocated close co-operation with Washington as necessary to Cuba's prosperity and stability. On May 23 Batista stated that while Cuba hoped to maintain her neutrality, "the United States can count on us as a factor in its plans for the defense of the Caribbean." On September 3 Dr. Grau San Martín asserted that Cuba would side with the United States if the latter became involved in the war. During September the United States sent 2900 marines to reinforce the garrison of the Guantánamo Bay naval base.

Communist, Nazi, and Falangist propaganda, directed mainly against the United States, grew more intense, particularly before the conference of American Foreign Ministers in Havana in July. With Batista seeking electoral support from both Communists and pro-Fascists, only half-hearted efforts were made to curb this agitation. Moreover on July 24 the government legalized the Cuban branch of the Falange Español, or Spanish Fascist movement, which was dissolved for "anti-Cuban activities" on Apr. 25, 1939. The Falangists gained ground rapidly among anti-Communist Spaniards in Cuba and among many Cubans.

There was a strong reaction against both Communists and Falangists during the latter part of the year. A small pro-Nazi party was banned by the Governor of Havana Province. Congress took steps to control the Communist-dominated Cuban Confederation of Labor. Criticism of the role of the Falange Español in Cuba reached storm proportions after Genaro Riestra, newly-appointed Spanish Consul General, arrived in Havana November 13. The anti-government bloc in Congress vigorously attacked the government for its toleration of "fifth columnists." The theft of documents from the office of Maj. H. D. Boydell, U.S. naval attaché at Havana, on November 30 furthered this agitation. On December 19 the Senate approved a motion urging the government to declare *persona non grata* foreign diplomats and consular officials

who used their immunity to spread anti-democratic propaganda.

See **INDUSTRIAL CHEMISTRY**; **PAN AMERICANISM**; **PAN AMERICAN UNION**.

**CURAÇAO.** A Netherlands West Indian colony consisting of two groups of islands (1) Aruba, Bonaire, Curaçao, just north of Venezuela (2) Saba, St. Eustatius, St. Martin (southern part only), just west of the Virgin Islands. Total area, 403 square miles; population (Jan. 1, 1939), 101,021. Capital, Willemstad (on Curaçao), 30,453 inhabitants.

**Production and Trade.** The chief products are maize, phosphate of lime, and cattle. Oil refining is the most important industry. Trade (1938): Imports, 391,130,326 guilders; exports, 340,545,295 guilders. Air services of the Royal Air Traffic Company of the Netherlands make connections with Pan American Airways to the United States and South America.

**Government.** Budget (1938): Revenue, 10,753,000 guilders; expenditure, 9,839,000 guilders (guilder averaged \$0.5501 for 1938). The colony is administered by a governor who is aided by a council of 4 members. There is a States council consisting of 15 members (10 elected by the voters and 5 nominated by the governor). Governor, G. J. J. Wouters (appointed Apr. 7, 1936).

**History.** On May 10, 1940, the Governor of Curaçao proclaimed martial law and the existence of a state of war with Germany immediately following the German invasion of the Netherlands. All Germans residing on the islands and the crews of German ships in the harbors (about 400 in all) were rounded up and interned on Bonaire Island. Efforts of the German crews to scuttle or burn their ships were in most cases prevented. Six vessels were seized in the port of Willemstad.

On May 11 British and French troops were landed on Curaçao and Aruba to aid the Dutch authorities in preventing "possible German attempts at sabotage in the important oil refineries of these islands." This action was said in a British Foreign Office announcement to have been carried out at the request of the Netherlands Government. It was emphasized that the British and French governments planned to withdraw their troops as soon as the Netherlands Government decided they were no longer needed and that consequently no question of infringement of the Monroe Doctrine was involved. Over one-third of all Great Britain's oil imports came from Venezuela and the refineries of Aruba and Curaçao. The U.S. State Department indicated on May 11 that it did not consider the Allied landings a violation of the Monroe Doctrine.

See **NETHERLANDS, THE**, under *History*; **EUROPEAN WAR**; **GREECE** under *History*.

**CURLING.** The ancient Scottish game of curling, transplanted in American soil, flourished with vigor throughout 1940. The Gordon International Medal, much-coveted prize, returned to Canada for the first time in two years when the combined rinks of the Dominion branch of the Royal Caledonia Curling Club took the first honors in Montreal.

Sixteen rinks from Canada and 16 from the United States entered the competition for a score of 215-177, with the Canadians in the ascendant. The Canadians were paced by Len Cushing of Royal Montreal. He also headed the team that wrested the Munson Shield from Utica, N.Y., where it had been reposing since 1932.

A Canadian-United States invitation bonspiel for

the Douglas Medal was held at the St. Andrew's Golf Club, Mount Hope, N.Y., and in the final of this event the Schenectady Curling Club's A rink, led by T. H. Lydgate, beat the St. Andrew's B team, 15-12.

Saranac Lake captured the Patterson Medal, while the Utica Curling Club's No. 2 rink and the Lake Mahopac, N.Y., club shared honors in the grand national bonspiel at Utica.

**CURRENCIES, Value of Foreign.** See **INTERNATIONAL BANKING AND FINANCE** under *Foreign Exchange*; also the individual countries under *Finance*.

**CUSTOMS, Bureau of.** The Customs Service, at the end of the calendar year 1940, finds itself an organization comprising 9016 personnel, of which 8805 are distributed throughout 46 customs collection districts of the United States (including one in Alaska, one in Hawaii, and one in Puerto Rico), in the Virgin Islands, and in foreign countries. Control of the Service is centralized in the Commissioner of Customs at Washington, D.C., who, with the assistance of the personnel of the Washington office, numbering 211, issues instruction and co-ordinates the activities of the widespread field. Charged primarily with the collection and protection of the revenue from imports, the Customs Service has been assigned numerous other responsibilities, such as enforcement of laws relating to vessels and navigation, regulation of traffic between the United States and foreign countries, supervision over and restriction of imports and exports, and enforcement of laws and regulations of certain other agencies in relation to articles in international traffic.

**Customs Collections.** After two successive years of declining revenues, customs collections in 1940 turned sharply upward. The total of \$350,851,561 was 9.2 per cent larger than in 1939 and only 2.5 per cent less than in 1938. The general increase in customs collections in 1940 is attributable entirely to four dutiable schedules of the tariff act: sugar, wool, metals, and beverages. The remaining 11 schedules yielded smaller revenues than during 1939. Collections on sugar and its products were 50 per cent larger than in 1939; on wool 66 per cent larger; on metals and manufactures of metal, 17 per cent; and on beverages, 12 per cent.

As might be expected, imports from Europe fell off considerably as a result of the war but the decline was not apparent in the earlier months of the year when huge stocks of European merchandise were being accumulated. Duties collected on imports from Belgium, Norway, Sweden, and Yugoslavia exceeded the amount collected in 1939 though exports from those countries to the United States were greatly reduced toward the end of the year. Particularly large decreases occurred in revenue on merchandise from Germany, Czechoslovakia, and Poland, while smaller declines were recorded in duties on imports from Italy, Greece, The Netherlands, Hungary, Bulgaria, and Denmark.

Although revenues from European imports declined, larger revenues were derived from imports from other regions. By far the largest increase in customs revenue during 1940 came from the products of Cuba and was due to the suspension of the quota and the consequent increase in the rates of duty on Cuban sugar. Greatly increased revenue was received also from imports from the Union of South Africa, The Netherlands East Indies, Uruguay, and Chile. Heavy receipts of wool from



Uruguay and the Union of South Africa accounted for the increased revenues on imports from those regions and a large increase in direct importations from The Netherlands East Indies offset decreased importations from the mother country.

The value of dutiable imports entered for consumption and withdrawn from warehouse for consumption during the year was \$919,709,163, 12 per cent larger than during the preceding year, the rate of increase being slightly greater than for customs receipts. The value of imports entered free of duty showed an even larger percentage of increase, 21.5 per cent, and consequently their proportion of the total value of imports entered for consumption in 1940, 62 per cent, was greater than in the previous year, 60 per cent. The estimated duties collected for the fiscal year 1940 totaled \$340,005,668, as compared with \$312,095,152 for 1939. The largest amounts, by countries, were collected as follows: on imports from Cuba, \$60,589,808; United Kingdom, \$44,020,551; Argentina, \$21,340,331; Canada, \$20,284,082; France, \$19,124,320; Japan, \$17,896,589. For statistics on imports (including duty-free articles) from the principal countries, see TRADE, FOREIGN.

**Volume of Business.** Despite the increase of customs receipts, less entries were filed for imported merchandise in 1940 than during the previous year. Only warehouse and rewarehouse entries were more numerous in 1940. The total number of entries of all kinds filed in 1940 was 2,681,500, a decline of 386,298 from the 1939 total. Warehouse and rewarehouse entries in 1940 numbered 68,469, an increase of 4351 over the total of the previous year. While, ordinarily, customs collections will closely parallel fluctuations in the volume of entries filed, the unusual feature that imports of sugar and wool rose out of proportion to the merchandise in other tariff schedules made possible an increase of revenue out of fewer entries. Sugar and wool were entered in large lots, comparatively few entries being required, but the revenue per entry was much greater than for most other goods.

A sharp reduction in the number of baggage entries resulted from reduced tourist travel. Mail entries in 1940 showed even a sharper decline due to the difficulty of communication with many European countries. Appraisement entries which were numerous in 1939 as the result of the receipt of a large quantity of personal effects of European refugees returned to their normal number.

The expansion of exports brought about an increase of 4378 drawback notices of intent over the number filed in 1939. The number of drawback entries was only slightly smaller than in 1939, while, as the result of the expansion of exports, and pursuant to notices of intent filed in 1940 and previously, the amount of drawback paid increased by \$2,699,315 to \$14,041,580. About 98 per cent of the drawback allowed consisted of drawback on exported merchandise manufactured from imported materials, the most important of which were sugar, flaxseed, and copper.

Customs officers were called upon during the fiscal year to examine baggage and other belongings of 48,552,327 persons arriving in the United States from vessels, vehicles, and aircraft, and on foot. This entailed the examination of 11,508,907 automobiles and buses, containing 32,256,533 passengers; 34,331 documented vessels carrying 733,338 passengers; 29,946 undocumented vessels with 116,628 persons on board; 33,502 passenger trains bringing 1,094,023 passengers; 8359 aircraft with

78,542 persons; 114,041 ferries carrying 2,042,528 passengers; and 438,964 streetcars and other vehicles which brought in 1,633,277 persons. Pedestrians crossing the border into the United States numbered 10,597,458. Particularly outstanding was the increase by almost 50 per cent over last year of passengers arriving from abroad in aircraft.

**Import Restrictions.** Import and tariff quotas and exchange control measures can be more restrictive trade barriers than a highly protective tariff. They may be used to control trade balances, to apply retaliatory measures, or to limit the extent of a special benefit conferred upon foreign producers. In this country import and tariff quotas have been established pursuant to reciprocal trade agreements and under presidential proclamations and statutes to limit the total quantity of certain commodities which may be imported within quota periods and to fix limited quantities of certain other commodities which may be imported at reduced rates of duty, or free of duty. Exchange control methods, adopted in profusion by European countries, were not used here. To the quotas established under the trade agreements with Canada and the United Kingdom, the Philippine Independence Act, and the Philippine Cordage Act, there were added during the fiscal year a quota on crude petroleum and certain petroleum products under the trade agreement with Venezuela, effective Dec. 16, 1939, a quota on Cuban filler and scrap tobacco, effective Jan. 1, 1940, under the supplementary trade agreement with Cuba; a quota on black and silver foxes and furs under the supplementary trade agreement with Canada, effective Dec. 1, 1939; quotas on certain types of unmanufactured cotton and cotton waste, effective for the 12-month period after Sept. 20, 1939, under a proclamation by the President on Sept. 5, 1939; and a duty free quota on red cedar shingles provided by the Act of July 1, 1939. An amendment to the Philippine Independence Act established, in addition to the quotas previously in effect, quotas on imports from the Philippine Islands of cigars, scrap and filler tobacco, and pearl or shell buttons, effective Jan. 1, 1940.

Other means for restricting imports are anti-dumping duties and countervailing duties. Dumping may be defined as the sale for export at a price below that prevailing in the domestic market to the prejudice of industry in the importing country. During the fiscal year five findings of dumping were issued and seven findings partially revoked. The findings issued applied to wool-knitted berets from France and to ribbon fly catchers from the United Kingdom, Japan, Belgium, and Germany. The findings revoked related to importations of safety matches from Finland, Austria, Latvia, The Netherlands, Norway, Poland, and Estonia. Only one order imposing countervailing duty was issued during the fiscal year. This applied to certain cheddar cheese from Canada.

**Enforcement of Customs Laws.** Seizures for violations of the customs laws were fewer in number and smaller in value than during 1939. The aggregate value of seized articles, including boats, automobiles, airplanes, and horses was \$1,254,334 against \$1,873,130 for the previous year. In addition to the goods which were seized, claims aggregating \$8,467,828 were initiated against importers in connection with various irregularities and frauds which either did not necessitate a seizure or were discovered after the goods had gone into consumption. Collections from fines, penalties, liquidated



damages, and sales of seized goods aggregated \$878,387.

**Neutrality Activities.** The Customs Service, following the outbreak of hostilities in China and later in Europe, has been busy with measures to prevent shipments of merchandise from the United States in violation of the Neutrality Act and regulations. A much heavier volume and value of exports resulted from the need of the belligerent powers for various materials. The number of export declarations in 1940 reached a total of 4,280,109 compared with 3,816,673 in 1939, and the value of exports totalled \$3,829,000,000 compared with \$2,920,000,000 in the previous year. Customs examination both of the documents and of the actual shipments was required in order to prevent the exportation of prohibited commodities and to insure against involvement of the neutral status of the United States by outgoing vessels.

**Cost of Administration.** The total revenues collected by the Customs Service during the year, including collections for other departments, amounted to \$383,279,575, an increase of \$32,883,631 from the previous year. Expenses of administration were increased by \$343,400 in 1940 but, as a result of the increased collections, the cost to collect \$100 was only \$5.51 during the past year compared with \$5.93 in 1939.

W. R. JOHNSON.

**CYCLING.** Because of the war, world championships in bicycling were not contested in 1940. The respective titles therefore remained in the hands of the 1939 winners, Arie Van Vliet of the Netherlands retaining the professional sprint title and Jan Derkens, another Dutchman, continuing as the amateur sprint king.

Gustav Killian, German "good-will" cyclist to the United States, outpedaled Tino Reboli of Newark for the national professional motor-pace crown, and Mickey Francoise of Montclair, N.J., displaced George Shipman as the national professional sprint king.

In the national amateur spring classic, Buster Logan of Arlington, N.J., took first honors. Ed Carafagnini of Chicago won the A.A.U. senior title and Chuck Edwards, another Chicagoan, captured the junior A.A.U. title.

For the first time in many years, there was no six-day bicycle race in New York.

**CYCLOTRONS.** See PHYSICS

**CYPRUS.** A British crown colony in the eastern Mediterranean Area, 3572 square miles; population (1938), 376,529. Chief towns: Nicosia (the capital), 23,677 inhabitants; Limassol, 15,349; Larnaca, 11,872; Famagusta and Varosha, 9979; Paphos, 4517; Kyrenie, 2137. Most of the inhabitants profess the Christian faith. Mohammedans make up about one-fifth of the population.

**Production and Trade.** The chief products are wheat, barley, olives, cotton, raisins, carobs, potatoes, linseed, wine, olive oil, cupreous pyrites, asbestos, gold, chrome iron ore, gypsum, and terra umbra. Trade (1938): Imports, £2,246,435; exports, £2,478,256. Shipping entered and cleared during 1938 aggregated 2,995,650 tons.

**Government.** Budget estimates (1939): Revenue, £920,494; expenditure, £974,468. Budget for 1940: Balanced at £996,176. Public debt (Dec. 31, 1938): £822,300. As a result of the political disturbances of 1931 the legislative council was abolished (see YEAR BOOK, 1931) and the governor was granted the power to legislate. The executive

council was retained. During 1933 an advisory council was established to advise the government on legislative and other measures. Governor and Commander-in-Chief, W. D. Battershill (appointed Feb. 21, 1939).

**History.** The leaders of all political parties informed Governor Battershill that they would suspend political agitation until after the end of the war. During April, 1940, it was announced that nearly 12,000 men had volunteered for military service. The Cypriot Transport was the first colonial contingent to serve with the British Expeditionary Force in France. Reports were issued stating that municipal elections, which had been suspended since 1935, would be resumed in 1941. The regulation of trade was covered by a number of orders which prohibited the import and export of goods except under licence. On June 14, 1940, at Nicosia, the formation of the Cyprus Volunteer Force, to assist the regular forces in the defense of the island, was ordered. The emergency measures taken on Italy's entry into the war included regulations providing for the control of wireless, the use of cameras, propaganda, and the detention and arrest of subversive elements. See ARCHAEOLOGY

**CYRENAICA, Battle of.** See EUROPEAN WAR under *British Victories in Africa*.

**CZECHO-SLOVAKIA.** A former Central European republic (capital, Prague), partitioned among Germany, Poland, and Hungary in 1938 and 1939, with the exception of part of Slovakia which became a nominally independent republic under German protection, with its capital at Bratislava. The manner in which the Czecho-Slovak republic was partitioned was described in detail in the 1938 and 1939 YEAR BOOKS and is summarized in the accompanying table.

PARTITION OF CZECHO-SLOVAKIA

Territory annexed	Date of cession or seizure	Area, sq. mi.	Estimated pop. 1939
To Germany:			
Sudetenland .....	Sept. 29, 1938	11,071	3,653,292
Bohemia-Moravia .....	Mar. 16, 1939	19,058	6,804,875
To Poland:			
Teschen district .....	Nov. 1, 1938	419	241,698
To Hungary:			
Parts of Slovakia and Ruthenia <sup>a</sup> .....	Nov. 2, 1938	4,566	1,027,450
Remainder of Ruthenia.	Mar. 14, 1939	4,283	552,124
Additional Slovak districts .....	Apr. 4, 1939	683	80,933
Slovakia, Republic of .....	Mar. 14, 1939 <sup>b</sup>	14,165	2,369,163
Total .....		54,245	14,729,535

<sup>a</sup> Returned in part to Slovakia by Germany on Oct. 21, 1939.  
<sup>b</sup> Carpatho-Ukraine. <sup>c</sup> Date of Slovak declaration of independence.

The Sudetenland was annexed as an integral part of the German Reich. Hungary similarly incorporated in its national territory the districts acquired from Czecho-Slovakia. Bohemia and Moravia were established as a German protectorate, while Slovakia on Mar. 18, 1939, signed a treaty with the Reich accepting German protection. The Reich Protectorate of Bohemia and Moravia and the Slovak Republic were not recognized by the governments of France, Great Britain, the United States, and other powers.

**Czecho-Slovak Provisional Government.** Upon the outbreak of war between Germany and the Allies in September, 1939, the group of Czech and Slovak political leaders in exile, headed by Dr. Eduard Beneš, established headquarters in London and on September 8 Dr. Beneš declared

war on Germany in the name of the Czech people. Under an agreement made with the French Government on Oct. 5, 1939, a Czecho-Slovak army was created "under the authority of the Provisional Czecho-Slovak Government" to fight with the Allies. On Nov. 17, 1939, a Czecho-Slovak National Committee was formed in Paris. It was recognized as the legal "government in exile" of Czecho-Slovakia by the French Government on the same day. The membership comprised five Czechs and three Slovaks, headed by Dr. Beneš. The Committee declared "null and void" the agreement signed in Berlin Mar. 15, 1939, between Chancellor Hitler and President Hacha of Czecho-Slovakia.

In February, 1940, the British Government and the three leading political parties declared that restoration of Czecho-Slovak independence was one of Britain's war aims. The French Government was reported to have made a similar pledge, and the objective received the support of the Polish Government-in-Exile. On the other hand the Hungarian Foreign Minister, in a statement before Hungary's parliament on Mar. 6, 1940, announced his government's opposition to restoration of the Czecho-Slovak Republic.

**Recognition by Britain.** Upon the collapse of France, the Czecho-Slovak government leaders and many of the Czecho-Slovak troops in France escaped to England. On July 22 the British Government formally recognized "the Provisional Czecho-Slovak Government established by the Czecho-Slovak National Committee." Dr. Beneš, as President of the Provisional Government, immediately formed a cabinet in which Mgr. Jan Sramek became Premier and Jan Masaryk, son of the founder of Czecho-Slovakia, Foreign Minister. On December 10 President Beneš announced the establishment in London of a State Council of 40 members, including representatives of all Czecho-Slovak political parties, to serve as a provisional parliament until the end of the war. Rudolf Bechnyes was appointed president of the Council.

There was objection among some Czecho-Slovak exiles to the inclusion in the government and Council of representatives of the Czecho-Slovak Agrarian party, which forced Czecho-Slovakia to accept Hitler's demands for the Sudetenland during the crisis of September, 1938 (see YEAR BOOK, 1938, p. 196). One minister had also served the Hacha puppet government in Prague before escaping to France. Agitation over the composition of the government and the alleged anti-democratic bias of army officers led to dissension in the Czecho-Slovak military camp in England during the autumn. At the request of the Czech authorities, the British arrested over 500 soldiers and interned a former Communist deputy in the Czecho-Slovak parliament. The bulk of the mutinous soldiers were enlisted in the British Pioneer Corps.

A military agreement concluded by the British and Czecho-Slovak governments on October 25 gave the Czech military authorities full jurisdiction over their troops on British soil and enabled them to restore discipline. The Czecho-Slovak armed forces were organized under their own commanders for service with the Allied armies under British direction. Air units were attached to the Royal Air Force. Britain undertook to finance the organization and maintenance of the Czecho-Slovak forces. The Beneš Government was authorized to conscript Czecho-Slovak citi-

zens in the United Kingdom and recruit volunteers abroad.

On the second anniversary of the Munich Accord of Sept. 29, 1938, Prime Minister Churchill declared that the restoration of Czecho-Slovak liberties was one of Britain's principal war aims. In a radio address on December 7 Foreign Minister Masaryk upheld the British blockade of the continent, asserting that the Czecho-Slovaks preferred the serious food shortage caused by "the combined effect of German oppression and the British blockade" to the destruction of their souls.

A pledge of friendship between the Czecho-Slovak and Polish people during and after the war was exchanged between their respective Provisional Presidents in London on October 9. On November 11 the two governments-in-exile issued a joint statement declaring their intention after the war to enter as independent, sovereign states into a closer political and economic association that would serve as the basis for a "new order" in Central Europe.

For internal developments in BOHEMIA AND MORAVIA AND SLOVAKIA, see those articles.

See JEWS; LABOR CONDITIONS.

**DAHOMY.** See FRENCH WEST AFRICA.

**DAIRYING.** A record high in milk production, strong consumer demand for both fluid milk and manufactured products, abundant feed supplies, butterfat-feed price ratios favorable to the dairy producer, a narrow margin between retail prices of manufactured products and prices paid to farmers, unusually low cold storage stocks of butter and a generally favorable outlook for 1941 characterized the dairy situation at the close of 1940.

Numbers of milk cows, which have steadily increased since 1937, reached 25,334,000 at the beginning of 1940, with a further increase of about  $\frac{1}{2}$  million head indicated for the year. With generally favorable pasture conditions throughout the summer and fall, and supplies of feed grains, protein concentrates and hay above 1939 levels, a relatively high level of milk production per cow persisted to the end of the year. Total milk production for the year approached 111 billion lb., about 2 per cent larger than a year earlier. Local market prices of butterfat in mid-December averaged 34.8 cents per lb., the highest since December, 1937. At this figure the butterfat-feed grain price ratio was similar to the long time (1920-34) average and decidedly more favorable to the dairy producer than that of preceding months.

Prices paid to producers for butterfat and milk used in dairy manufactures averaged about one-third lower than in 1924-29 but, because the margin between retail prices and prices paid to farmers was only 66 per cent as large as in 1924-29, the farmer received as large a proportion of the consumers' dollar in 1940 as during the era of higher prices. In June, 1940, the U.S. Department of Agriculture approved a program for 1940-41 under which the Dairy Products Marketing Association was enabled to continue butter market stabilization operations. A \$7,000,000 loan approved by the Commodity Credit Corporation made possible the buying and storing of butter, up to 25 million lb. Comparatively little butter was purchased under this plan, cold storage holdings of the Association on Jan. 1, 1941, totaling only 66,000 lb. Purchase of dairy products for relief purposes during 1940 was far below that of earlier years, when relief output reached 5 per cent of the total trade output. Heavy purchases of butter

were made under the Food Stamp Plan. Near the end of the year about 2,000,000 lb. were being distributed monthly in this manner in the 253 areas where the stamp plan was operated.

According to estimates by the U.S. Department of Agriculture, production of the principal manufactured products near the end of 1940 was about 12 per cent higher than a year earlier. Butter, cheese, and evaporated milk production was up 11, 13, and 19 per cent respectively. Sharp reduction in cheese importation and large exports of condensed and evaporated milk stimulated the production of these products as compared with butter. Total production of manufactured dairy products for 1940 was certain to exceed the 1939 level when a fluid milk equivalent of 51,230 million lb., or 47 per cent of the total milk produced, was used for this purpose. Also, the apparent consumption of manufactured products was 11 per cent higher than a year earlier. Consumption of domestic cheese had increased enough to largely offset the decline in cheese imports which made up 8 per cent of the total consumption in 1939.

Total cold storage holdings of butter on Jan. 1, 1941, were 41,590,000 lb. as compared with 55,462,000 lb. a year earlier and the 1936-40 average of 65,707,000 lb. Of this total, only 81,000 lb. were owned by government agencies against 14,875,000 lb. in 1940. All types of cheese in cold storage on this date totaled 128,413,000 lb., about 19 per cent larger than a year earlier. Stocks of evaporated milk were also relatively high.

**World Conditions.** Both production and distribution of dairy products in European Countries during 1940 were seriously disturbed by war conditions. Without exception, the principal dairy producing countries, which normally import large quantities of feedstuffs, were experiencing a shortage of feed accompanied by a sharp decline in milk production. Most countries were rationing butter while surplus milk supplies were being diverted to cheese and condensed milk production rather than to butter. Fresh milk consumption was being controlled chiefly by price although some countries were rationing their supplies. Germany, with the important exports of Denmark, Holland, Sweden, and Switzerland at her command, was in a better position than most of the other countries.

The United Kingdom, normally the most important deficit country in the world in dairy products, was experiencing a milk shortage at the close of the year. Domestic production was far below normal, due mainly to feed shortage, Irish production had declined because of drought and imports from the Continent were eliminated. Butter and cheese were being supplied in fairly adequate amounts from the Empire countries where production generally was above normal. Australia and New Zealand were under contract to supply stipulated quantities of these products during the 1940-41 season. Canada was exporting large quantities of cheese to the mother country and was under contract to supply not less than 112 million lb. during the year beginning Apr. 1, 1941. Far-above-normal quantities of evaporated milk were purchased from the United States during the year.

Of great interest to the purebred cattle breeders of this country, was the German occupation, in June, 1940, of the Channel Islands of Guernsey and Jersey, native homes of Guernsey and Jersey Cattle. Significant numbers of breeding animals have been imported to the United States annually from the Islands. The destruction of these "foun-

tain-heads" would be an irreparable loss to the dairy cattle breeding industry.

**Foreign Trade.** The import-export balance of edible dairy products changed sharply in 1940 as compared to that of the previous year, primarily due to a marked reduction in imports of European cheese and a large increase in the export of evaporated milk.

Exports for the year 1940, totaled \$16,919,882 as compared with \$7,136,322 for the corresponding period in 1939. Total imports were \$7,838,397 in 1940 and \$13,257,017 in 1939. Imports of commercial casein, mainly from Argentina, exceeded 1 million dollars in 1940, an increase over 1939. Large shipments of Italian-type cheese from Argentina reached this country near the end of the year.

**Miscellany.** On Jan. 1, 1940, there were 27,948 dairy herds consisting of 676,141 cows on test in dairy herd-improvement associations. In 1939 these cows produced 7977 lb. of milk and 323 lb. of butterfat on the average, whereas all cows milked in the United States averaged only 4538 lb. of milk and 179 lb. of butterfat per year. Cows producing at the general average rate consumed \$1.06 worth of feed per hundred lb. of milk produced while those that averaged 7977 lb. consumed only 79 cents worth of feed per hundred lb. of milk produced.

E. C. ELTING.

**DAKAR.** See EUROPEAN WAR; FRENCH WEST AFRICA.

**DAMS.** Practically all types of dams are represented in the numerous hydraulic development projects now under way by various governmental bodies and private corporations for domestic water supply, irrigation, power, and flood control or river regulation. Failure of a number of small dams in New Jersey during sudden storm floods in September, with consequent serious loss and damage to property, again indicates the necessity of competent State regulation and supervision of even small dams, including those built privately for recreation purposes.

**Concrete.** The U.S. Bureau of Reclamation (q.v.) now has under construction four of the five largest concrete dams in the world: the Grand Coulee, the Shasta, the Friant, and the Marshall Ford. All are of the gravity type, although the Shasta Dam is curved. In height, the Boulder Dam (arch type, completed in 1936) holds the record with 726 ft., but in volume of concrete it ranks third. The accompanying table compares these five great dams:

LARGEST CONCRETE DAMS

Name	Height ft.	Length ft.	Volume 1000 cu yds.	River	Location
Boulder (1936)	726	1,282	3,252	Colorado	Ariz.-Nevada
Shasta	560	3,500	5,400	Sacramento	California
Grand Coulee	553	4,300	10,200	Columbia	Washington
Friant	300	3,430	1,900	San Joaquin	California
Marshall Ford	270	2,623	1,864	Colorado	Texas

All the dams built by the Bureau are primarily for irrigation, but many of them serve also for other purposes. An exception is the Marshall Ford dam, which is primarily for flood control. The Grand Coulee dam on the Columbia River (nearing completion in 1941), the most massive masonry structure ever built, has the crest of its spillway or overflow section topped by a row of eleven elec-

trically operated steel drum gates, each 135 ft. long and 28 ft. high. These gates are to regulate the flow from the reservoir, and they increase the normal capacity of the reservoir by the extra depth of 28 ft. The Shasta dam, for the Central Valley project in California, had the concreting begun in July, 1940. A feature of its construction plant is a series of belt conveyors totaling 9.6 miles in length, to transport sand and gravel for the concrete. The Friant dam is for the same project. The Marshall Ford dam is one of a series of five dams for flood control and power development on 300 miles of the Colorado River above its mouth.

Of a different type is the Pensacola dam on the Grand in Oklahoma, which was completed in 1940 by the Grand River Authority. In March, Governor Phillips ordered out the State troops to halt construction forcibly until certain desired concessions were made as to rebuilding roads that would be submerged. But the courts decided against him and he had to back down. (See OKLAHOMA.) The dam is 147 ft. high, with a length of 5595 ft. and is composed of 51 inclined arches or semi-cylinders of 60 ft. span between the piers. In height, it is exceeded by the 270-ft. Bartlett dam on the Verde River in Arizona, completed in 1939.

Of still another type is the hollow slab-and-buttress concrete Possum Kingdom dam now being built on the Brazos River in Texas. Its piers or buttresses, 40 ft. apart, are sloped at the upstream end to support an inclined slab of concrete which forms the face of the dam. For the spillway or overflow the piers are sloped also at the downstream end to support a similar but steeper slab. This dam is 190 ft. high and 2740 ft. long. The Austin dam, on the lower Colorado River, in Texas, completed for the third time in 1940, was the largest concrete dam when first built in 1893. It failed in the flood of 1900, was repaired and rebuilt in 1915, but failed again the same year. In 1938, it was taken over by the Lower Colorado River Authority, which has rebuilt and enlarged it for flood control and power development.

**Earth.** The world's largest dry-fill earth dam is the Hansen dam now under construction on a tributary of the Los Angeles River, for flood protection. It is 120 ft. high and 9500 ft. long, containing nearly 15-million cu. yds. In size it is exceeded only by four earth dams of the hydraulic-fill type, in which earth and water are pumped to form the dam: Fort Peck, Kingsley, Gatun, and Sardis. It is one of several dams being built by the U.S. Engineers (q.v.) for flood-protection and power projects. These include the Denison dam on the Red River, in Texas, to be completed in 1944; the John Martin dam on the Arkansas River in Colorado (1943), and the Sardis dam on the Little Tallahatchie River, in Mississippi, which was put in service on Aug. 8, 1940.

Three earth dams were completed by the U.S. Bureau of Reclamation in 1940: Grassy Lake dam, 120 ft. high, in Wyoming; Fresno dam in Montana, 71 ft. high; and Crane Prairie dam, 40 ft. high, on the Deschutes River in Oregon. Four similar dams under construction are the Green Mountain dam on the Colorado and Big Thompson project in Colorado, a combined earth and rock fill 270 ft. high; the Vallecito dam, 150 ft., on the Pine River, Colorado; the Deer Creek dam, 240 ft., on the Provo River in Utah, and the Wickiup dam, 100 ft. high, on the Deschutes River in Oregon.

Of the several new and old dams included in the project of the Tennessee Valley Authority (q.v.),

three were completed in 1940: the Guntersville and Chickamauga dams on the Tennessee, and the Hiwassee on the Hiwassee River. Two were begun: Fort Loudon on the Tennessee River, and Cherokee on the Holston River. Two others still under construction are the Kentucky and Watt's Barr dams on the Tennessee River. All are to be completed by 1945. Besides power development and flood control, this comprehensive project includes the provision of a 9-ft. navigable channel in the Tennessee from the Ohio River to Knoxville, Tenn., 650 miles.

Two long earth dams being built by both dry fill and hydraulic fill methods in South Carolina will form reservoirs on the Santee and Cooper rivers, and a channel connecting the two reservoirs will divert the water of the former into the latter river, giving a drop of 72 ft. for power development. Barge navigation is also provided for. Studies for a dam in the St. Lawrence River, near Massena, N.Y., were commenced in October, 1940, by joint authority of the United States and Canadian governments. It is planned to develop 2,000,000 h.p. in electrical energy, and to cost some \$235,000,000. This project is the target of much controversy as to its merits for power and navigation purposes.

**Foreign.** Of foreign dams, the Kalkfontein dam in South Africa, completed in 1940, ranks second to the Vaalbank dam, which is 165 ft. high above the river bed or 230 ft. above the lowest part of the foundation. The Kalkfontein dam is of the rock fill type, with a maximum height of 113 ft. and a length of 10,400 ft. With 60 miles of distribution canals it will provide irrigation for the Jacobsdal district. While earth dams require an impermeable core wall to prevent percolation of water, the factor of earthquake shocks led to the design of a flexible core wall for a dam for the water supply of Rangoon, Burma. By means of a structure of interlocking concrete panels, it is expected that the dam may be bent considerably out of line without breaching the core wall. See **AQUEDUCTS**; **FLOOD CONTROL**; **WATERWAYS**.

E. E. RUSSELL TRATMAN.

**DANISH LITERATURE.** See **SCANDINAVIAN LITERATURE**.

**DANZIG.** A territory including the Baltic port of Danzig at the mouth of the Vistula River, which was detached from Germany and constituted a Free City under the protection of the League of Nations by Article 102 of the Treaty of Versailles, effective Nov. 15, 1920. It was reincorporated as an integral part of the Reich at the outbreak of the German-Polish war on Sept. 1, 1939. Area of the Free City, 754 square miles; population (1939), 415,000 including 266,000 in the city of Danzig. Head of the civil administration in 1940, Albert Foerster, Nazi party leader in the district. For statistics and other data on Danzig previous to its reunion with Germany, see **YEAR BOOK**, 1939, p. 189.

**DEAFNESS.** See **PSYCHOLOGY**.

**DEATHS AND DEATH RATES.** See **NECROLOGY**; **PUBLIC HEALTH SERVICE**; **VITAL STATISTICS**.

**DEBTS, Public.** See **PUBLIC FINANCE**; the foreign countries under *Finance*; **REPARATIONS AND WAR DEBTS**.

**DEFENSE, National.** See **DEFENSIVE PREPARATIONS OF THE UNITED STATES**; **MILITARY PROGRESS**; **NATIONAL DEFENSE ADVISORY COMMISSION**; **NAVAL PROGRESS**; and all major countries under

*Defense.* For the part taken in the United States defense program by other government agencies, see particularly CIVILIAN CONSERVATION CORPS; CIVIL SERVICE COMMISSION; COAST GUARD; EDUCATION, U.S. OFFICE OF; FEDERAL BUREAU OF INVESTIGATION; GEOLOGICAL SURVEY; MINES, BUREAU OF; RECONSTRUCTION FINANCE CORPORATION; WORK PROJECTS ADMINISTRATION.

The effect of the U.S. defense program in the other fields of activity is discussed in many articles, notably AERONAUTICS; AUTOMOBILES; BUSINESS REVIEW; CHEMISTRY, INDUSTRIAL; ELECTIONS, U.S. NATIONAL; FIRE PROTECTION; GEOLOGY; INSURANCE; MACHINE DEVELOPMENT; MEDICINE AND SURGERY; POWER PLANTS; RAILWAYS. See also AMERICAN FEDERATION OF LABOR; CONGRESS OF INDUSTRIAL ORGANIZATIONS; DIES COMMITTEE; NEGROES; NEW YORK; PUBLIC FINANCE.

**DEFENSE BOARD, Canadian-American Joint.** See CANADA under *History*.

**DEFENSE COMMUNICATIONS BOARD (DCB).** See FEDERAL COMMUNICATIONS COMMISSION; RADIO.

**DEFENSE HOMES CORPORATION, DEFENSE PLANT CORPORATION, DEFENSE SUPPLIES CORPORATION.** See RECONSTRUCTION FINANCE CORPORATION.

**DEFENSE LOANS.** See BANKS AND BANKING; RECONSTRUCTION FINANCE CORPORATION.

**DEFENSIVE PREPARATIONS, U.S.** The United States started in 1940, on a scale unexampled in peace and rivaled only by its armament in 1916-18, to increase its means of making war. The scope of the preparations covered, as far as possible, all that would conceivably belong to the subject. The main heads of the program were the establishment of conscription (see DRAFT, MILITARY); the increase of the personnel of the regular Army, Navy, and Marine Corps by voluntary enlistment, the large addition (under the two-ocean plan) to the naval force (see NAVAL PROGRESS under *United States*); the manifold augmentation of the chief types of airplanes of war; the creation not only of stores of fighting material but also of industrial establishments needful thereto; the devising of taxes and plans for public debt to meet a cost approximating the whole Federal income for several years; the accumulation of stores of materials that could not be produced within the country; and the knitting of useful foreign relations, particularly with the other American republics and the chief surviving democratic European belligerent, Great Britain. The plans for armament required at least two years and possibly longer for their accomplishment.

The most generally recognized purpose of this capital undertaking was to discourage and if necessary to overcome possible attack on the part of one or more of the several conquest-seeking dictatorial governments that were at the moment making headway toward mastery over the Old World. President Roosevelt led in initiating the program. Some of his critics charged him with designing and, by armament, preparing the entry of the United States into the war in Europe; others suggested political purposes as in his mind. The Republican party and, indeed the voters as a whole, accepted his stated reasons as the true ones. The President, shortly before the election, stated his policy as to increasing the defenses and asked a "vote of confidence" (see ELECTION, NATIONAL), thus giving that character to the vote for him.

Increases in armaments had been authorized by Congress early in 1940 before the appearance of the great program; they had seemed huge till dwarfed by the new plans. At the outset of May, armament under the earlier plans of 1940 and the Act of 1938 seemed ample for more naval vessels, airplanes, and flying fields; it bulked large enough, to the judgment of the moment; Congress had granted substantially what the President had asked. He was reported as satisfied, or wishful, that it should adjourn. The sudden conquest of Holland, Belgium, and France, wholly unexpected, changed the whole foreign scene within a few weeks. It startled the American people, crushed their sense of secure aloofness, and dumfounded most the numerous advocates of American isolation from "the Old World's quarrels." There came into the common thought a consequent apprehension that the United States might be marked for the next prey—not, perhaps, for invasion of its own territory yet quite possibly for enterprises against Latin America or territory in the Pacific, constituting indirect attack.

**The President's Proposals.** The President's requests on behalf of defense fall into two groups: Those in the budgetary message of January 4, as augmented by supplementary appropriation up to May, and the series that started with his special message of May 16; on requests prior to that date Congress voted about \$1,800,000,000 for the Army and Navy; on requests between May 16 and the pre-election recess Congress, with remarkable approach to unanimity voted a series of bills appropriating and authorizing contracts for defensive expenditure to the combined total of about \$16 billion more.

The main recommendations met therein were: Message of May 16, \$1,182,000,000; requests of May 31, \$1,277,000,000, chiefly for putting the National Guard and Reserve into active service; requests for 3000 airplanes and an increase of personnel for the Navy, \$1,492,000,000; President's endorsement of the two-ocean Navy bill, \$4,000,000,000; his message (mentioned above) of May 16 proposed to Congress, without indicating the cost, the construction of 50,000 warplanes, and Congress made heavy grants toward that object in different bills. The cost of the draft and of maintaining 800,000 of the drafted men in military training for a year and of providing quarters for them led Congress to provide over \$1,000,000,000. No one expected that the money provided for augmenting the fleet would all be spent before several years had passed; it would apparently take considerably more than a year to provide the Government with anything like 50,000 warplanes: Consequently the commitments for defense would spread out much of their weight over a succession of years. What part of it would appear in the deficit for the fiscal year 1941 remained uncertain.

Presented piecemeal to Congress and the people, the plan for increased defense bore something of the appearance of improvisation; whether it concealed any of improvisation's shortcomings did not at the outset appear. The collaboration of leaders in the upper organizations of Army and Navy, professionally trained in the problems of armament, made the risk less than it would have been in hasty commitments in other fields.

**Directions of Defensive Effort.** Most conspicuous of the features of the preparations for stronger armament, the creation of a host of air-

planes more powerful than any others in existence, met the condition brought into view by current evidence of aviation's prominent service in the German offensives. Possibly yet more important was the Government's effort to augment the Naval fleet to a power adequate to keep enemies from the Atlantic and the Pacific coasts simultaneously. The lately demonstrated success of the tank as a means of overthrowing armies decided the Government to increase its force of tanks to many times the actual number. Apart from these increases in material and the accompanying increase in actual weapons, the program of armament looked to a corresponding increase of fighting manpower; it sought to put over 1,000,000 men into active land service as soon as might be; it was to build up a sufficient reserve to provide 4,000,000, in a few years, if needed for service on a full wartime footing.

Ships, planes, tanks, weapons, and properly trained and organized men to use them were to be the ultimate products of the defensive effort. Equipment had to be manufactured in quantities so great as to occupy a substantial part of the Nation's industrial capability for a considerable time. The Government had to call upon industry to produce, without ceasing to serve normal economic needs, an additional output forming a high excess over industry's ordinary yearly total. To insure the desired production, much beyond the means of the existing makers of armaments, and at the same time avoid checking the delivery of armament ordered by Great Britain, the Government had to promote the development of new manufacturing establishments. Equally, its efforts necessarily included precautions against the shortage of any of the indispensable raw materials, in some cases not indigenous; thus, tin, hitherto got from British smelters, was to be mined in Bolivia and smelted in the United States. Nor did the defensive program end with raw materials and production. There remained the procurement and improvement of all manner of sites for the additional armaments, from cantonments to naval bases. In still another field the success of the program of defense required economic and military material assistance to other governments able to help in defense as the United States planned it—defense against European aggression for all the Americas.

**Central Organization.** Some kind of central authority had to watch over the whole work of armament, to see that superable obstacles should not cause great delays nor that one part of the undertaking should interfere with another. In the first stages of the program at least, the direction of the plans as an entirety remained with the President. As to their most laborious part, that concerned with production, a National Defense Advisory Commission (q.v.) was formed, of men of high rank in the industrial world, to help in correcting such troubles as might arise in the production of the required material. By December some at least of the leaders in the Federal effort to put order and speed into the movement of defensive production became convinced that they needed for this work a more effective instrument. The heads of the War and Navy departments submitted (about December 16) to the President a suggestion that he appoint a board of three with authority to manage the general features of all production for the defensive preparations. The President accepted the idea in the main, but modified it by raising the proposed board's member-

ship to four, so as to include a voice for labor. President Roosevelt accordingly created (December 20) the Office for Production Management for Defense and nominated as its members William S. Knudsen (Director), Sidney Hillman (Associate Director), Secretary of War Stimson, and Secretary of the Navy Knox.

**Status of Producers of Armament.** Private enterprises got the task of producing a great part of the projected warships and virtually all the bodies, engines, and equipment for warplanes and tanks. The Government's own navy yards had their hands full, largely with the construction of 35,000-ton and 45,000-ton battleships; its military arsenals were also working to their limit of production.

There had been for some years a demand, not widespread but energetic, that in case of a crisis in the country's foreign relations the Government should take over the industries producing armament and "take the profits out of war." Private enterprise had to face the risk that this demand might in a moment of excitement become a reality; they had to face in particular the possibility that a piece of legislation somewhat akin to this demand, the so-called plant-seizure amendment (Section 9 of the Selective Training and Service Act. See under *Description of Industry* of the article entitled **DRAFT, MILITARY**) might result in the Government's supplanting private management of great companies. Apart from losing the direction of their investment, would companies be allowed to make a profit sufficient for their taking hazards in an industry of uncertain duration and, in many cases, one more or less unfamiliar? Since concerted production involved more or less restraint of trade in the interest of heavier production, and since arrangements for concerted action as to such things as quotas of material were expected of them, would manufacturers make themselves liable to later possible prosecution under the law against monopoly? Would companies declared by the NLRB to be guilty of unfair labor practices find themselves, perhaps with a half-performed contract on their hands, excluded from performing work for the Government? There was the further uncertainty how much of their profits manufacturers would have to hand back to the Government in the guise of new taxes on income. Under the circumstances the private capital lent or invested toward expanding or altering factories and their material, to make armament, fell short of the need. The Government's great lending agency, the RFC, accordingly made extensive loans for carrying out the needed improvements within the desired time and for acquiring stocks of such raw materials as rubber. The Government also undertook to build some manufacturing for private operation.

Some of the manufacturers' chief difficulties were promptly settled. The War Department declared early for a return to the letting of contracts at figures based on the cost of production and a percentage of profit for the producer, as in 1917-18. The prospects as to the payments out of these profits under the new Federal taxes were clarified. On the other hand, with regard to the status of companies held by the NLRB to have failed to comply with the Labor Law, Attorney-General Jackson held (October 3) that the Defense Commission, like other Federal agencies, was bound by the NLRB's decisions. There consequently existed some doubt whether contracts with

producers such as Ford, General Motors, and the Todd shipyards, on the NLRB's blacklist yet essential to the program, were lawful.

**Early Progress in Armament.** In spite of initial delay on account of these special hindrances and of time used in putting factories in shape for production, the U.S. Treasury reported its cash payments on account of defense, for the three months ending with September 30, as \$594,975,389. These were not represented as for produced goods alone; and a considerable part of the payments for armament were likely to have to do with orders given under authorization enacted before 1940. Month by month the payments were rising by some \$20,000,000 at this time. The Defense Commission, which cleared contracts, reported that it had put through a total of \$7,660,000,000 of these in approximately the same period, while the Bureau of the Budget had estimated at \$5,000,000,000 the expenditures to be made on account of defense in the whole fiscal year that started with July 1; compared with these totals the actual payments for the quarter that began with July 1 showed that the flow of deliveries of armament on contracts under the provisions of 1940 had barely begun.

**Other Defensive Measures.** The President, obtaining from Congress the authority to put the National Guard into service even though the emergency did not involve the Nation in actual war, called most of the troops of this body into service. The authorizing measure, a joint resolution known as the National Guard Resolution, approved by the President on August 22, applied also to the units of all reserve components of the Army; it excepted only Guardsmen under the age of 18 years and, upon their request, older members, of rank below captain, who had dependents to support by their earnings; the resolution set the duration of the required period of service at twelve consecutive months and provided that the liability to a call for such service should extend until June 30, 1942; troops that were called could be employed only in the Western Hemisphere, American "territories and possessions," and the Philippine Islands; not all need be put in service at the same time; safeguarding clauses sought to assure men their old jobs upon discharge. The mobilization of the National Guard began on September 16 upon a call for units totaling 60,500 men in 26 States. The object was to have as nearly as possible the full strength of the organization (around 240,000 men) in service by the end of the year. The reported intention of the Army to have 1,000,000 on duty by January 1 counted heavily on the National Guard to help fill this number until the conscripts under the Selective Service Act should suffice, with the mobile part of the Regular Army's more than 300,000 men, to make up a great army in being. The lack of enough cantonments and equipment imposed the chief restriction to full immediate mobilization in the autumn.

For the scope of the so-called Two-Ocean Navy Act, looking to the construction of from 80 to 90 more ships of war, and for actual progress in naval shipbuilding, see **NAVAL PROGRESS**; for further details as to the land forces, see **MILITARY PROGRESS**.

The individual measures of foreign policy bearing particularly on the military program of the United States appear in **UNITED STATES under Foreign Affairs**. The guiding motives in these

measures were the strengthening, by means conceived as short of belligerency, of powers (particularly Great Britain) then at war with anti-democratic nations and the promotion of closer relations, as to mutual defense, with other governments on the American continents. Both from Great Britain and from some of the American republics the United States obtained rights to use specified naval and aeronautical bases.

While not directly presented as among the preparation for possible attack from abroad, the need to restrain the dictator-run countries' partisans and possible secret agents played an unaccustomed part in the operations of the Federal Government. Congress passed an Alien Registration Act (signed June 28): It required aliens residing in the United States to present themselves and be registered and have their fingerprints recorded by the Department of Justice within six months; those failing to do so became liable to fine and imprisonment up to \$1000 and six months; the bill also rendered attempt to cause mutiny or insubordination in the armed forces a crime punishable by \$10,000 fine and ten years' imprisonment. Provision was made for about 500 agents of the FBI in an allied act; they were to detect spies and "sabotage" (covert acts to cripple essential operations by damaging equipment or facilities). Another act (signed October 18) obliged organizations either under foreign control or advocating the forcible overthrow of the Government to register with the Department of Justice. The registration of some 3,500,000 aliens, a laborious task, was carried on in the post offices during the latter half of the year. For activity against sedition see also **DIES COMMITTEE**.

**Attitude of Organized Labor.** The program of rapid armament set out for its goal expecting, according to an estimate of the Secretary of Labor, to have to hire or make manufacturers and contractors hire 6,000,000 people; but the program carried no special authority to check strikes or similar suspensions of work in an activity both vast and reputedly of utmost importance to the National safety. Only a few minor strikes and interruptions of work on account of jurisdictional disputes between unions arose to delay progress prior to the National election. But as in 1936, soon after election day, the C.I.O. started a strike that on November 15 halted the work of a force of 5200 at an establishment of Vultee Aircraft, Inc., in Los Angeles. The firm had undertaken to fill Federal orders for about \$82,000,000; much of the total covered airplanes of the type needed for training pilots; the Government would require these long before it could make use of the great stock of airplanes that it was ordering for need in case of actual war. Deliveries of the training airplanes were currently due at the rate of more than 200 a week. As the strike went on, Philip Murray, on assuming (November 22) the presidency of the C.I.O., warned the Government not "to force shotgun agreements between the C.I.O. and the A.F.L." and intimated a purpose to proceed first with establishing the C.I.O. in the industries for defense. The Dies Committee came out about the same time with an announcement that it would investigate the strike; Attorney-General Jackson rejoined (November 23) that the FBI had already investigated it, had found the influence of Communists in it, and had reported to the War and Navy Departments; Jackson's rejoinder cast blame on the committee's "effort to disparage and discredit the good work of the



**FBI.** The Defense Commission had a member, Sidney Hillman, in special charge of matters affecting labor, but his powers did not extend beyond advice and conciliation and seemed inadequate for quelling anything like a repetition of the series of strikes engineered by the C.I.O. in 1937. The Vultee strike, after running for 12 days, ended in higher pay for a great part of the employees, at a cost of about \$1,262,000 a year, and an agreement to compose or arbitrate future differences.

Compare the topics listed under **DEFENSE, NATIONAL.**

**DELAWARE.** Area, 2434 square miles, including (with area added by the revision of the New Jersey boundary) 469 square miles of water. Population, Apr. 1, 1940 (census), 266,505; 1930, 238,380. Cities (1940): Wilmington, 112,504; Dover (the capital), 5517.

**Agriculture.** Delaware's harvest of the principal crops comprised, for 1940, 366,000 acres. Corn, on 141,000 acres, made 3,948,000 bu.; in estimated value to the farmers, \$2,685,000. Wheat, on 74,000 acres, grew 1,406,000 bu. (value, about \$1,097,000); tame hay, 75,000 acres, 101,000 tons (\$1,162,000); apples yielded 1,909,000 bu. for market (\$1,718,000); peaches, 437,000 bu. (\$306,000); sweet potatoes, on 5000 acres, 725,000 bu. (\$580,000).

**Education.** For the academic year 1939-40 Delaware's inhabitants of school age were estimated at 52,000. The year's enrollments of all pupils in public schools numbered 44,798; this comprised 426 in kindergartens, 26,111 in the elementary group, and 18,261 in high school. The year's expenditure for public-school education amounted to \$4,184,938, current; and to \$4,994,925, total. The public schools' 1717 teachers received yearly salaries averaging \$1589.

**History.** At the general elections (November 5) the popular vote for President went to Roosevelt (Dem.) by 74,599 to 61,440 for Willkie (Rep.), or by about 5 to 4. For United States Senator, James M. Tunnell (Dem.) defeated John G. Townsend, Jr. (Rep.), the incumbent. For Governor, however, the vote went to Walter W. Bacon (Rep.) and against Josiah Marvel, Jr. (Dem.).

**Officers.** Delaware's chief officers, serving in 1940, were: Governor, Richard C. McMullen (Dem.); Lieutenant Governor, Edward W. Cooch; Secretary of State, Josiah Marvel, Jr.; Attorney General, James R. Morford; Treasurer, Fagan H. Simonton; Auditor, Benjamin I. Shaw; Superintendent of Public Instruction, Dr. H. V. Holloway.

**DEMOCRATIC PARTY, CONVENTION, AND CAMPAIGN.** See **ELECTIONS, U.S. NATIONAL.**

**DEMOCRATS FOR WILLKIE.** See **ELECTIONS, U.S. NATIONAL.**

**DENMARK.** A formerly independent kingdom of northwestern Europe, occupied by German armed forces on Apr. 9, 1940. It comprises the peninsula of Jutland, the two main islands of Zealand and Funen, and about 200 smaller adjacent islands in the Baltic. The Faroe Islands (q.v.), an integral part of the kingdom, were occupied by British troops on April 13 pending the outcome of the European War. Greenland (q.v.), a Danish dependency, remained under the control of the local Danish administration but direct contact with the Copenhagen Government was severed when the German occupation of Denmark took place. The

King of Denmark is also King of Iceland (q.v.). On Apr. 9, 1940, the Icelandic Parliament voted temporarily to nullify the King's executive powers and to assume independent control of Iceland's foreign relations. Capital of Denmark, Copenhagen (Köbenhavn). King, Christian X, who succeeded to the throne May 14, 1912.

**Area and Population.** Area, excluding the outlying possessions, 16,576 square miles. Estimated population on Jan. 1, 1940, 3,825,000. American citizens living in Denmark on that date numbered 552. Living births in 1939 numbered 67,914 (17.8 per 1000); deaths, 38,535 (10.1); marriages in 1938 totaled 33,624 (8.9). Populations of the chief cities at the 1935 census were: Copenhagen, 843,168; Aarhus, 90,898; Odense, 76,116; Aalborg, 48,132.

**Education and Religion.** There is no illiteracy. The 4472 lower schools had 480,000 pupils on Jan. 1, 1938; secondary, professional, and vocational schools, 74,100; the two universities at Copenhagen and Aarhus, 5700. The 1921 census showed 3,221,843 Protestants, 22,137 Roman Catholics, 5947 Jews.

**Production.** About 35 per cent of the working population is engaged in agriculture and dairying and 33 per cent in industry. Commerce and fishing are other principal occupations. The July 15, 1939, livestock census showed 3,127,000 swine, 3,258,000 cattle, 564,000 horses, and 27,500,000 hens. Production in 1939 (in metric tons) was: Butter, 179,000; margarine, 84,100; cheese, 35,700 (1938); meat, 393,300 (1938); wheat, 414,700; barley, 2,226,500; rye, 238,100; oats, 994,300; potatoes, 113,000; beet sugar, 218,700; milk, 51,554,000 hectoliters. The sea fisheries in 1939 yielded 88,000 metric tons valued at 43,000,000 crowns. Brandy produced in 1938 totaled 96,000 hectoliters; beer, 2,332,900. Ship construction totaled 140,000 gross tons in 1939.

**Foreign Trade.** Total imports in 1939 were valued at 1,742,000,000 crowns (1,640,900,000 in 1938); total exports, 1,575,000,000 (1,550,600,000 in 1938). The 1939 imports by leading countries of origin were (1938 figures in parentheses): United Kingdom, 574,000,000 crowns (566,564,000); Germany, 470,000,000 (401,700,000); United States, 127,000,000 (131,207,000); Sweden, 126,000,000 (106,000,000). Exports by countries were: To the United Kingdom, 826,000,000 crowns (860,800,000 in 1938); Germany, 368,000,000 (304,900,000); United States, 21,000,000 (16,900,000). Agricultural exports in 1939 were valued at about 1,100,000,000 crowns as against industrial exports of about 400,000,000 crowns. See **TRADE, FOREIGN.**

**Finance.** Closed accounts for the fiscal year ended Mar. 31, 1940, showed receipts of 640,800,000 crowns and expenditures of 631,500,000 crowns in the ordinary budget. The 1940-41 ordinary estimates placed receipts at 644,400,000 crowns, expenditures at 693,100,000. The public debt was 1,229,141,000 crowns on Mar. 31, 1939. The crown (krone) averaged \$0.2183 in 1938 and \$0.2035 in 1939. In April, 1940, the German Government fixed the official relative value of the Danish crown at two crowns to one reichsmark.

**Transportation.** Railway statistics for 1938-39 fiscal year (ended March 31): Miles of line, 3189 (state-owned, 1625); freight, 4,868,147 metric tons; passengers, 52,014,366; operating deficit, 4,500,000 crowns. Highways extended 32,212 miles (1939). The Danish Air Transportation Company carried 71,750 passengers in 1939 (65,179 in 1938). The Danish merchant fleet on Jan. 1, 1940, comprised



736 vessels of 1,171,128 tons. Earnings of the merchant marine in 1939 were estimated at 450,000,000 crowns (280,000,000 in 1938). During 1939 23,744 ships of 7,600,000 net registered tons entered the port of Copenhagen.

**Government.** The Constitution of June 5, 1915, as amended Sept. 10, 1920, vests executive power in the King acting through a cabinet responsible to the Rigsdag (Parliament). Legislative power rests jointly in the King and Rigsdag. The Folketing (lower chamber of the Rigsdag) consists of 149 members elected for four years by proportional representation. The Landsting (upper chamber) comprises 76 members serving for eight years; 19 members are elected by the Landsting itself and every four years half the remainder is elected indirectly by voters of over 35 years. Premier in 1940, Thorvald A. M. Stauning (Social Democrat), heading a coalition government of the Social Democratic and Radical parties. For events of 1940, see *History*.

### HISTORY

Although the Danish Government clung to the policy of strict neutrality adopted upon the outbreak of the European War (see *YEAR BOOK*, 1939, p. 194), neither this nor the non-aggression pact signed with Germany on May 31, 1939, sufficed to prevent the long-dreaded invasion. German armed forces on Apr. 9, 1940, occupied the kingdom "for the duration of this war," meeting virtually no resistance from the small Danish army.

**Strains on Neutrality.** A hint that Denmark did not feel prepared to defend itself against aggression was given by Premier Stauning in his New Year's Day address to the nation. The adverse repercussions of this statement led the Folketing on January 19 to resolve, 135 to 0, with the German member from Schleswig abstaining, that "the country's neutrality must be maintained and . . . all disposable means if necessary shall be used to keep order, preserve and protect the realm's peace and independence . . ."

Soon afterwards control of Danish shipping by the British blockade and the systematic sinkings of Danish ships by German submarines and airplanes were intensified. On February 25 the Danish, Norwegian, and Swedish Foreign Ministers conferred in Copenhagen. They decided to support one another in all negotiations with the belligerents and formally demanded that the neutral rights of the Scandinavian States be respected. Compensations would be demanded for losses resulting from such violations, it was agreed, and the three States would resist any attempt by either side to involve them in the war.

In accordance with these decisions, the three governments on February 29 sent Germany, Great Britain, and France uniform protests against indiscriminate warfare on neutral shipping. In reply Germany charged that acceptance of the British contraband control system was not in conformity with either the neutrality or the sovereignty of non-belligerent States, while the British Ministry of Economic Warfare insisted that it was the duty of neutrals to submit to this "exercise of belligerent rights." This was followed on March 12 by an Anglo-Danish trade agreement under which Denmark agreed not to re-export to Germany many vital imports from overseas and to restrict shipments of Danish products to the Reich.

**The German Invasion.** Without the slightest warning, German motorized troops crossed the

virtually undefended Danish frontier on the early morning of April 9 and drove rapidly northward, leaving units in control of the Danish cities and towns. Other troop contingents landed at Middelfart on the island of Funen, at Korsor and Nyborg on the Great Belt, and at Gedser, Danish terminus of the Warnemuende Ferry. At the same time Copenhagen was seized by about 1000 German troops, secreted in the holds of three ships disguised as colliers, which had been guided through mine fields guarding the port by an unsuspecting Danish pilot. Hundreds of German warplanes thundering overhead helped to overawe the Danish State Council, consisting of King Christian, Premier Stauning, Foreign Minister Peter Munch, and Defense Minister Alsing Andersen, which met in the King's residence. The Council decided to capitulate, with a formal protest at the German invasion.

According to Gen. Leonhard Kaupisch, Commander of the German forces, the invasion was accomplished with such speed, secrecy, and thoroughness that the Danes were taken completely by surprise. Before the Danish troops received the order of their government to surrender, some minor clashes took place in South Jutland in which a score of Danes were killed and double that number wounded. The German forces lost only a few dead and wounded. Considerably more than an army corps was used to establish German control of the kingdom. As in Norway, the Netherlands and other countries, the German troops were aided in the conquest by both German agents in Denmark and Nazi sympathizers among the Danes. Fritz Clausen, leader of the small Danish Nazi party, was reported to have appeared in a Storm Trooper uniform to direct operations on the Copenhagen waterfront when the German troops landed.

While the military occupation of the capital was in progress, the German Minister in Copenhagen handed the Danish Government a memorandum identical with that submitted to the Norwegian Government on the same day. It charged that Denmark "had failed to resist earlier transgressions by England and France," that it could not resist a surprise Anglo-French occupation alleged to be impending, and that German troops entered Denmark not in a hostile spirit but merely "to safeguard the Danes against the intended occupation of Danish strategic points by English and French forces" "Germany," the statement concluded, "has no intention through her measures now or in the future of touching upon the territorial integrity and political independence of the kingdom of Denmark."

**The Protectorate.** Under the German protectorate the Danish armed forces were demobilized (April 17) and German troops occupied their barracks. General Kaupisch retained control of all military matters, while the German Minister in Copenhagen, Dr. Cecil von Rente-Finck, with the aid of a greatly enlarged staff, assumed supervision of Denmark's economic life and foreign affairs. The powers of the Danish King and Government were progressively restricted.

On April 10 Premier Stauning told an extraordinary session of the Rigsdag that his government would remain in office. "The King and his present Ministers have so resolved," he was quoted as saying, "with confidence in Germany's assurance that Germany does not intend to harm Denmark's territorial integrity or political independence by the measures that have been effectuated to regulate the mutual relations resulting from the occupation."

The Stauning Cabinet was reorganized on the same day. The Social Democratic and Radical Ministers all retained their posts, but the cabinet was expanded to include three Conservatives and three Liberals serving as Ministers without Portfolio. This brought all four of the major political parties into the government.

Under orders from Berlin, censorship of the press was instituted along with blackouts and other wartime measures. Air raid drills were held in Copenhagen and bomb shelters constructed throughout the city. The Danish airport at Aalborg in Jutland, used by German planes in connection with the Norwegian campaign, was repeatedly bombed by British airmen, with some damage to the adjacent civilian population.

Relations between occupationary officials and forces and the Danish population were peaceful at first. However the growing German economic exactions, activities of the German secret police, and the increasing pressure upon the Danish people and government to accept their allotted role in the German "new order" in Europe caused growing resentment and a stiffening of resistance. The growth of Danish national patriotism was evidenced by the enthusiasm with which Constitution Day was celebrated on July 5 and by great demonstrations of national unity and loyalty to King Christian on the occasion of his 70th birthday (September 26).

Minor clashes between German troops and young Danes were reported with increasing regularity, along with cases of sabotage. A decree of June 14 ordered the surrender of all private arms, including hunting rifles, at police stations. Encouraged from Berlin, the Danish National Socialist party waged an increasingly aggressive campaign against the kingdom's democratic government and institutions. On July 2, 154 young Nazis were arrested for holding a street demonstration in violation of the law forbidding political gatherings. The Danish authorities proved unable to curb Nazi meetings, however, and on October 27 the Social Democratic unions of Copenhagen held their first political mass meeting since April to counter Nazi propaganda. Severe rioting between uniformed Danish Nazi demonstrators and anti-Nazi crowds occurred in the capital on November 18 and in the South Jutland town of Hadersleben on December 9.

In an effort to resist growing pressure from the German occupationary authorities and their Danish Nazi allies, the five principal political parties on July 3 formally agreed to "abandon all points of disagreement and unite to make secure the independence and integrity promised our country." A new coalition cabinet was formed July 8. The Social Democratic Premier, Thorvald Stauning, retained his position but as a concession to Germany Eric Scavenius, Foreign Minister during the first World War, succeeded Dr. Munch at the Foreign Office. Scavenius was reported to have endorsed the Reich's "new order" in Europe. At the year's end, it was indicated that the German authorities, despite protests of the King, were demanding the elimination of the Social Democrats from the government and their replacement by Danish Nazi leaders.

The transformation of Denmark into an economic and political vassal of the Reich also led the Danish trade unions and employers' associations to unite in defense of Danish national interests. Workers and employers agreed to abandon strikes and lockouts, settle all disagreements by negotiation or

arbitration, and use their funds, accumulated for the purpose of fighting one another, to create more work and stabilize economic conditions. With the consent of both labor and capital, laws putting these principles into practice were promulgated by the Danish Government. In October a Danish National Council was formed in London to win British support for the restoration of Danish independence.

**Economic Difficulties.** The German occupation meanwhile was rapidly undermining the bases of Danish prosperity. Even before the invasion, the economic strain of the war led Denmark to seek a \$10,000,000 credit from the U.S. Import-Export Bank. Washington granted the credit, but withdrew it upon news of the German occupation. The Germans thereafter systematically expropriated Denmark's economic resources to meet the Reich's wartime needs. Food, gasoline, and coal were strictly rationed. Reserve stocks of oil, raw materials and foodstuffs were shipped to the Reich. The economic activities of the Danes were closely regulated by the German authorities.

Private driving of automobiles was ended almost immediately and in the autumn the fuel shortage led the authorities to limit permits granted for the operation of trucks and buses equipped with wood-gas and peat-gas generators. Travel and train service was greatly restricted. The use of alcohol except light beer and wine was prohibited, as was the production of margarine, lead, rubber, and cocoa products except when they were for military and related purposes.

Large quantities of livestock, butter, bacon, eggs, and other products were shipped to Germany. They were "paid for" at first with German-issued credit certificates that circulated only in Denmark. When the Danish farmers refused to exchange their products for this virtually worthless paper, the Danish National Bank was forced to finance the purchase of Danish produce with Danish currency through a so-called German clearing account. The Germans fixed their own prices for both the Danish produce sent to Germany and German manufactures and other goods received by Denmark in exchange. In addition the German Government paid into this clearing account the wages of thousands of Danish workers who accepted employment in Germany when their own industries were forced to shut down. Despite these wage payments and the fixing of import and export prices at rates highly favorable to Germany, the Danish Minister of Commerce reported in August that in four months the German trade debt to Denmark had risen by 800,000,000 crowns.

Inability to import fodder forced the slaughtering for export to Germany of half of Denmark's pigs, one-fourth of its cattle, and a large proportion of its poultry by the end of September. The potato crop of Jutland was requisitioned by the Germans. White bread was added to the list of rationed articles August 31, butter in November, and soap on December 31. The fat content of all cheese and cream was drastically reduced by government decree on November 21 to maintain exports to Germany while safeguarding the domestic consumption of milk and butter. As a result of the slaughter of livestock and other factors, milk output at the beginning of December, 1940, was estimated to be 25 to 30 per cent lower than a year before, while butter production was 30 to 35 per cent lower. Prices of all necessities had steadily risen. Fuel prices were 100 per cent higher at the

end of September, 1940, than a year earlier; food, 21 per cent; taxes, 37 per cent.

The Danes were also obliged to accept Germany as the middleman in trade agreements made subsequent to the occupation in an effort to find new markets to replace that lost in Great Britain. A special barter agreement was concluded with Finland June 4. Under a triangular clearing agreement concluded in August, German products valued at approximately 30,000,000 Swedish crowns were to be imported into Sweden in payment for Swedish exports to Denmark. A similar arrangement for the first half of 1941 was concluded in December. A Danish-Soviet trade and payments agreement was made September 17.

The earnings of the Danish merchant marine, source of an important part of the national income, were sharply curtailed. Danish ships in Allied ports were requisitioned and chartered by the British and French Governments after the German occupation. The Allied governments gave Danish owners of ships in neutral ports until June 8 to register their ships under either the British or French flags and charter them to the Allies for the duration of the war. Thereafter Danish vessels not transferred to an Allied flag were declared "enemy ships," subject to seizure on the high seas as prizes of war. Consequently many of the Danish ships remained idle in neutral ports.

**Royal Heir Born.** The line of succession to the Danish throne was secured on Feb. 17, 1940, with the birth of a son to Princess Caroline Mathilde, wife of Prince Knud, second son of King Christian. Crown Prince Frederik and his wife had no children.

See FAROE ISLANDS, GERMANY, GREAT BRITAIN, GREENLAND, ICELAND under *History*; EUROPEAN WAR under *The Norwegian Campaign*; LABOR CONDITIONS; LEAGUE OF NATIONS; NAVAL PROGRESS.

**DENTISTRY.** The Dental Centenary Celebration at Baltimore, Md., in March was the event of the year 1940. It commemorated the founding of the first dental school in North America at Baltimore, the meeting of the first dental society as a recorded organization, and the appearance of the first dental journal, all one hundred years ago. The most striking features of the occasion were the historical exhibits, the historical drama, and the academic convocation. The general and scientific sessions, although carefully conceived and well administered, do not present either an adequate or an undistorted picture of either the science or art of dentistry. There were 19 sessions, each limited to a particular field of dentistry, and three general meetings. For each scientific section there were three formal papers and brief introductions of each essayist by either the chairman or vice-chairman. The selection of these section officers and the speakers was intended to be representative of the outstanding figures in each group from North America. On the other hand the contents of the papers are not always indicative of the most significant contributions of the authors to dentistry. The roster of the participants in the various activities of the Centenary includes most of those currently and productively active in dentistry in the United States and many from outside. The voluminous proceedings cover all phases of the Centenary's activities and is handsomely illustrated (*Proc. Dental Centenary Celebration, Baltimore*. Waverly Press, 1940.)

Kellogg Foundation Institute. April 3rd

marked the dedication and formal opening of the W. K. Kellogg Foundation Institute for Graduate and Post-graduate Dentistry at the University of Michigan. In the minds of the donors this Institute was given for the purpose of promoting "graduate and post-graduate education under the sponsorship and direction of the school of dentistry of the university." It was accepted by the university with the belief that "this institution represents one more step toward securing better health for the people of Michigan." For nearly ten years this Foundation has been experimenting with methods to improve the quality of health service given to the inhabitants of five counties centrally located in the State. Amongst others it has encouraged the dentists to take postgraduate courses, arranged for and supported suitable courses in and outside of the State. In addition it has contributed to the personal and traveling expenses of the groups organized for such study. The success of these experiments in the form of better health service to the communities served by these dentists fixed the determination of the Foundation to establish the Institute under the direction of the Dental School of the University of Michigan, no doubt because of its confidence in the ability of the dental school faculty with the help and backing of the rest of the university to make the largest possible contribution toward securing better health for the people of Michigan within the limits of dentistry. The plan obviously aims to increase both the quantity and quality of dental service within the borders of the State. The new building was made possible through financial support from, not only, the Kellogg Foundation, but also Federal and State Agencies. (*Jour. Amer. Den. Assoc.* 27: 817)

**Harvard Plan for Reorganization of Dental Education.** In contrast with the above a new departure which "will combine the basic knowledge and skills of both medicine and dentistry and is designed to train new types of scientific workers for the attack on the great public health problem of dental disease" was announced by Harvard University at about the time of the beginning of the present scholastic year. "Under the new program, the Harvard Dental School will be renamed the Harvard School of Dental Medicine. Dental Students will register in both the new School of Dental Medicine and in the Harvard Medical School, taking three and one-half years of the same medical courses as other students in the Harvard Medical School, and in addition one and one-half years of specific training. Graduates will receive both the M.D. and D.M.D. (Doctor of Dental Medicine) degrees. . . . It is planned to limit admissions to the new School of Dental Medicine to a small number of highly qualified men who will be prepared for certain particular opportunities in the dental field; in teaching, research, special types of practice, general practice and public health. . . . The new program will go into operation in the fall of 1941." It should be remembered that the regular M.D. degree is conferred by most schools now only after an overall five year course, four years in medical school proper and not less than one additional year as a hospital interne under medical school supervision. This five year course represents the minimum standard for the M.D. degree in medicine and the privilege of applying for license to practice medicine. Dental Schools are now conferring either the D.D.S. or D.M.D. degree for four years in dentistry, two years of which are roughly comparable to the first two years in medi-

cine. Under favorable circumstances, permitting no duplications of like courses, an able student can now earn both degrees in seven years (scholastic) and no less, probably more. Yet Harvard proposes to confer both degrees for only five years of study (again scholastic years). It is this phase which has raised much criticism and a belief that the plan is "subversive of the interests of dentistry and of public health." (*Bul. Harvard Univ. and Amer. Dent. Jour.*, 27: 1488.)

Council on Dental Education of the American Dental Association elected an Executive Secretary about the middle of the year and under the date of Oct. 19, 1940, adopted the requirements for approval by them of the schools training dentists. These requirements have been published and distributed to the schools and others interested in them. Schools are given from Jan. 1, 1941, to the beginning of the school year of 1942-43 (September, 1942) to put their houses in order as soon after that date inspections by the Council for certification will begin.

A new journal, *Dentistry, a Digest of Practice* made its appearance in August. As suggested by the name it is a digest or abstract of current literature, about pocket size, about 60 pages, 25 to 31 abstracts per number and one double page editorial. There is no advertising and no illustrations. It has rapidly attained popularity (circulation about 7500 paid subscriptions).

No revolutionary discoveries have been reported: Research in the field of dental caries is continued at a level of high activity; search is being made for substances that will inhibit the process, interest in fluorides is maintained on the basis of such data as that supplied by the communities of Galesburg and Quincy with the surrounding territory. Low caries incidence is parallel with high relative fluorine content of the city waters. The dental history of the Dionne quintuplets supplies a lesson in early caries prevention. Dietary deficiencies, use of sulfanilamide, and the acrylic resins are featured in many papers.

EDWARD H. HATTON.

**DEPARTMENT STORES.** See ARCHITECTURE. For sales, see BUSINESS REVIEW; MARKETING.

**DEPORTATIONS.** See IMMIGRATION, EMIGRATION, AND NATURALIZATION. For Bridges Case, see COMMUNISM.

**DEPOSITS.** See BANKS AND BANKING.

**DEPTH CHARGES.** See NAVAL PROGRESS.

**DESIGN, National Academy of.** See ACADEMY OF DESIGN.

**DIES COMMITTEE.** The U.S. House of Representatives' committee for the investigation of un-American activities, or Dies Committee (Martin Dies, of Texas, Chairman), continued throughout the year its inquiries into the operations of communists and of others suspected of working for the policies of foreign governments, adversely to the interests of the United States. Fear lest the dictatorially governed powers should commit aggression against the United States or other republics counting on its protection greatly increased the committee's influence and brought about some of the objects for which Dies and his supporters among the committee had striven: notably, an act of Congress approved October 18 required organizations either under foreign control or advocating the overthrow of the U.S. Government by force to register with the Department of Justice.

Immediately after the approval of this act Dies announced (October 19) that unless the Government took adequate means to end the political activities of representatives of foreign governments in the United States he would publish data on the subject; and a month later (November 21) the committee issued a "White Paper," containing numerous communications of German diplomatic and consular officials and heads of several organizations administering to the American public information regarded as charged with propaganda. These organizations were the Transocean News Service, the German Library of Information, and the American Fellowship Forum. The published data on these bodies included communications making it appear that in some cases German authorities had given directions that particular, specified matter be disseminated. There followed (November 27) the publication of a "Red Paper," collating records of Communist interest in the control of water-transport workers and in a general strike in case of war.

Early in the year the committee was the subject of a never fully exposed effort to discredit it; and an obscure maneuver was conducted against its active opponents in the House of Representatives. F. E. Hook, Michigan Democrat, offered to the House, late in January, letters purporting to have been written by William Dudley Pelley, head of an organization known as the Silver Legion of America, and to show a connection between Pelley and Dies; the tendency of Hook's proceeding was to indicate Dies as secretly friendly with one of the groups suspected of opposing some of the more liberal features of the Federal Constitution. The letters appeared soon after the Department of Justice had seized in New York City a number of men connected with an association of the semi-military type, known as the Christian Front, sympathetic with social doctrines attributed to the "radio priest," Father Coughlin of Detroit; the arrested men were later tried on charges of conspiracy, declared by testimony to have accumulated weapons, and ammunition, and acquitted (see NEW YORK); meanwhile, their arrest gave opportunity for intimations that the Dies committee had neglected to investigate Coughlin and the Christian Front. The committee was seeking funds from Congress about the time when the Pelley and Christian Front matters loomed up.

The letters offered to the House by Hook at this juncture subjected the Dies committee to risk of termination or of remodeling on lines less displeasing to the Democratic liberals. Soon after the letters appeared, Representative Starnes of Alabama, acting chairman of the committee (during an illness of Dies), detailed to the House the declaration (January 30) of one David Mayne that Mayne had, upon solicitation, prepared and sold (as genuine) spurious letters purporting to have been written by Pelley, and that these were the letters that Hook had offered to the House. It appeared further that Mayne had done this, not for profit, but to trap persons seeking material against the committee. Mayne was reported to have delivered the letters at a dinner given by Gardner Jackson, described as legislative representative for Labor's Non-Partisan League, whose guests included one member of the committee itself and several other members of the House. Hook thereafter withdrew the letters from the record and apologized to the House for presenting them. Pelley, long sought by the committee, made a brief appearance before it

and denied authorship of the letters and any share in their fabrication.

In April the committee undertook to question 90 members of the Communist Party, the German-American Bund, and certain Fascist groups. There followed difficulties in Federal courts, some of which opposed the committee's efforts to imprison, for contempt, Communists refusing to testify as to their party's membership, or ordered the return of Communist records seized by the committee. It succeeded, however, in drawing testimony from divers witnesses to show that Communists had gained a strong position in some fields of transport and communication, such as the system of transit in New York City and the operation of the radio aboard ships. A former Communist worker testified that the party had groups of members in the industries for making aircraft, steel, automobiles, and other main products and among farm labor, students, the unemployed, and religious organizations on the Pacific Coast. The lack of any definite general list of the members of the Communist party continued to hamper the committee, for those questioned as members still could deny their connection. In Pennsylvania, however, the names of 26,000 persons who had signed a petition to nominate Communist candidates for public offices a month before was obtained.

On August 28 Dies announced that it would thereafter be the policy as far as possible to hold the inquiry behind closed doors; the nature of the time, he said, made it dangerous to let witnesses accuse possibly innocent persons of Communist or Nazi leanings. The output of public news about the committee's hearings diminished thereafter. By this time the Federal authorities had become disposed, in view of the need to prevent hindrance of the new program of defense, to proceed in line with some of the committee's mass of findings and suggestions with relation to subversive liberal groups.

**The President and the Committee.** On November 27, the day of the appearance of the "Red Paper," President Roosevelt sent Chairman Dies a telegram of warning, pointing out that "continuing administrative duties in relation to illegal activities lie in the executive branch of the Government and not in the legislative branch"; mentioning, as likely to "handicap or completely destroy administrative plans against subversive activities," "premature disclosure of facts or of suppositions," and "hasty seizure of evidence"; and suggesting that Dies confer with the Attorney General and arrange to avoid creating these difficulties. The message apparently carried an implication that the administration had abandoned tolerance of subversive liberals and undertaken to use the Department of Justice against any of their illicit activities harmful to the task of defensive preparation. There followed an agreement with the Attorney General for harmony between the Committee and the Department of Justice. Chairman Dies had no part in the conferences for this agreement, but he told the press that he welcomed it. Representative Jerry Voorhis of California, who conferred with the Attorney General for the committee, had opposed Dies to the extent of making a public speech (January 18) advocating that the committee investigate "organizations like" the Christian Front, at the moment when the committee's inactivity in that particular direction was put in contrast with the Department of Justice's bringing out the Brooklyn conspiracy charges. The agreement tended to make

Voorhis, rather than Dies, the committee's guide in future relations with the Attorney General.

See COMMUNISM; DEFENSIVE PREPARATIONS, U.S.; FASCISM.

**DIPLOMATIC CORPS.** See AMBASSADORS AND MINISTERS.

**DISASTER LOAN CORPORATION.** Created Feb. 11, 1937, pursuant to an Act of Congress to provide loans made necessary by floods or other catastrophes in the year 1937, its authority was subsequently extended to include catastrophes in the years 1936-40. Its creation, prompted by the disastrous flooding of the Ohio and Mississippi valleys in January, 1937, was a logical step toward an effective catastrophe relief program.

The Corporation functions through a headquarters office at Washington and regional offices established in catastrophe-visited areas, in charge of agents, and manned by experienced personnel. Applications for loans are submitted through the regional offices where they are considered in the first instance by the agent, and a committee comprised of local citizens, prominent in their respective fields of activities, who serve without compensation. Applications thereafter are forwarded to Washington with the recommendation of the agent and local committee for action by the Managing Directors. The proceeds of a loan are disbursed by the Federal Reserve banks.

The Disaster Loan Corporation is the only agency of its kind to initiate practical community rehabilitation at the scene of catastrophe. It is organized to operate speedily and efficiently. At the first word of catastrophe, experienced men are rushed to the scene to make an accurate survey and report of damage done and the type of aid needed to assure normal community economic and social relations with the least amount of dislocation during the rehabilitation period. The speed with which it dispatches personnel to stricken areas is equaled only by the American Red Cross.

The Corporation operates only where local lending agencies do not meet credit demands. In such instances, it fills the gap until normal credit relations are established—that is, until existing credit sources are able and willing to supply the credit demands made upon them by catastrophe victims. The average loan is for a comparatively small amount, more often than not for the purpose of replacing ruined furniture or rebuilding a damaged home. Although small in dollars and cents, such loans make possible the restoration of morale for families who might otherwise be destitute.

While the Corporation was able to aid victims of the Ohio and Mississippi valley areas by disbursing loans for small amounts, it was necessary, in the case of the New England hurricane, to make available, in addition to the usual type of DLC loan, over 13 million dollars to the Federal Surplus Commodities Corporation to enable the salvage of millions of board feet of lumber for the owners of thousands of woodlots devastated by a hurricane in the fall of 1938 which struck vast forested areas in six New England States. The Corporation has made loans in connection with floods in Arkansas, California, Idaho, Illinois, Indiana, Kentucky, Louisiana, Michigan, Missouri, Mississippi, Minnesota, Montana, Nebraska, New Mexico, Ohio, Tennessee, and Texas; cyclones in Minnesota and Illinois; hurricane in South Carolina; tornado in Georgia and Louisiana; and hurricane and flood in Connecticut, Massachusetts,

New Hampshire, New York, New Jersey, Rhode Island, and Vermont.

The Corporation's effectiveness in relieving distress resulting from catastrophes is evidenced by the fact that from its inception in February, 1937, through Dec. 31, 1940, it made loans to borrowers located in more than 40 States. During that period, it approved 22,787 loans, in the aggregate amount of \$30,611,081, and disbursed \$27,110,511. These figures include: (a) One loan authorized and disbursed to the Federal Surplus Commodities Corporation (q.v.) in the amount of \$13,902,650 for the gigantic task of clearing and marketing millions of board feet of lumber cut from logs felled by the New England hurricane of 1938; (b) 22,786 loans authorized to individuals, partnerships, and corporations in the aggregate amount of \$16,708,431 of which \$13,207,861 has been disbursed. Over 4000 such borrowers have repaid their loans in full. Total repayment on such loans amounted to about \$6,000,000, or a little more than 45 per cent of the \$13,000,000 disbursed.

The DLC reported the sale of some 425 million board feet of New England lumber and payments on the loan to Federal Surplus Commodities Corporation were scheduled to commence in 1941.

CHARLES B. HENDERSON and ALBERT L. STRONG.

#### DISASTERS AND DISASTER RELIEF.

The major disasters of the year are listed under CHRONOLOGY. See also ACCIDENTS; AERONAUTICS; DISASTER LOAN CORPORATION; EARTHQUAKES; FIRE PROTECTION; FLOODS; SHIPPING; RED CROSS.

**DISCIPLES OF CHRIST.** A communion known also as the Churches of Christ and Christian Churches. It sprang from a movement for Christian unity, which arose in American Presbyterian circles at the beginning of the 19th century, under Barton W. Stone, in Kentucky, and Thomas and Alexander Campbell in Western Pennsylvania. This is the largest religious body having its origin in America. It was fifth among Protestant communions in the United States in 1940. In policy the churches are congregational. There are six major agencies of the communion: The United Christian Missionary Society; Board of Higher Education; Association for the Promotion of Christian Unity; Pension Fund; National Benevolent Association; Board of Church Extension; besides the missionary societies of the several states and provinces of Canada. These agencies are corporations and are affiliated with the International Convention of Disciples of Christ which meets annually. The Convention in 1941 is scheduled to meet in St. Louis, Mo. The general missionary work both home and foreign of the churches is administered through The United Christian Missionary Society, with headquarters at 222 Downey Avenue, Indianapolis, Ind. Its board of managers of 120 is composed of 60 men and 60 women. The foreign missionary work in 1940 embraced the Belgian Congo in Africa, China, India, Jamaica, Japan, Mexico, Philippine Islands, Puerto Rico, Argentina, Paraguay, and Batang, on the border of Tibet.

Statistics of the communion show that during the year there were 4782 baptisms in the foreign fields. The 417 mission schools had a total enrollment of 14,849. The communion maintained 9 hospitals and 18 dispensaries which gave 558,858 treatments. The Church Extension Fund amounted to \$2,679,485.82 with outstanding loans to 385 churches. The Pension Fund for the ministry

showed assets of \$2,791,211.24. 107 young people's conferences were held. Work in America was conducted among the French, Highlanders, European immigrants, Negroes, Orientals, Spanish-Americans, and Mexicans. The National Benevolent Association maintained six homes for children, and an equal number of homes for the aged. In 1940, 21 Colleges, Universities, Bible Colleges and Foundations co-operated with the Board of Higher Education. The total church membership throughout the world in 1940 was 1,829,465, a gain over 1939 of 11,302; and in the United States and Canada 1,669,222, a gain of 11,796. The Bible School enrollment for the world was 1,192,790, a loss over the previous year of 8632, and for the United States and Canada, 1,133,375, a decrease of 5660. Contributions, missionary, benevolence, and educational, reported for the fiscal year in the United States and Canada totaled \$3,703,690.07.

Among the periodicals published by the communion are *World Call*, *Christian Evangelist*, *Christian Standard*, and *Front Rank*. The president of the International Convention for the year was Dr. Harry B. McCormick, Cleveland, Ohio.

**DISEASES.** See CHILDREN'S BUREAU; DENTISTRY; MEDICINE AND SURGERY; PSYCHIATRY; PUBLIC HEALTH SERVICE; VETERINARY MEDICINE; VITAL STATISTICS.

**DISTRICT OF COLUMBIA.** An area, now coterminous with the city of Washington, constituting the Federal territory authorized by the Constitution for the seat of the United States Government. The city of Washington, formerly a political entity in the District, has become merged with it in political respects. The District is governed in accordance with acts of Congress. Total area, 69¼ square miles; land area, 61 square miles. Population, April, 1940 (census), 663,091; 1930, 486,869.

The growth of the population of the District in the period 1930-40 exceeded that of any other of the 42 most populous cities of the United States, in percentage and, except for the increases of New York and Los Angeles, in number as well. Since the city lacked private industries other than those directly serving its dwellers, its growth resulted essentially from increase in the personnel of the Government.

Measures to add to the attractions of the National capital were many. Joseph E. Widener of Philadelphia was reported (October 17) to have decided to give his collections of works of art to the National Gallery of Art, then being built with money given by the late Andrew W. Mellon, to house and display the latter's collection of paintings. The estate (about \$250,000) of the late Justice Holmes of the U.S. Supreme Court, left by his will to the Government, was applied by an act of Congress to the creation of a park behind the Supreme Court Building, in Holmes's memory. See PUBLIC BUILDINGS ADMINISTRATION.

An unusual popular demonstration occurred on November 7, on the return of President Roosevelt after his election for a third term. By rough estimate, 200,000 persons, not far short of one-third of the population, turned out to acclaim him. Many were Federal employees let out for the occasion.

**DIVORCE.** See LAW under *Domestic Relations*.

**DJEBEL DRUSE.** See SYRIA AND LEBANON.  
**DOBRUJA.** See BULGARIA and RUMANIA under *History*.

**DODECANESE ISLANDS.** See **AEGEAN ISLANDS, ITALIAN.**

**DOGS.** Tightening of the regulations governing the Westminster Kennel Club's annual exhibition at Madison Square Garden and the elevation of American-bred dogs to a commanding position in international exhibitions were two important highlights in the 1940 history of dogdom.

Drastic changes in its rules were made to limit (beginning in 1941) the Westminster show to entries (except puppies) which have previously won first, second, or third prizes at other recognized competitions, and the entire exhibition was shortened from three to two days. By raising the standards and reducing the number of dogs, the club sought to solidify the Westminster's position as the No. 1 canine show of the year.

However, the 1940 Westminster exhibition was conducted along the usual lines of recent years. Herman E. Mellenthin's coal-black cocker spaniel, *Champion My Own Brucie* was adjudged the best of all breeds at the show. Thereafter he was shown twice more during the year, gaining top honors at the Detroit Kennel Club exhibition and repeating his triumph at the Cocker Spaniel Breeders' of New England specialty show in Boston.

The 14th annual exhibition of the Morris and Essex Kennel Club was held as usual at the Giralda Farms, Madison, N.J. Because of the European War, the total of 4087 entries was the smallest since 1936. Here, as at Madison Square Garden, an American-bred dog triumphed, the winner being the great standard poodle *Champion Blakeen Jung Frau*, bred and owned by the Blakeen Kennels of Mr. and Mrs. Sherman R. Hoyt of Katonah, N.Y.

Taken as a whole, the year 1940 was one of the most successful in the history of dogdom in the United States. There was a decided increase in the number of exhibitions and the general public attendance was somewhat above the average.

**DOMESTIC RELATIONS.** See **LAW** under *Private Law*.

**DOMESTIC SERVICE.** See **LIVING COSTS AND STANDARDS.**

**DOMINICA.** See **WINDWARD ISLANDS**

**DOMINICAN REPUBLIC.** A West Indian island, occupying the eastern two-thirds of the island of Hispaniola (Haiti). The name of the capital was changed from Santo Domingo to Ciudad Trujillo, Jan. 9, 1936.

**Area and Population.** Area, 19,332 square miles; population, estimated on Dec. 31, 1939, at 1,655,779. About 40 per cent of the inhabitants are white (mainly of Spanish descent), 40 per cent mixed, and 20 per cent Negro. American citizens, including Puerto Ricans, in the republic (1939) numbered about 2550; other foreigners in 1935—Haitians, 52,657; British subjects, 9272; Spaniards, 1572. Populations of the chief cities (1935 census): Ciudad Trujillo, 71,297; Santiago de los Caballeros, 33,919; San Pedro de Macoris, 18,889; Puerto Plata, 11,777. Language, Spanish.

**Defense.** As of Nov. 1, 1939, there were 3212 men in the active army, 10,000 trained army reserves, 31 men in the air force, 1 gunboat, and 4 armed coastal patrol ships. The national constabulary was organized as an auxiliary arm of the army in 1936. National defense budget in 1940, \$2,070,000.

**Education and Religion.** About 80 per cent of all adult Dominicans were illiterate at the 1935 census. Statistics for 1939 showed 947 primary schools, with slightly more than 103,000 pupils,

6 secondary schools with 1550 students, 12 vocational schools with 3300 students, 3 normal schools with 2000 students, and the University of Santo Domingo (founded 1558), with 350 students. About 97 per cent of the people are Roman Catholics.

**Production.** Agriculture supports about four-fifths of the population. Raw sugar accounted for 64 per cent of the value of all exports in 1939; total production for 1939-40 was 454,812 metric tons. Exports in 1939 in order of value were (in kilos, equal to 2.2 lb.): Raw sugar, 407,370,000; cacao, 28,072,000; coffee, 14,135,000; yucca starch, 11,473,000; leaf tobacco, 8,714,000; corn, 14,401,000; molasses, 95,461,000. Banana exports were 824,000 bunches; live cattle, 9791 head. Potatoes, beans, onions, peanuts, pineapples, etc., are grown mainly for home consumption. Sugar refineries employ about 92 per cent of all persons engaged in industry. Forests yield mahogany, espinillo, lignum-vitae, cedar, and other cabinet and dye-woods. Some gold is mined (shipments in 1939, \$220,630).

**Foreign Trade.** Imports in 1939 totaled \$11,592,000 (\$11,342,495 in 1938); exports, \$18,643,302 (\$14,347,033 in 1938). Chief exports in 1939 (provisional figures): Raw sugar, \$11,804,000; cacao, \$2,014,000; coffee, \$1,732,000; yucca starch, \$624,000; leaf tobacco, \$422,000. Distribution of 1939 exports by countries: United Kingdom, \$6,750,524; United States, \$5,051,357; France, \$2,219,208; French Morocco, \$1,418,202; Netherlands, \$873,577. See **TRADE, FOREIGN.**

**Finance.** Budget estimates for 1940 placed revenues at \$12,140,000 and expenditures at \$12,135,000 (\$11,595,000 and \$11,483,000 respectively in 1939). In 1938 actual receipts were \$11,919,000 and expenditures \$11,379,000. Foreign debt on Dec. 31, 1938, \$15,604,000; internal debt, about \$1,285,000. The Dominican peso is equivalent to one U.S. dollar.

**Transportation.** The republic in 1939 had two railways with 147 miles of line; 2535 miles of highways; regular connections with Pan American Airways Caribbean circuit at San Pedro de Macoris; a deep-water port at Trujillo City and others for vessels of lighter craft at Azua, Barahona, La Romana, Monte Cristi, Puerto Plata, Sanchez, and San Pedro de Macoris. The Caribbean services inaugurated by a steamship line owned by the Dominican Government in November, 1938, were extended during 1939.

**Government.** The Constitution of June 20, 1929, revised as of June 9, 1934, vests executive power in a President elected for 4 years by direct vote. There is a Congress of 13 Senators and 35 Deputies, elected for 4 years by direct suffrage of literate males. However Gen. Rafael Leonidas Trujillo Molina's Dominican party is the only political organization permitted. Trujillo was President of the republic from Aug. 16, 1930, to Aug. 16, 1938, when he was succeeded by his own candidate, Dr. Jacinto B. Peynado. As officially designated Benefactor of the nation, General Trujillo enjoyed a legal status co-equal with that of the President. As War Minister, he remained in active control of the army. For developments in 1940, see *History*.

## HISTORY

**New President Inducted.** President Peynado died on Mar. 7, 1940, after a leg amputation had failed to check an infection, and was succeeded by the Vice-President of the republic, Dr. Manuel de



Jesus Troncoso de la Concha, who under the Constitution was to serve out President Peynado's term expiring in August, 1942. General Trujillo, unofficial dictator of the republic, returned hurriedly to the capital upon President Peynado's death, after a two weeks' absence part of which was spent as a guest at maneuvers of the U.S. Navy between Puerto Rico and the U.S. Virgin Islands.

Trujillo's presence prevented opposition elements from taking advantage of Dr. Peynado's death to attempt the overthrow of the dictatorship. One of the periodic conspiracies against Trujillo was reported to have been crushed in January. Dominican sources asserted that Gen. Ramón Velazquez Rivera, former Dominican army chief of staff, had died in prison. He was jailed on a conspiracy charge after his return to Ciudad Trujillo in 1939 from serving as Dominican consul general at Bordeaux, France. According to this report, two of Velazquez Rivera's brothers and a number of his other supporters were shot to death in Ciudad Trujillo at about the same time the former chief of staff died of slow poison.

**Refugee Settlement.** As a result of General Trujillo's offer to the Inter-Governmental Committee on Political Refugees in London in 1939 to receive up to 100,000 selected European refugees as colonists, a program of refugee settlement was begun during 1940. A contract for the immediate admission and settlement of 500 families, mainly Jews from Germany and Poland, was signed at Ciudad Trujillo on Jan. 30, 1940, by the Dominican Ministers of Agriculture and Interior and officers of the Dominican Republic Settlement Association, organized and incorporated in New York by American Jews. The contract guaranteed the refugees against molestation, discrimination or persecution and made them eligible to obtain Dominican citizenship in accordance with the republic's Constitution and laws. The Dominican Government agreed to exempt the settlers from immigration taxes, federal and municipal land and property levies, and taxes on their equipment and personal belongings. The contract was negotiated with the aid of the U.S. State Department, the Inter-Governmental Committee on Refugees, and the Co-ordinating Foundation headed by former Premier Paul Van Zeeland of Belgium. Despite protests of Dominican exiles in the United States and elsewhere, the contract was unanimously ratified by the Dominican Senate and Chamber of Deputies on February 21.

The first colonists, 37 Jews from Central Europe, arrived at Ciudad Trujillo May 8 and proceeded to settle on a 26,000 acre estate at Sosua, on the north coast east of Puerto Plata, that had been donated for the purpose by General Trujillo. They and subsequent contingents received financial aid from funds left after liquidation of the American Society for Jewish Farm Settlements in Russia. On June 17 it was announced that General Trujillo had agreed to extend the contract signed January 30 to permit the settlement of additional refugees from France and England at Sosua. Four hundred refugees had settled at Sosua by the end of 1940 and another 400 were said to be en route to the colony.

**Foreign Relations.** General Trujillo's long efforts to terminate the American receivership of Dominican customs succeeded in 1940. The United States-Dominican financial convention of Dec. 27, 1924, under which the receivership was adminis-

tered, was superseded by a new convention signed in Washington Sept. 24, 1940, by Secretary Hull and General Trujillo, serving as Ambassador Extraordinary. The actual negotiations were concluded in Ciudad Trujillo on September 7 by Hugh R. Wilson, special Ambassador of the United States, and Dominican representatives.

The new convention provided for the resumption of the collection of customs revenues by the Dominican Government but carefully safeguarded the interests of American holders of outstanding Dominican bonds. All revenues of the Dominican Government were to be deposited in one bank agreed upon by both governments. The two governments likewise agreed to appoint a representative of the holders of the Dominican dollar bond issues of 1922 and 1926, charged with receiving from the Dominican Government during the first 10 days of each month the interest and amortization payments on the outstanding bonds. Not until these monthly payments were made to the bondholders' representative would the depositary bank be authorized to make disbursements on behalf of the Dominican Government. Interest and amortization payments on the bonds and the costs of the services of the bondholders' representatives and of the depositary bank were made an irrevocable first lien upon all the revenues of the Dominican Republic.

In the event that Dominican public revenues exceeded \$12,500,000 in any given year, the convention provided that specified percentages of the excess would be paid into the sinking fund for the additional redemption of the 1922 and 1926 bonds. The agreement concluded in 1934 between the Dominican Government and the Foreign Bondholders Protective Council remained in effect. It was further stipulated that existing Dominican accounting and treasury law might not be changed without the consent of the United States Government and that controversies arising between the two governments would be submitted to arbitration if a settlement could not be reached by diplomatic negotiation.

Simultaneously with the signing of the convention, the two governments exchanged notes providing for liquidation at the rate of \$125,000 annually of the claims of United States nationals against the Dominican Government, and for payment of benefits to two retired American officials who served in the General Receivership of Dominican Customs. The receivership was established at the end of the United States military intervention of 1916-24.

General Trujillo returned to the United States on December 13 on what he described as a trade mission. It was announced December 21 that the U.S. Export-Import Bank had advanced the Dominican Republic a \$3,000,000 loan, bearing 4 per cent interest and repayable in seven years. It was to be used in part to finance construction of a modern tourist hotel in Ciudad Trujillo and in part for the purchase of American road-building and other machinery. Officials of the Trujillo regime said that the Dominican Government had pledged close collaboration with the United States in military and naval matters involved in the policy of hemisphere defense.

Relations between the Dominican and Venezuelan governments became strained during 1940 as a result of vigorous protests made by the Venezuelan Foreign Minister against alleged mistreatment of Venezuelan citizens in the Dominican Republic.



Venezuela was not represented at the second conference of the Inter-American Union of the Caribbean (q.v.) held in Ciudad Trujillo early in June.

The republic was hard hit economically by a severe drought during the early months of 1940 and by the restriction of European markets for sugar, coffee, and other products. New markets were sought in the United States and commercial treaties were signed with Canada and Newfoundland in March. On May 11 a treaty of friendship was signed with the Republic of China. Early in 1940 it was reported that a Haitian-Dominican agreement had been reached for the control of Haitian seasonal labor in the Dominican Republic. See HAITI under *History*.

#### DONATIONS. See BENEFACTIONS.

**DRAFT, Military.** Three months after the sudden, total collapse of France under German attack, the United States took the unprecedented step of making its young men immediately liable to service in its armed forces in time of peace as well as war. The pace of war in Europe had convinced the Government that it could no longer hope for safety by creating defenses after war should come; it adopted the plan of training soldiers and producing materials in advance on a scale sufficient either to discourage or at worst to repel possible adversaries. The draft was but one element in a new defensive program (see DEFENSIVE PREPARATIONS, US).

**Selective Training and Service Act.** This Act providing peacetime conscription, was signed on September 16, 1940, and went into immediate effect. It originated in bills introduced early in July by Senator Burke of Nebraska and Representative Wadsworth of New York. The President soon afterward, in his armament message of July 10, approved the projected legislation. The Senate, passing Burke's bill, limited the draft to men from 21 to 31 years old and added a rider empowering the Government to take and operate any establishment or facility useful for defense, if owners would not make satisfactory terms. The House passed its measure with a provision for drafting men from 21 to 45 and a proviso (Fish amendment) deferring the measure's going into effect for 60 days, to see if voluntary enlistments would suffice to obviate a draft. Adjusted by conference and adopted in one form by both houses, the law retained, with modification, the authorization for taking over industrial establishments, dropped the wait of 60 days, and split the difference as to the upper age-limit for conscripts.

The Act required men of 21 years or over, through the 36th year of age (i.e. to the 36th anniversary of birth), whether citizens or aliens, in the United States and its territories to register for draft at such day or days and places as the President should determine. It *exempted* from registration and from draft the officers and enlisted men in the Army, Navy, Marine Corps, Federalized National Guard, and certain other services, students at the Military and Naval academies, foreign diplomatic and (if not U.S. citizens) consular officials and some groups of their aides, and a few other groups. *Exemption from draft only*, but not from registration, was granted to those who had served 3 consecutive years in the Regular Army, or performed 1 year's Federal service in the National Guard plus 2 years in the Regular Army, or served 6 years in the National Guard; also the Vice-President, Governors of States and Territories, members of leg-

islative bodies, and judges, during their terms of office; public office-holders and other persons designated by the President as necessary in their present positions were temporarily exempted; also ministers and students for the ministry were not to be drafted. Students for degrees in arts or science in colleges were to be allowed to finish the academic year before they could be summoned into service. Conscientious objectors, if found truly to be such, were to be placed, after registration and if drafted, in noncombatant service or, if their consciences forbade this, in other Federal work. *Evaders* of the draft faced trial in a U.S. District court and sentence up to five years' prison and \$10,000 fine.

The *quota* to be taken in a draft must be in the same proportion to the number of men registered, in all the States and territories; but the men of a State or territory who were serving voluntarily in the armed forces were accounted as part of its conscript quota. The President was empowered to make rules for the purposes of the Act and to establish a *Selective Service System*, under a Director of Selective Service. Local boards in the System were to classify registrants physically, mentally, and socially (as in regard to dependents) for availability, deferring service for the less suitable. Boards of Appeal were to pass on questioned rulings of local boards.

The Act limited the *area of service* of conscripts in the land forces to the Western Hemisphere, American possessions elsewhere, and the Philippines. Not over a *total force* of 900,000 conscripts might serve at a time, during peace, in the land forces. When and how many to draft and where to station them was otherwise left to the President, save that he could summon men only in so far as Congress should appropriate means and adequate quarters and as safeguards for the men's health were ready.

Conscripts' *period of service*, save in the event of war, was 12 consecutive months. Afterward, as reservists, they remained available for war and for periods of further training. Conscripts' *pay* in active service was to equal that in the Regular Army, which in turn was increased to a basic \$30 a month (with increments for grades) and thus brought to the Navy's level. Conscripts, after discharge, were entitled to their old jobs, wherever reasonably possible.

The operation of the draft was to *terminate* on May 15, 1945, unless prolonged by further action of Congress.

**Conscription of Industry.** Section 9 of the Act, also to expire on May 15, 1945, gave the President the *power to seize* and operate industrial establishments refusing to produce what the War or the Navy Department might order. The opinion of the Secretary of War or of the Navy, as the case might be, was to determine whether an establishment was able to fill an order and whether the price to be paid and the nature, quantity, and quality of the goods were fair and reasonable to require. The President was allowed to take possession of a non-complying establishment immediately and through the Department of War or of the Navy; no recourse to a process of law therefore was specified, and no limit (save May 15, 1945) was put on the period for which the Government might keep the establishment. The Government was authorized to require that its orders be filled in *priority* to those of other customers. *Failure to comply* with orders from the Govern-

ment was made a felony, punishable by imprisonment up to three years and fine up to \$50,000. The Government, however, was to pay *compensation* for seized products and material and rent on a seized establishment; but the amount of such compensation and rent, the way of determining it, and the agency liable therefor were not specified, save that amount must be fair and reasonable. The statutory rights of *seized plants' employees* as to social security and standards of labor were not to be impaired.

**The Draft in Operation.** On the day of signing the Selective Training Act, September 16, the President issued a proclamation; it set the day, October 16, of the first registration under the Act; it notified all men subject to the draft, throughout the Union, then to present themselves before boards of registration in their respective localities; and it called on Governors to appoint such boards in each State. Later proclamations arranged for registration in the Territories. A Selective Service Committee of officers of the Army and Navy, headed by Lieut. Col. L. B. Hershey, drew the detailed plans for registration and the subsequent steps of the draft. Early declaration was made (October 19) of the number of conscripts that the Army planned to admit up to July 1, 1941; the total was 789,000; leading States' quotas were 114,796 for New York, 62,223 for Illinois, 61,522 for Pennsylvania.

The Government sought to proceed with speed: Thus it could best provide defenders against a risk, officially regarded as substantial, of attack on the part of one or another of the warlike powers under absolute government; thus it could give the world an impression of faculty for prompt action in the realm of war; and not least, thus it could get the difficult moment of putting the people under a novel and, to many, hard or even repugnant liability over with, forestalling any organized obstruction. Provisions for housing additional armed forces (see DEFENSIVE PREPARATIONS) were under way, yet would not for months to come suffice the needs of all the intended conscripts. A plan of serial mustering dealt with this hitch.

Under the detailed draft plan the steps in the drafting of men followed about this order: Men generally registered on October 16, before registration boards, commonly in each election district; a draft lottery at Washington, operated by the Selective Service System, drew (October 29), from the glass bowl used in the conscription of 1917, 9000 numbers, and these were listed in the order of their drawing; the 6500 local Selective Service boards (not to be confused with registration boards), having issued to the registrants numbers running regularly from 1 up to the sum of each board's registered men, now proceeded in each case to examine men holding numbers that had been drawn at Washington, taking the men in the order in which the numbers had been drawn and classifying each man as to physical, mental, and other sufficiency or drawbacks, inclusive of the obligation to support dependents; men found fit in all respects were turned over to the Government for induction into service, in the order in which their numbers had been drawn and in totals sufficient to satisfy each local board's share of its State's quota of all the men to be called into service at the time.

**Registration Day.** On October 16, by estimate, about 16,500,000 men presented themselves for

registration. Their great number, the nature of a proceeding unexampled save in time of actual war, and the prevailing sense of suspense as to their future made the occasion memorable; but the registration passed with only rare opposition. In New York City a group of eight students at the Union Theological Seminary went to the local place of registration and declined to be registered, declaring themselves conscientious objectors not only to fighting but to registry as part of the preparations thereto. Two Socialists in the same city also refused to register. Both groups were arrested. The divinity students pleaded guilty at arraignment; they were sentenced (Nov. 14) to prison for a year and a day. A few other refusals occurred elsewhere.

The local boards, boards of appeal, and other instruments of the Selective Service organization had over them a Director, Dr. Clarence A. Dykstra, president of the University of Wisconsin and former city manager of Cincinnati. He performed the substantial service, not only of putting a new and yet unassembled organization promptly at work, but also of conducting the first steps of the draft in such fashion as to attract public trust. It was given out early that the draft boards would in general grant deferment at first, and provisionally, to men who stated that they had dependents on their earned income.

**Conscripts' Entry into Service.** The first of the drafted men reported for duty, on the days set for divers corps areas in the week of November 25, before their respective local boards. Thence they were dispatched to military units in training camps; they had previously been formally enrolled by the Army. The first contingent numbered only about 18,700 conscripts; it was reduced to this figure from 30,000, the Government making man-for-man allowance to each locality for its draftable men who had volunteered for military service after the act went into effect. Save as affected by this allowance, each area created under the Act had to deliver its proportionate quota of the first contingent. Some local draft boards had filled their whole quotas with volunteers and did not have to conscript for this contingent, but this was exceptional.

The estimated land forces in active service after the incorporation of the November contingent of conscripts were reckoned about 510,000, made up of some 380,000 soldiers in the Regular Army, 112,000 in the National Guard, and the first conscripts.

As it turned out, the Army's own examination of entrants rejected an unexpectedly high proportion of them: Some on account of criminal conviction, many for secondary physical defects, such as paucity of teeth. More men had to be forwarded to make up the resulting deficiency.

See AMERICAN FEDERATION OF LABOR; CONGRESS OF INDUSTRIAL ORGANIZATIONS; EDUCATION; LABOR CONDITIONS; MEDICINE AND SURGERY; SOCIALISM; UNITED STATES under *Legislation*.

**DRAMA.** With virtually all those European centers where the theater normally flourishes either directly involved in war or existing in constant danger thereof, it devolved upon America, and New York in particular, to act as chief standard bearer for the Drama in 1940. And it must reluctantly be admitted that she failed to rise to that opportunity with any real distinction. Rather was her dependence upon the foreign stage for a large



*Courtesy, Herman Shumlin—Photograph by Vandamm*

Ethel Barrymore and Richard Waring in  
"THE CORN IS GREEN"



*Photograph by Vandamm*



*Courtesy, Dwight Deere Wiman—Photograph by Lucas & Monroe*

Kent Smith, Peggy Wood, and Jane Cowl in  
"OLD ACQUAINTANCE"



share of her theatrical entertainment clearly indicated.

The year was more than a week old when its first new play was offered, a ridiculous comedy entitled *The Male Animal*, by James Thurber (humorist and caricaturist), in collaboration with Elliott Nugent, who also was the featured actor. This was counted among the season's successes. The reverse was the fate of the next presentation, a nevertheless creditable attempt to dramatize Roark Bradford's *John Henry* tales of Negro life and superstition, with incidental music by Jacques Wolfe and with Paul Robeson to sing it. But a revival of Sean O'Casey's familiar Irish classic, *Juno and the Paycock*, with Barry Fitzgerald, Sara Allgood, and Arthur Shields conspicuous in its cast, scored more than 100 performances. And nearly as many were recorded by Elmer Rice's pleasant comedy of youth, *Two on an Island*, with Betty Field, John Craven, and Luther Adler in the chief roles. But an importation from Britain of Bernard Shaw's satirical *Geneva* subsisted for but a scant fortnight. Public curiosity concerning the unpredictable, but none the less reprehensible, antics of the once-admirable John Barrymore in *My Dear Children* kept that opus current for more than three months.

February brought, in *Two for the Show*, a worthy successor to the previous year's clever and artistic revue, *One for the Money*. And this was practically that month's sole achievement, by reason of the failure of *Night Music*, by the usually more successful Clifford Odets. But with March came a moderate hit in *The Fifth Column*, a revision by Benjamin Glazer of Ernest Hemingway's published play dealing with the War in Spain. In this Franchot Tone, Katherine Locke, Lee J. Cobb, Arnold Moss, and Lenore Ulric figured to advantage. Then followed a deliberately and shoddily, if mildly, salacious piece by Joseph Carole, Alan Dinehart, and others, entitled *Separate Rooms*, which somehow managed to last the year out with Mr. Dinehart in its principal role. Ferenc Molnar's *Liliom*, first seen in New York nearly 20 years earlier and revived once in the meantime, was admirably restaged in a new adaptation, again by Mr. Glazer, and continued through the spring season. Burgess Meredith, Ingrid Bergman, Elia Kazan, Arnold Korff, and John Emery played the more important characters. And a still more pronounced success was that of the English thriller, *Ladies in Retirement*, by Reginald Denham and Edward Percy, which introduced the highly capable British actress, Flora Robson, to the American speaking stage. Estelle Winwood, Jessamine Newcombe, and Isobel Elsom were the other ladies involved. One more of that sex brought the month to a close, *Lady in Waiting*, by Margery Sharp, adapted from her own novel, *The Nutmeg Tree*, with Gladys George as the stellar attraction.

The spring season gained substance from a four-week revival by Maurice Evans of his notable production of Shakespeare's tragical history of *King Richard II*, but a pleasant, though unimportant, comedy on a moderately propagandist topic by Vincent Sheean, *An International Incident*, understood to be his first play, failed to catch the popular fancy despite a most engaging performance of the central part by Ethel Barrymore. Though achieving a far longer run, *Higher and Higher*, a musical with the Rodgers and Hart label, was nevertheless classed among the disappointing items, as likewise was Albert Bein's fantasy, *Heavenly Express*,

though equipped with an admirable cast that included John Garfield, Russell Collins, Aline MacMahon, Philip Loeb, Harry Carey, and Art Smith. Late April, however, raised the standard with Robert E. Sherwood's impressive and moving paean on the spirit of Finland, *There Shall Be No Night*, as acted by Alfred Lunt, Lynn Fontanne, Richard Whorf, Sydney Greenstreet, Montgomery Clift, Elizabeth Fraser, and Maurice Colbourne. William Saroyan's second play of the season, *Love's Old Sweet Song*, proved to be another example of his now familiar nonconformity to any known laws of dramatic construction and something less appealing than either of its predecessors, notwithstanding the agreeable presence of Walter Huston and Jessie Royce Landis. Then Laurence Olivier and Vivien Leigh celebrated the culmination of their own personal romance with a generally inexpert presentation of *Romeo and Juliet*, Edmond O'Brien and Dame May Whitty appearing with them as Mercutio and the Nurse. Late May found summer styles coming in with such musical items as *Keep Off the Grass*, which with a cast headed by Jimmy Durante and Ray Bolger nevertheless succumbed ere fall, and an Irving Berlin-B. G. De Sylva product entitled *Louisiana Purchase*, featuring William Gaxton, Victor Moore, Vera Zorina, and Irene Bordoni, that was still flourishing at the expiration of the year. The Players Club selected for its traditional week's revival of a classic to close the season Congreve's *Love for Love*, offered as usual with an imposing cast of members and lady guest participants.

Throughout the country, and particularly in the East, the summer theaters reported approximately the same scale and range of activity as in other recent years.

In New York the second half of the year proved even less distinguished than the first. Laggard in starting, the new season found little in the way of novelty to attract except a series of musical or spectacular features designed in most instances as vehicles for the return of popular entertainers who had been out of the local picture for varying periods. These included *Hold on to Your Hats*, which brought Al Jolson back to the speaking and singing stage after an absence of a decade; *Boys and Girls Together*, performing a similar service for Ed Wynn, though after a shorter lapse; *It Happens on Ice*, wherein Joe Cook was amusingly, if illogically, pitchforked into the midst of a delectable and widely varied display of expert ice skating; and *Cabin in the Sky*, a picturesque Negro fantasy that restored Ethel Waters to the ranks of the singing artists after her two seasons as a dramatic actress in *Mamba's Daughters*. To these was presently added a new B. G. De Sylva-Cole Porter opus, *Panama Hattie*, in which, after practically no absence at all, Ethel Merman effected her appearance as a lone star. All five of these were still among the popular successes at the year's end.

The first serious item was an altogether satisfying revival by Grace George of *Kind Lady*, the tense melodrama fashioned by Edward Chodorov from a story by Hugh Walpole. Stiano Braggiotti headed Miss George's supporting company. But then began a series of inconsequential offerings of which the great majority speedily fell by the wayside, in one or two instances without risking a second performance. Among them were no fewer than four so-called satires on the life and population of Hollywood, California, but the trend that apparently threatened was promptly snuffed out.

Surprisingly one mid-September offering, Elmer Harris' *Johnny Belinda*, that received but a chilly welcome, was enabled by the clever portrayal of a deaf-mute by its leading player, Helen Craig, to endure throughout the remainder of the year. Yet an impressive and beautiful work, Maxwell Anderson's conjectural drama of the youthful Jesus as based upon the account in the Gospel according to St. Luke, which he entitled *Journey to Jerusalem*, was quickly withdrawn despite exceptionally creditable portrayals by young Sidney Lumet, Arlene Francis, Horace Braham, Arnold Moss, and others. A second revival in the melodrama class, *Blind Alley* by James Warwick, with Roy Hargrave in his original role of several seasons back, achieved a substantial run. And another surprise was the hit scored by a resuscitation of the old Brandon Thomas farce, *Charley's Aunt*, with, it was claimed, little or no modernization. Jose Ferrer played the leading part. One other item that managed to survive critical disapproval on the ground that it was not nearly up to its authors' standard of hilarity was George S. Kaufman and Moss Hart's *George Washington Slept Here*, a farcical commentary on the craze for old dwellings, with Ernest Truex, Jean Dixon, Dudley Digges, and a fairly notable cast amusingly involved.

A momentary improvement flared up in November with an altogether delightful, if not epoch-marking, presentation of Shakespeare's *Twelfth Night* with Helen Hayes as the Viola, Maurice Evans as Malvolio, June Walker as Maria, Donald Burr as Feste, and Mark Smith and Wallace Acton as Sir Toby Belch and Sir Andrew Aguecheek respectively, all under the direction of Margaret Webster; followed by the importation from London of Emyln Williams' largely autobiographical play, *The Corn Is Green*, in which Ethel Barrymore gave a completely admirable portrayal of one of the central characters and Richard Waring of the other, representing the author himself. Then came another lapse from grace which engulfed a quasi-biographical item entitled *Romantic Mr. Dickens*, that can at least be credited with effecting the New York debut of a new recruit to the stage from the family Barrymore, Diana, daughter of John, who disclosed an apparent inheritance of talent; the latest work of the Hungarian Ferenc Molnar, understood to have been written since he became a refugee in America, *Delicate Story*, which proved just a little too ephemeral to last, even with Edna Best, Jay Fasset, and John Craven contributing truly ingratiating performances; and plays by Irwin Shaw, Edward Chodorov (collaborating with H. S. Kraft), and Paul Vincent Carroll, of Eire. But late December witnessed, and the year ended in, a burst of comparative glory superinduced by a number of pleasant dramas that had evidently been reserved for the Christmas holidays. These included John van Druten's *Old Acquaintance*, an uncommonly entertaining and heart-warming comedy of the miraculously enduring friendship of two lady novelists, wholly unlike in character and temperament, and of the loss of the youthful suitor of one to the daughter of the other. Jane Cowl and Peggy Wood figured with distinction as the protagonists, with Kent Smith and Adele Longmire as the younger couple. Another was *My Sister Eileen*, an adaptation for stage purposes of the stories by Ruth McKenney that appeared originally in *The New Yorker*, later in book form, recounting the humorous and bewildering experiences that befall two girls from Ohio seeking their fortunes in New

York. As staged by George S. Kaufman with Shirley Booth and Jo Ann Sayers as the sisters, this proved the most amusing of the novelties. *Meet the People*, a lively, clever, and highly varied musical revue originated and performed by a group of talented juveniles who, a year previously, had wearied of waiting around for an opportunity to display their ability in Hollywood, formed themselves into a Theater Alliance, and staged their own program of skits, sketches, and specialties, finally reached New York, to a well-deserved welcome. Minor features of the dying year were *Pal Joey*, a Rodgers and Hart musical based on John O'Hara's moderately funny series of vernacular letters, also in *The New Yorker*, purporting to be written by a guttersnipe night club performer to a long-suffering friend, the chief character being taken with almost painful verity by Gene Kelly, with Vivienne Segal also concerned; and *The Flying Gerardos*, a less-than-expert comedy by Kenyon Nicholson and Charles Robinson portraying the domestic and love life of a family of trapeze artists, with Florence Reed as a kind of matriarch. But the very last production of the year was also one of the most noteworthy, Elmer Rice's *Flight to the West*, a serious, thoughtful, moving, and passionately sincere drama of world conditions of today, with its scene laid in a transatlantic clipper New York-bound.

Great Britain. In and near London, it is true, during the early half of the year and until the Nazi bombing raids rendered it both unsafe and impracticable, activity persisted doggedly in the theater in spite of war conditions or, rather, in large measure because of them. For much attention was devoted to providing light, extremely light, stage entertainment for Tommies on furlough. Eventually Bernard Shaw protested that, by intelligence and education, the British soldiery rated a higher grade of dramatic fare, a theory which, tested, proved to be not without foundation. For although the bills continued to be preponderantly of the frivolous type, an increased number of more substantial works not only were offered but met with success, and one of the most pronounced hits of the season was Shakespeare's *King Lear* as produced by John Gielgud at the Old Vic with himself in the title role and a supporting company that included Fay Compton, Cathleen Nesbitt, Jessica Tandy, Lewis Casson, Stephen Haggard, and Jack Hawkins. And prior to this, plays like *The Importance of Being Earnest* and *The Corn Is Green*, which had been running intermittently since pre-war days, could always command crowded houses. Even so desperately serious a work as Eugene O'Neill's *Desire Under the Elms*, never before publicly shown in London, met with popular favor although criticized as already old-fashioned. But Denis Johnston's brilliant yet incredible *Golden Cuckoo* was accorded the reverse fortune.

Among the lighter favorites were a musical by the versatile Stanley Lupino, *Funny Side Up*; a new Charles B. Cochran revue, hardly up to standard but well above current quality; and a pleasant little comedy entitled *Jeannie*, by Aimee Stuart, which started at one of the experimental houses off the beaten track but was shortly transferred to a regular West End theater. This served also to introduce to prominence a young Irish actress, Barbara Mullen, who thus finally arrived in London after an American debut. There was also a new farce, *Nap Hand*, by Vernon Sylvaine. Then followed, as the character of the plays improved,

Emlyn Williams' *The Light of Heart*, hailed as easily the finest new work since the outbreak of the war and a pronounced success with Godfrey Tearle in its leading role; *Cousin Muriel*, by Clemence Dane, which boasted a notable cast including Edith Evans, Peggy Ashcroft, Frederick Leister, and the rising young Alec Guinness; a passionate political and figurative Communist item by Sean O'Casey called *The Star Turns Red*; a dramatization of Daphne du Maurier's *Rebecca* with Owen Nares and Celia Johnson as the protagonists; and *House in the Square*, one of those three-generation sequences, written by a young Welsh actress, Diana Morgan, and presented with Lillian Braithwaite and Margaret Rawlings outstanding in the company. At one or two periods during the season there were more plays current in troubled London than there were in New York.

The annual Shakespeare Birthday Festival was held as usual in the Memorial Theatre at Stratford, opening with a not-too-competent presentation of *Measure for Measure*, soon supplanted by a non-Shakespearean revival of Goldsmith's *She Stoops to Conquer*, but most of the customary summer festivals were cancelled. One interesting occurrence of late spring was the reprieve granted to the famous old Lyceum Theatre, which had been marked for razing. And although from this time on activity in the London playhouses was decidedly irregular, increasing and waning as war-time conditions determined, still a surprising number of new works were cautiously brought out. They included the first regular showing of Bernard Shaw's *In Good King Charles's Golden Days*, seen at Malvern the previous summer; another Vernon Sylvaine farce, *Women Aren't Angels*; a revival of Shaw's *The Devil's Disciple* with the screen actor, Robert Donat, as Dick Dudgeon; Avery Hopwood's *High Temperature*; Robert Ardrey's *Thunder Rock*, which received a heartier welcome than New York had accorded it; Clare Boothe's *Margin for Error*, which, reversely, was found disappointing; *Cottage to Let*, by Geoffrey Kerr, the first play to concern itself with the present war; and *Once a Crook*, a made-to-order item for Gordon Harker. Outside of London the speculative drama of the time of Jesus, *Family Portrait*, reached a British production with Fay Compton and Ursula Jeans as the two principal Marys. Even after the bombing raids afflicted, but failed to dismay, the metropolis, matinee schedules were retained, and Shakespeare's infrequently performed *All's Well That Ends Well* was seen for a few times but was shortly withdrawn in favor of *King Henry IV, Part I*. And even so late as November, after a momentary improvement in general conditions, a new Farjeon revue was brought to light in *Diversion* with no less a stage personage than Edith Evans figuring for the first time in an offering of that type.

Ireland. In Ireland, which, in so far as the drama is concerned, means Dublin, the war served as a positive impetus to the playwrights. For whereas under normal conditions the companies of the two chief theaters, the Abbey and the Gate, spend a goodly portion of their time in touring the nearer European capitals, the existing situation rendered this impossible, and inasmuch as local playgoers had evinced signs of rebellion against seeing the same old familiar repertoire pieces over and over, the only solution of the problem was new plays. Among the more successful new works that resulted were W. D. Hepenstall's farce, *Today and*

*Yesterday*, and *The Rugged Path*, by George Shiels. France. Paris, of course, obviously had little cause or opportunity to be drama-minded after the invasion of France, although early in the year a new work by Henry Bernstein entitled *Ehvre* evoked a wide diversity of critical opinion.

Germany. Berlin, prior to the retaliatory raids by the British bombers, found one of its chief sources of diversion in playgoing. The theaters, however, whether by edict or expediency, confined themselves mainly to the established classics—the dramas of Schiller, Goethe, Ibsen, and Shakespeare pre-eminently—with an occasional political piece for variety. In this last category was the first performance in German of Mussolini's *Cavour*.

For published plays, see LITERATURE, ENGLISH AND AMERICAN. For foreign plays, see FRENCH LITERATURE, SPANISH LITERATURE, etc. See PULITZER PRIZES; RADIO PROGRAMS.

RALPH W. CAREY.

**DRESS.** See FASHION EVENTS; GARMENT INDUSTRY.

**DRUGS.** See FOOD AND DRUG ADMINISTRATION; NARCOTIC DRUGS CONTROL; PUBLIC HEALTH SERVICE; also, medical topics.

**DUGOUTS.** See GEOLOGY.

**DUKE ENDOWMENT.** See BENEFACTIONS. **DUMBARTON LIBRARY AND COLLECTION.** See ART under Museums.

**DUMPING.** See CUSTOMS, BUREAU OF.

**DUNKERS (DUNKARDS).** See BRETHREN, GERMAN BAPTIST.

**DUNKIRK.** See EUROPEAN WAR under *The Battle of Flanders*.

**DUTCH EAST INDIES.** See NETHERLANDS INDIES.

**DUTCH ELM DISEASE.** See ENTOMOLOGY.

**DUTCH GUIANA.** See SURINAM.

**DUTCH WEST INDIES.** See CURAÇAO; SURINAM.

**DUTIES.** See CUSTOMS, BUREAU OF; TARIFF COMMISSION, U.S.

**EARTHQUAKES.** Estimates as to the actual number of earthquakes which are felt in some part of the world each year differ widely, partly because seismological observatories are not regularly distributed over the earth's surface. Sieberg has estimated that 9000 earthquakes take place each year and his estimate is considered reliable by many seismologists. Fortunately, most of these earthquakes are either feeble and harmless or else occur under the sea or in thinly populated regions. According to Peterschmidt, during the four months of March to June, 1939, there were 504 earthquakes felt by people or registered by seismographs. Of these probably about one-fourth were of sufficient strength to have the epicenter determined accurately either by isoseismal lines or from instrumental recordings. If Peterschmidt's compilation is representative it means that in an average year there are somewhat less than 400 earthquakes strong enough to have determinable epicenters. It is also difficult to determine the mean annual loss of life caused by earthquakes. Some years ago Davison estimated that in an average year 14,000 people are killed by earthquakes; a couple years later he revised his estimate and reckoned the average number of lives lost each year in the earthquakes of the whole world to be about 28,000. Heavy quakes often occur in remote regions and are known to have happened only from records made by seismographs over the globe; even from

some populated regions direct news is sometimes weeks or months in reaching the rest of the world. In the United States alone more than 200 earthquakes are usually reported annually.

Aside from the Rumanian earthquake, 1940 was characterized seismologically by the rather numerous aftershocks which followed the great earthquake of December, 1939, in Turkey. There were also a few other damaging earthquakes.

On January 17 eight violent tremors were felt in the original area devastated by the December, 1939, earthquake in Turkey and others were also felt at Istanbul, Smyrna, Castamonia, and Izmid. On the preceding day an earthquake occurred at the village of Balıkcıy near Nigde in southern Anatolia; there the death toll was small because most people were out of doors. On the night of January 17 two more shocks were felt at Nigde, causing 400 houses to collapse and killing 50 people. Between 3 a.m. of February 21 and noon of February 24 six villages were destroyed completely and 300 people were killed in Central Anatolia about 150 miles southeast of Ankara. On April 13 there were further aftershocks of the great earthquake of December, 1939; on this day much damage was caused to 15 villages. On July 30 violent earthquakes took place on the central plateau of Anatolia. Twelve villages were destroyed near Yozgad and this shock was also felt at Ankara, Erzinjan, Tokat, Kayseri, Amasya, Sinop, and Istanbul; on this day 300 people were killed and several hundreds were injured. The epicenter was near Yozgad, not far from that of the great quake of December, 1939. It may be doubted that these strong shocks of July 30 were aftershocks of the December, 1939, quake; however, they do show that the region was generally unstable even after the lapse of seven months. Such a terrific quake as that of December, 1939, would naturally give rise to instability which would persist for a considerable time and cause shocks not quite so intense as the original one.

On October 22 a strong earthquake with epicenter near Barlag shook a considerable area in Rumania; in Bucharest it cracked buildings, caused much excitement among the inhabitants (though no fatalities were reported), and otherwise damaged property. This shock turned out to be a fore-shock of a greater quake less than three weeks later. On November 10, a terrific earthquake came in the early morning. Many public buildings were severely damaged; among them were the new 11-story Carlton flats, the building of the Foreign Ministry, the Royal Palace, the Headquarters of the Rumanian Army, and the Post Office. In all, about 200 public buildings were destroyed and 400 damaged besides 1000 badly damaged homes. This earthquake occurred at the time of a heavy rain, and as in nearly all earthquakes in populated areas fires broke out, while in this case basements were flooded which added to the confusion. After the quake and while a heavy rain was in progress, physicians, men of science, engineers, architects, private citizens, members of the Iron Guard, and German Troops searched wreckage for trapped people; many were rescued. The number reported killed in Bucharest was less than 200. Outside Bucharest other areas in Rumania were affected. At Ploësti the earthquake severely damaged the city hall, the Chamber of Commerce building, a hotel, and the Standard Oil Company's offices as well as private houses. The refineries of the Standard Oil Company had to be closed for about two

weeks to repair damage which was caused principally to pipe lines; the Astra Romana Oil Company plant was also severely damaged. Fires also broke out at Ploësti and sulphur fumes came out of ground fissures. At Focsani, an oil town, many houses were destroyed in the center of the town and hundreds of people made homeless. At Giurgiu on the Danube over half of the houses were destroyed. The prison for political prisoners at Dos-trana near Campina collapsed and about 100 were killed. At Galati, the grain and oil port, the cathedral and St. Helen's church were destroyed. Besides the specific damage mentioned in the foregoing places there was severe damage at Buzen, Ramnicue, Sarat, Pangui, Jassy, and in the Prohava oilfields district.

Outside of Rumania at Ruschuk in Bulgaria there was some damage but no fatalities. The shock was felt at Sofia but Ruschuk was the only place in Bulgaria reporting actual damage. It was felt at Istanbul, Turkey, but no damage was reported there. In Russian-occupied Poland buildings were destroyed both at Komárno and Lwow, this may have been due to a separate earthquake nearly simultaneous with the one centered in Rumania. An earthquake, possibly the Rumanian one, was also felt at Moscow on November 10.

The Rumanian earthquake of November 10 reached a maximum intensity of 10 on the modified Mercalli scale. It was the greatest earthquake in Rumania since 1802 but was not as great as the Turkish earthquake of December, 1939, or the Chilean earthquake of January, 1939. The Turkish earthquake of December, 1939, reached intensity 12 on the modified Mercalli scale, the most severe intensity any earthquake attains according to this scale.

On May 18-19 there were fifty people killed and many injured at Mexicali, Mexico, near the border of the United States. Fifteen separate quakes were felt at this time and houses and government buildings were damaged. From the viewpoint of property damage and lives lost this was the most noteworthy earthquake in North America since those at Helena, Montana, in 1935.

There follow a few minor earthquakes which caused some damage. An earthquake of intensity eight on the modified Mercalli scale was felt at Palermo, Sicily, on January 12. It was the most severe one in many years; it temporarily cut off the electrical supply. The great Messina quake of December, 1908, affected this area. Strong earthquakes were experienced on February 1 and 2 in the town of Katerine at the foot of Mt. Olympus on the shores of the gulf of Salonika in Greece; about 120 houses, including schools and other public buildings collapsed. On the night of April 17 a severe quake was felt at Patras at the entrance to the gulf of Corinth and to the north of the island of Morea; considerable damage resulted. On July 15 an earthquake of considerable severity and attended by floods caused havoc in the Chumbi Valley in southern Tibet. Villages from Yatung southward were affected and a stretch of six miles of the telegraph line from Yatung to India was destroyed; all bridges over the Amachu River were demolished and 200 people were killed. The epicenter was near latitude 28° N., longitude 89° E. An earthquake occurred in the western part of the Japanese island of Hokkaido on August 2; more than a thousand fishing boats were damaged by a huge tidal wave which followed this earthquake. The epicenter was between the island of Hokkai-



do and the mainland of Asia. See SEISMOLOGY; also, FOUNDATIONS.

RICHMOND T. ZOCH.

## EASTERN ORTHODOX CHURCHES.

See RELIGIOUS ORGANIZATIONS.

ECLIPSES. See ASTRONOMY.

ECOLOGY. See ZOOLOGY; BOTANY.

ECONOMICS. See BUSINESS REVIEW; CO-OPERATIVE MOVEMENT; FINANCIAL REVIEW; LABOR CONDITIONS; LIVING COSTS AND STANDARDS; PLANNING, etc. For books on the subject see LITERATURE, ENGLISH AND AMERICAN under *Economics*. For economic conditions see countries under *History*.

ECUADOR. A South American republic. Capital, Quito.

**Area and Population.** Ecuador's boundary with Peru remains unsettled. The area claimed by Ecuador is officially estimated at 276,007 square miles, including the Galápagos Islands (2868 square miles). Estimated population in 1940, 2,921,688 (about 10 per cent whites, 39 per cent Indians, 41 per cent mixed, and 10 per cent Negroes and Orientals). Estimated populations of the chief cities: Quito, 215,921; Guayaquil, 180,000; Cuenca, 48,300; Ambato, 25,200. United States citizens residing in Ecuador on Jan. 1, 1940, numbered 504; Germans, about 2000.

**Defense.** As of Nov. 1, 1939, there were 5450 men in the regular army, 450 in the air corps, 40,000 trained reservists, and a few small naval vessels. At the beginning of 1940, an Italian mission was instructing the army, a United States mission the navy, and the military aviation school had an Italian instructor (see *History*). Defense budget for 1940 amounted to 26,740,000 sucres (24 per cent of total).

**Education and Religion.** The Indian and mixed races are largely illiterate. School attendance for 1938 was: Primary, 221,031; secondary, 8323; universities, 1475. Education budget for 1940, 18,604,000 sucres (17 per cent of total). Quito has a German college (Colegio Alemán), and an American school, the latter opened in October, 1940. Roman Catholicism is the dominant faith but there is no state religion.

**Production.** While agriculture supports about 90 per cent of the population, minerals produced by foreign-owned companies account for nearly one-third of the value of all exports. Cacao exports in 1939 (about 13,277,808 kilos of 2.2 lb.) represented 22.5 per cent of the value of all exports. The 1939 coffee crop was 12,321,330 kilos. Bananas, cereals, fruits, vegetables, sugar, and cotton also are grown. The forests yield tagua nuts, rubber, balsa wood, and kapok. Mineral production in 1939 was: Petroleum, 2,313,000 bbl.; gold (Central Bank purchases only), 1,152,148 grams; silver, 3.6 metric tons. Straw hats and small quantities of textiles, paper, leather, banana flakes, and flour are the chief manufactures.

**Foreign Trade.** Imports in 1939 were valued at 147,860,226 sucres (148,314,911 in 1938); exports, 164,840,543 (169,095,627 in 1938). The value of the chief 1939 exports was: Cacao, 37,031,000 sucres; cyanide precipitates (chiefly gold, with some silver, lead, and copper), 26,404,000 sucres; petroleum and its products, 25,005,000 sucres; gold bar and coin, 14,893,000 sucres. Of the 1939 imports, the United States supplied 49.1 per cent (37.5 in 1938); Germany, 6.8 (17.5); France, 6.6 (8.0). Of the exports, 48.7 per cent went to the United States (34.6

in 1938); 18.1 to Germany (24.1); 5.5 to the United Kingdom (7.7).

**Finance.** Ordinary revenues and expenditures for 1941 were estimated at 117,200,000 sucres (113,050,000 for 1940) and extraordinary revenues and expenditures at 8,702,000 sucres (8,025,000 for 1940). Actual ordinary revenues in 1939 were 117,187,000 sucres and expenditures, including the deficit of nearly 8,800,000 sucres in the 1938 budget, were 121,925,000 sucres. Foreign debt on June 30, 1939, \$26,470,000; internal debt on Dec. 31, 1938, 25,624,525 sucres. Average exchange rates of the sucre in 1939 were: Free bank rate, \$0.06671 (\$0.07027 in 1938); Central Bank rate, \$0.06743 (\$0.07077).

**Transportation.** Ecuador in 1940 had about 775 miles of railway line, 3852 miles of highways, and two air systems (Pan American-Grace and the German-controlled Sedta lines) linking the principal cities. On June 11, 1940, the Sedta system extended its line between Quito and Guayaquil to Loja in the southwest (see *History*). During 1938 473 vessels entered Guayaquil, the leading seaport.

**Government.** The political situation in Ecuador became increasingly confused after the military coup d'état of 1925. After 1929 continual friction between President and Congress led to frequent revolutionary outbreaks and a succession of provisional governments, ruling largely by decree. The Constitution of Mar. 26, 1929, was annulled on Sept. 27, 1935, and the 1906 Constitution provisionally restored by executive decree. A Constituent Assembly adopted a new Constitution Dec. 1, 1938, but the Congress elected on Jan. 15, 1939, promptly annulled it and the government restored the 1906 Constitution. On Nov. 14, 1939, Provisional President Aurelio Mosquera Narváez died in office and Dr. Carlos Arroyo del Río, President of the Senate, became Acting President. He resigned Dec. 11, 1939, to become a Presidential candidate in the election set for Jan. 10-11, 1940, being replaced by Dr. Andrés F. Córdova. See below for 1940 developments.

## HISTORY

**Internal Politics.** Ecuadorean politics continued their stormy course during 1940, while economic conditions became steadily worse as a result of the European War. At the same time the conflict between the United States on the one hand and Germany and Italy on the other for strategic positions and dominant political influence in Ecuador grew in intensity.

The election arranged in 1939 (see *YEAR BOOK*, 1939, p. 210) was held as scheduled on Jan. 10-11, 1940. The Liberal-Radical candidate, Dr. Arroyo del Río, received 32,000 votes as against 20,000 received by former President José María Velasco Ibarra, candidate of independents, Socialists, and others, and 14,000 counted for Jacinto Jijón Camacho, the nominee of the Conservative party. Dr. Córdova continued to serve as Acting President until Congress certified Dr. Arroyo del Río's election on August 17 and he was inaugurated as constitutional President on September 1.

In the meantime there was a series of unsuccessful revolts and anti-government conspiracies. During the night of January 11-12, followers of Velasco Ibarra in Guayaquil declared the election a farce and, led by a number of army aviators, staged an uprising that was quickly suppressed. The army remained loyal and an attempt to launch a general strike failed when the strikers were giv-

en 24 hours to return to work or forfeit the protection of all labor laws. The Council of State granted Acting President Córdova emergency powers for 90 days to deal with political disturbances. Velasco Ibarra was released from jail upon his acceptance of a government offer of exile, and went to Medellín, Colombia.

On January 27 another abortive revolt broke out at Esmeraldas, apparently directed against provincial officials accused of pilfering municipal funds. Amnesty for all those involved in the January 12 uprising, except Velasco Ibarra and a few other ringleaders, was proclaimed on March 21. A few days later (March 28) conspirators attempted to seize the artillery barracks in Quito and overthrow the government. This attempt, likewise attributed to Velasco Ibarra, was easily suppressed, and the emergency powers granted the government in January were extended. A month later the police raided the Quito residence of another former Provisional President, Gen. Alberto Enríquez, who headed a dictatorship in 1937-38. Seventeen Enríquez followers were arrested on charges of plotting a revolt. General Enríquez was subsequently exonerated of complicity.

**Economic Trends.** On January 1 Acting President Córdova repealed the exchange control system under which an attempt had been made to restrict imports in accordance with declining exports. The result was that imports continued at a high level, while exports steadily dwindled due to the loss of further export markets in Europe. The growing shortage of foreign exchange to pay for excess imports caused a drain on the gold reserves of the Central Bank and the rapid depreciation of the sucre. Due to lack of exchange, the Central Bank on April 26 abandoned the stabilized rate of 15 sucres to the dollar, which it had quoted since May 29, 1939, and in subsequent weeks the sucre depreciated to 22 1/2 to the dollar.

Forced to reverse its policy, the government re-established exchange control on June 4, placing all operations in the hands of the Central Bank. The customs tariff on a large number of imports was increased June 6. On June 13 quantitative restrictions were imposed on imports of numerous articles during the next six months. The decree of June 4 also revalued the gold holdings of the Central Bank at 16.69 sucres per troy oz., and the profits accruing from revaluation were set aside in a special fund for the stabilization of the sucre. Industrial production had been declining as a result of the adverse economic situation, while the cost of living had risen due to depreciation of the sucre. The government attempted to check this trend by stabilizing the sucre and by a decree of June 15 forbidding factories to increase the selling prices of their products without special authorization by the Minister of Industries. Efforts were also made to balance the budget by reducing expenditures. These steps caused the sucre exchange rate to improve to about 15 sucres per dollar by December 31.

Economic conditions remained difficult, however, and a severe shortage of wheat and rice developed. To meet this situation Congress on September 24 authorized the President to negotiate a \$1,150,000 public works loan from the Export-Import Bank in Washington. Revision of the restrictive measures adopted against foreign corporations during the Enríquez dictatorship (see YEAR BOOKS, 1937 and 1938) was undertaken to encourage foreign capital. To promote national production, an emer-

gency decree was issued exempting agricultural and industrial machinery and certain raw materials from the 50 per cent import surtax. A decree of November 14, issued with the approval of the Council of State, authorized the President to issue emergency decrees of an economic character as circumstances warranted.

**Relations with United States.** Ecuador received aid from the United States in meeting its economic problems. On June 4 the Export-Import Bank at Washington announced the extension of a \$1,150,000 credit to Ecuador for highway construction, purchase of railway equipment in the United States, and research on the republic's disease-ridden cacao industry. The State Department at Washington announced June 15 that it had agreed to temporary modification of the reciprocal trade agreement of Aug. 6, 1938, with Ecuador to permit the Quito government to impose quota restrictions on imports.

Washington also sought the co-operation of Quito in curtailing German activities in Ecuador and in preparing to defend the southern and western approaches to the Panama Canal. It was disclosed in Washington May 26 that an army officer and a naval officer had been sent to Ecuador at the request of that government to confer on "general Western Hemisphere defense." Reports from Guayaquil stated that these officers submitted proposals for American help in unifying and reinforcing Ecuadorean land, sea, and air forces, particularly at the virtually defenseless but strategically important Galápagos Islands.

At the end of May it was reported that Washington was negotiating with Ecuador for the elimination of the German-operated Sedta Airline, which placed German planes and pilots, who were reservists in the Reich air force, within striking distance of the Panama Canal. The Quito authorities refused a request of the Sedta company for permission to establish an air service to the virtually uninhabited Galápagos Islands but demurred at closing the Sedta lines in Ecuador, operated at a large annual deficit covered by the German Government. On November 16 Pan American-Grace Airways started competition with the Sedta lines with a weekly service between Quito and the provincial cities of Esmeraldas, Manta, Salinas, and Guayaquil.

At the request of the Quito Government, the U.S. aircraft tender *Sandpiper*, with two naval planes, mapped the Ecuadorean coast from the air during June and July. In August, the U.S. gunboat *Erie* and destroyer *Tatnell*, commanded by Rear Admiral H. K. Hewitt, visited the Galápagos Islands with a group of Ecuadorean army, naval, and air officers, appointed by the Minister of Defense, to study the feasibility of a hemisphere defense base there. The contract of the Italian military mission was rescinded on December 4 and on December 12 an agreement was signed in Washington whereby the United States undertook to send a naval mission and a military aviation mission to advise the Ecuadorean navy and air force. On December 24 the Minister of Defense instructed the military and naval forces to devote two hours weekly to instruction in English. Two decrees promulgated December 28 established universal military instruction for all citizens between 18 and 50 and pre-military instruction in all schools, colleges, and universities.

**Boundary Controversy Revived.** These defense preparations were inspired partly by the de-

sire to co-operate in the inter-American hemisphere defense program and partly by the revival of the long-standing boundary dispute with Peru, which had repeatedly threatened to involve the two countries in war. In December the Ecuadorean press placed great emphasis upon reports of alleged Peruvian encroachments upon the disputed area. This revival of tension handicapped the efforts of a joint Ecuadorean-Peruvian commission to agree upon a temporary boundary line pending a final settlement of the controversy.

**The Propaganda Battle.** The strengthening of United States influence in Ecuador was accompanied by a violent propaganda battle between the pro-democratic and anti-democratic forces in the republic. The influential German colony, led by Nazi agents, led the attack upon the United States. Washington was accused of scheming to establish control over Ecuador on behalf of "Yankee imperialism." This charge was echoed by the Conservative party in Ecuador and by some officials and army officers. The majority of Ecuadoreans, however, appeared sympathetic to the United States and to the Allied cause in the European War.

Charges of widespread Nazi infiltration and propagandist activity, made before a secret session of Congress in September, was followed by a Senatorial investigation. On September 25 the government asked Congress for wide powers to expel suspected propagandists and on December 22 a Guayaquil newspaper reported that the government had expelled the head of the German school in Quito. To counter the activities of several pro-Nazi publications, a pro-democratic propaganda organ, *La Defensa*, was established by Sen. Filémon Borja, leader of the anti-Nazi campaign in Congress.

Liberal circles in Ecuador severely criticized a Spanish educational mission of seven pro-Fascist professors, which arrived in Ecuador in September. The Franco Government of Spain had offered to send the mission at its own expense and this offer was accepted by the Córdova administration. Anti-Fascists demanded that the Arroyo del Río Government cancel the mission's contract.

See FASCISM; PAN AMERICANISM.

**EDUCATION.** The war is exercising a profound influence on education in every part of the world. Negatively, education is being curtailed in belligerent and occupied countries. Where they are exposed to attack, children are being taken away from their homes to places of safety. While measures are being adopted wherever possible to provide the young refugees with education, there is inevitable disturbance in their schooling. An even more marked effect is appearing in occupied countries. In Poland, for example, the native population is allowed to attend only elementary schools and trade schools. The Polish secondary schools and universities have been closed. The German population transferred to Poland is being provided with secondary education. The German Minister of Agriculture in an address reported in *The New York Times* declared it to be the policy of the Third Reich to limit all conquered peoples to meager education, to consign them even to illiteracy, while only Germans are to have higher education.

On the positive side the war is resulting in the employment of education in many countries as a means of propaganda for the acceptance of extreme forms of nationalism and as a means of preparation for participation in military and industrial activities. As far back as 1934 Marshal

Pétain in a public address deplored the failure of education to cultivate in young people in France what he called "patriotism." He charged that "our educational system pursues as its sole aim the development of the individual considered as an end in himself. The members of the teaching profession devote themselves quite openly to the end of destroying the State and society." He recommended the reconstruction of the whole educational system and the adoption of an educational policy "binding the school and the army closely together." "The army," he said, "the crown of national education, would, with its lofty lessons of equality, solidarity, discipline, and self-denial, sow the seeds of the welfare of society and the superior interest of the State." The trend of education in unoccupied France is easy to prophesy in view of the Marshal's strong convictions. In such countries as Norway and Greece children are being drawn into patriotic services, even into services of direct assistance to the armed forces. In Germany itself the old *Gymnasium*, with its devotion to the classical curriculum, is being overshadowed by the new secondary school which Hitler favors, the *Deutsche-oberrealschule*. This new secondary school teaches the students nationalism, race biology, and science as substitutes for the traditional courses in the languages.

In the United States the schools and colleges are rapidly being drawn into co-operation with the defense program. It is true that the new trend has not yet changed to any great extent the conventional program of instruction in the elementary schools or in the majority of the secondary schools, but there is much vigorous discussion going on which will quite certainly affect the work of all educational institutions both with respect to the contents of the curriculum and with respect to the methods of teaching.

An important document issued by the American Youth Commission of the American Council on Education under the title *What the High Schools Ought To Teach* presents a program for the reorganization of American secondary schools. This program is sponsored by ten leading students of education and administrators of public schools. It opens with a historical account of the steady movement of American secondary education away from the pattern of European education of the same level. This movement began with the pronouncement made by Benjamin Franklin in 1749 and has gained in momentum as the pupil registration in secondary schools has increased since 1880 to the point where now it includes two-thirds of the adolescent population of the country. This movement has led to emphasis on the natural and social sciences and on the various technical subjects.

The report lays stress on the importance of continuing in the secondary school the training in reading which begins in the elementary school. The reason for continuing this training is that it equips the advanced pupil for independent acquisition of the great body of intellectual material to which the school can introduce him but for which institutional education must always be too limited in time to provide anything like complete coverage.

The second contention of the report is that education must in all cases provide for the cultivation of manual skills. Education has in the past been negligent in cultivating manual skills with the unfortunate social consequence that a wide breach has developed between labor and intellectual activities. The healing of this breach is regarded as of

major importance if pupils are to be properly prepared for the life of a modern community.

The third point made is that the school curriculum needs to be enriched by the inclusion of far more social instruction than has been included in times past. It is pointed out that the deficiency in social studies is due to the historical fact that in earlier times the home was able to give young people all the education which was necessary for an understanding of the simple forms of community organization that constituted the social environment. The growing complexity of modern political and economic life has changed the situation and has created the obligation for a treatment in schools of all phases of social organization.

After emphasizing these areas in which the curriculum needs expansion, the report enters into a vigorous criticism of the courses that deal with traditional subjects. Perhaps the spirit of the criticisms made can best be illustrated by quoting a part of the section of the report which deals with the instructional program of the ninth grade of the typical high school:

Pupils in this grade come from the general curriculum of the elementary school or from the liberal curriculum of the junior high school where exploratory courses have opened up many avenues of interest. The ninth grade puts an end to all general studies. It is essentially a period in which every course is designed as preparation for what is to come later. The courses of the ninth grade are seriously lacking in direct appeal to pupil interests. The curriculum of this grade includes required courses in English composition and algebra, and two or more courses from the following: foreign language, science, history. English composition and algebra are commonly regarded as very difficult and are sure to discourage pupils who are not "academically-minded." Of the three other courses, foreign language is commonly insisted on, and history is often ancient history.

It would be difficult to devise a more uninviting year's study for adolescents. The number of young people who are turned away from the pursuit of learning by this program is so large that it seems legitimate to conclude that there must be something radically wrong with a curriculum that runs directly counter to compulsory school attendance laws and to the purposes which a public school ought to serve in an age when young people are forced into schools by economic and industrial conditions.

Suppose that it is assumed for a moment that adolescents are, in a large number of cases, going to attend secondary schools for only two years or less, what can be offered them in order to stimulate them to the maximum? If this question is to be answered in the spirit of a genuine interest in young people, rather than in the spirit of devotion to tradition, certainly one should select for the ninth grade the most captivating studies that can be found and those which will most surely set the learners on the way to adulthood equipped to meet its problems. No one who has talked with young people and learned what they are thinking about can possibly believe that English composition, as commonly taught, and algebra would be chosen by many of them if they had any voice in the selection.

The document from which the foregoing quotation is taken naturally aroused the antipathy of the teachers of the languages. They perhaps more than any other group of educators have vested interests in the curriculum as now organized. It is not surprising that opposition to the report published by the American Youth Commission should come from organized language teachers. The following quotation from *School and Society* of Dec. 14, 1940, shows the attitude of these specialists.

Inasmuch as a pamphlet—"What the High Schools Ought to Teach"—sponsored by the AYC and prepared by a committee of five professors of education, three city superintendents of public schools, one high-school principal, and the director of an industrial institute, contains radical criticisms of the "conventional subjects," English, mathematics, foreign languages, natural sciences, and history, it seems highly important to teachers of foreign languages that a committee making such a report should not be dominated by professors of education and educational administrators, but should comprise "representatives of the general public, of parents, of business and professional

life, of the intellectual leadership of this country and . . . of the so-called 'traditional subjects' of English, mathematics, foreign languages, history, and natural sciences, . . . 'exact and exacting' studies which contribute to an understanding of the world in which we live and at the same time help to provide knowledge and skill vital to any program of national defense."

A second important development in the field of secondary education is outlined in a pamphlet published by a committee of the National Association of Secondary School Principals. This pamphlet is entitled *The Occupational Follow-up and Adjustment Service Plan*. The pamphlet recommends that secondary schools continue to interest themselves in their pupils after they have left school either through graduation or through withdrawal before graduation. In the past secondary schools have in general not regarded themselves as in any way responsible for individual pupils after they leave school. The efforts of the Federal Government, through the Civilian Conservation Corps (q.v.) and the National Youth Administration (q.v.), to take care of young people between the ages of eighteen and twenty-five who are out of school and unable to secure employment have proved beyond question the necessity of attention by public agencies to some form of post-school assistance and guidance of young people. The secondary schools are gradually coming to a recognition of the fact that it would be of advantage to themselves to find out how well their products succeed in the practical life into which they enter after school days. There will need to be much more attention to out-of-school youth than has ever been given in the past. The program of personnel study and guidance presented in the pamphlet mentioned is quite in harmony with the growing practice in all defense agencies to regard training and adjustment as important for older workers as well as for youth.

The defense program has resulted in the adoption of an adult-education program of large proportions. When the President of the United States organized the National Defense Advisory Commission (q.v.), he assigned to one of the members of the Commission, a labor leader, the specific duty of dealing with personnel and training. It is the duty of this member of the Commission to see that industry is supplied with the workers that are required to carry on its operations. Where there is a deficiency of workers in any particular line, a program of training is to be conducted. The Defense Commission turned naturally to the educational system of the nation for help in its training program. The U.S. Office of Education (q.v.), through its vocational division, responded to the call and enlisted the co-operation of technical schools and engineering schools. The first steps in the program for the training of workers were taken during the summer of 1940, when vocational schools, in accordance with their usual practice, were closed. These schools were kept open, the expenses being met with Federal funds drawn from the appropriations made by the Congress for defense. The summer sessions of the technical schools were conducted for the double purpose of preparing skilled workers and reducing the country's relief rolls. The trainees were drawn in the first instance from the relief workers enrolled on WPA projects. They were drawn in the second place from the registrants in the Federal Employment Agency. Some of the courses were intended to bring to a high level of skill the technical abilities of men who had once worked in mechanical trades

but who, through a period of unemployment, had lost some of these skills. The courses for such workers were called "refresher courses." Other courses were designed for men, young or old, who had never worked in mechanical trades but could be made competent by a short course in some particular line, such as the manipulation of a drill press.

It was pointed out by critics of the summer courses thus organized that very little was being done for the young people for whom the technical schools were organized by local communities. A partial answer was given to this criticism by the statement that one of the most urgent needs of the country was to get older workers into employment. Furthermore, it was promised that in the autumn the Defense Commission would stimulate an expansion of instruction of secondary-school grade which would reach adolescent youth.

The promise has been fulfilled in the regular sessions of the schools. These have been supplemented by instructors and materials supplied through the Office of Education and by a program of co-operation between schools and the National Youth Administration. The Congress made an appropriation of \$50,000,000, \$7,500,000 of which is being spent by the Office of Education to provide courses in schools for the youth employed on National Youth Administration projects; the remaining \$42,500,000 is being spent by the National Youth Administration in organizing supplementary centers for the training of mechanics.

While these adjustments were being made in the secondary schools, a movement was being inaugurated in the engineering colleges. These schools were greatly stimulated by a statement of the President in which he pointed out that national defense requires training of various forms other than direct military drill. He referred to medical training and training of engineers. The engineering schools have found, and in recent months industrial establishments have found, that it is not possible to turn out fully trained engineers fast enough to meet the demand. Resort has been had to various means within the industries and within the training institutions of utilizing to the full the services of such trained engineers as are available. The device most commonly adopted is to associate with an engineer of the highest type a number of workers who can be prepared through a short course to work under direct supervision on some highly specialized aspect of an engineering job.

It has been said by some who object to this method of speeding up induction into mechanical activities that the individual is being sacrificed to the emergency, that everyone has the right to as much training as may be necessary to carry him to the upper levels of his trade or profession. To such objectors it has been replied that in practical operation industry is providing a corrective to any limitations in the present educational program. Industry is so urgently in need of workers who are competent to operate independently in the more highly skilled activities that it is compelled to open up lines of promotion from the lower ranks to those who show promise. Perhaps the most important outcome of the whole speeded up program of education will be a general realization of the necessity of keeping open the avenues of individual improvement throughout the whole of one's career.

The conscription of the young men of the nation promises to be highly significant for education. Before the conscription act was passed the President

made the recommendation that every young person, male or female, be called on as a part of his or her preparation for adult life to serve for a year or more contributing to public welfare. An order later issued with respect to the application of the conscription act showed that the President's idea is still alive. Conscientious objectors to military service have been told that their scruples will not exempt them from public service. There are so many needful activities in national defense other than the carrying of guns that conscientious objectors can be fully employed in operations to which no objection can be made. All will therefore be conscripted whatever their beliefs.

The President has taken another step in the direction of co-ordinating the efforts of the government in the preparation of the people of the country for all emergencies. He has assigned to the administrator of the Federal Security Agency, who in 1939 was appointed to co-ordinate the welfare activities of the nation, the duty of engaging in a vigorous program for the promotion of public recreation and health. Since the administrator has in his agency the United States Office of Education and the Public Health Service as well as the National Youth Administration and the Civilian Conservation Corps, it is clear that this new assignment is designed to speed up and improve the educational, health, and total welfare program of the nation.

A significant step toward closer co-ordination of education and government was initiated by the educational institutions of the country. It is a fact vividly in the minds of older educators that, when the United States entered the first World War, there was chaos in education, especially in the colleges. No one knew how the colleges and schools could be of service. Experiments in utilizing the colleges as military camps were tried with results that proved to be seriously unsatisfactory. With the resolution that the mistakes of the earlier period should not be repeated, educators organized as soon as the President declared that there is an emergency and asked the government to set up a liaison committee which would define what schools and colleges could and should do. The first committee that was appointed to meet the request of the educators proved to be less representative of all branches of the education profession than seemed to many to be desirable. A second effort, which aimed to secure satisfactory representation, was made by bringing together delegates from fifty-nine educational organizations. These delegates, after deliberation, assigned to the president of the American Council on Education and the executive secretary of the National Education Association, acting as co-chairmen of a general education committee, the appointment of a representative committee. Such a committee, consisting of nineteen persons, was appointed. This committee is studying all aspects of the situation and preparing reports which will aim to guide the operations of educational institutions if the emergency deepens. Fortunately, the Army has of its own initiative reached certain decisions which make the outlook much less confused than it was in the period of the first World War. The Army does not intend to organize training classes in the colleges as it did in 1917 in the S.A.T.C. There are now enough trained officers in the Army to take care of the first needs.

One phase of the international relations of the United States which has been much discussed in educational circles is the relation of this country

to the Latin-American nations. The State Department organized early in 1940 a conference on cultural relations to which representatives of the countries of South and Central America were invited. The outcome of this conference was the appointment of several standing committees which are active in promoting cultural relations in the Western Hemisphere. Among these are committees on education, music, and art. It has been recommended in many quarters that schools and colleges contribute to a more sympathetic understanding in this country of Latin-American civilization by giving courses on the history and culture of countries south of the Rio Grande.

One topic on which teachers of all levels are especially sensitive is their freedom to carry on investigations and to teach what they believe to be the truth without restraints of any kind. Teachers hold that the tradition of academic freedom was at one time fully accepted by civilized countries and must now be regarded as one of the most precious heritages of democratic countries since it seems to have been abandoned in many parts of Europe.

The members of the faculty of Columbia University were greatly agitated when the president of that institution called them together and said to them, "Before and above academic freedom of any kind or sort comes . . . university freedom, which is the right and obligation of the university itself to pursue its high ideals unhampered and unembarrassed by conduct on the part of any of its members which tends to damage its reputation. . . . Those whose convictions are such as to bring their conduct in open conflict with the university's freedom to go its way toward its lofty aim should, in ordinary self-respect, withdraw of their own accord from university membership." Several members of the faculty, after listening to this pronouncement, wrote to the president asking for amplification of his meaning. The president answered the letter of inquiry, pointing out that he had always defended the academic freedom of members of the Columbia faculty and making the following explicit statements.

The phrase academic freedom, as defined two hundred years ago when it first came into use, has always had a very definite meaning. Its application is restricted to the work of professors and scholars. Student freedom is, therefore, a separate thing from academic freedom. Like academic freedom, however, student freedom carries with it a responsibility to safeguard the good name of the university.

The conduct outside the university of a member of any faculty is for the individual himself to control. He should, naturally, do all in his power to avoid doing anything to injure his university's reputation.

The off-campus conduct of the sincere isolationist or honest critic of the national policy of defense is protected by our ordinary American doctrine of civil liberty and ought, therefore, to be free from persecution.

The references to the private lives of members of the faculty and to the rights of students are of special interest in view of other happenings in the academic life of New York City. Earlier in the year the trustees of the College of the City of New York had stirred up a violent controversy by appointing to a professorship the eminent English philosopher and logician, Bertrand Russell. The views and practices relating to matrimony of this scholar, whose competence in his field is universally recognized as of the highest order, are of an unconventional character. The public discussion of Professor Russell's private affairs led to action brought in a New York court by a taxpayer of the city. In an extraordinary ruling the judge declared

Professor Russell unsuitable for the post to which he had been appointed. This ruling brought a storm of protest from leaders in universities in all parts of the country. Professor Russell was later appointed to a highly satisfactory position by an art foundation in Philadelphia.

The College of the City of New York had another upheaval when the trustees invited the president of Reed College to accept the presidency of the New York institution. Exception was taken by some citizens to the record of this appointee in dealing with labor disputes, and he refused to accept the invitation of the trustees. In Brooklyn College as well as in the College of the City of New York trouble arose. The president of Brooklyn College testified at a public hearing that organized efforts were made by certain communist students to gain control, through illegitimate means, of the student organizations of the College. When he nullified the efforts of the communists, a systematic but unsuccessful effort was made to disorganize the institution. The members of the defeated group took the position that their academic freedom had been curtailed.

On the whole, it can be concluded that these incidents and the public discussion of their meaning for the intellectual life of the nation have reinforced rather than injured the cause of freedom. The very fact that discussion is unrestricted is evidence that in this country there is an abiding conviction that restraints of a legal or political character should never be imposed on the thinking of the people. The concept of freedom in the United States is far more comprehensive in its scope and application than is the concept of academic freedom. So long as the broader interpretation of freedom persists there is little danger of any serious infraction of the rights of scholars to investigate and teach.

A further gratifying indication of the enlightened view which the American public takes of its educational system was given in the report of a survey made by the American Institute of Public Opinion under the stimulation of a committee of the American Youth Commission of the American Council on Education. Adopting its standard practice of polling public opinion, the Institute asked questions such as these: "Many people say there is too much importance placed on education these days. Do you agree or disagree?" "Do you think young people today are getting a better education in school than their parents got?" "If a family is so poor that they have to keep their children out of high school, do you think that they should be given aid by the government so that the children can attend high school?" The people who were asked these and other questions were asked whether costs of education are too high and whether the high school is too much concerned with preparing pupils for college.

The outcome of this poll makes it perfectly clear that the typical citizen of this country is enthusiastic about education and convinced that schools deserve support on a scale even larger than is now provided. Anyone who has noticed the attacks which have been made on school support in recent times will be encouraged to believe that, when the economic stress which has gripped the nation in recent years is relieved, there will be an expansion of the educational system.

With reference to the relation of the high-school curriculum to college preparation, evidence has been accumulated by the Progressive Education

Association which lends support to the conclusion reached in a number of recent investigations that it is far more important that a high-school pupil acquire good habits of study than that he become acquainted with any particular subject. Some years ago the Progressive Education Association secured the approval of some two hundred colleges to a plan under which they would admit students recommended by thirty selected secondary schools without regard to the satisfaction of any specific entrance requirements. The plan has now been in operation long enough so that a considerable number of students admitted under liberal conditions have completed their college careers. On the whole, the students admitted under the plan described have taken ranks in college above the average. It is, of course, to be recognized that the students to whom this statement applies are selected individuals. Not only so, but the schools in which they received their secondary education are superior institutions. The experiment does not supply final proof that entrance requirements are indefensible, but it presents an argument for liberalism that has not been by any means universally accepted in the past.

Perhaps the most urgent need for a revision of the practices of schools appears in the cases of highly gifted pupils. The pace set in schools is determined in large measure by the average, or mediocre, pupil; it does not in most cases provide adequate incentives for study for the brightest members of the pupil body.

Teachers College of Columbia University recently organized a conference at which were presented the views of leading educators and laymen on the desirability of special adjustments in schools for children of the higher levels of ability, especially those who on the basis of scientific tests are to be classified as belonging to the genius group. One interesting and illuminating feature of this conference was the presentation of their experiences by a number of adults who in the period of their schooling had shown high intelligence quotients. The testimony of these especially bright people showed that their education had by no means fitted them for success in life. Not merely were they unequipped to take full advantage of their native endowments, but they were often actually handicapped by the perverted channels along which the schools had directed their intellectual efforts. It is clear that the schools must plan education of a type different from that now provided if young people of the highest ability are to be well prepared for life.

Something of a sensation was created in the university world by a statement made in his annual report by Pres. Frederick P. Keppel, of the Carnegie Corporation of New York. This corporation has played so important a part in establishing pensions and insurance for university professors and in subsidizing research projects of many different types that conclusions relating to the financing of university enterprises that issue from the experience of the Corporation are of general interest to all members of the academic profession. Mr. Keppel is sure to be listened to when he makes such a statement as the following.

With rare exceptions a foundation can reach its objective only by working through another institution, and there are today in the United States far more universities, colleges, and other operating institutions, and far more voluntary organizations for worthy purposes than the nation can possibly afford. In the years to come many of these are bound to disappear, and one of the most difficult duties that face the foundation is that of so directing its grants

that its influence will be directed toward the survival of the fittest.

See **BENEFACTIONS**; **CARNEGIE ENDOWMENTS**; **CIVILIAN CONSERVATION CORPS**; **EDUCATION, U.S. OFFICE OF**; **GENERAL EDUCATION BOARD**; **LIBRARY PROGRESS**; **NATIONAL DEFENSE ADVISORY COMMISSION**; **NATIONAL YOUTH ADMINISTRATION**; **PSYCHOLOGY** under *Educational Psychology* and *Child Psychology* Statistical information is to be found in the articles on **SCHOOLS** and **UNIVERSITIES AND COLLEGES**, and in the sections on *Education* for the various States and countries. For advances in dental education, see **DENTISTRY**; for legal education, see **LAW**

CHARLES H. JUDD.

**EDUCATION, U.S. Office of.** Continuing to carry out the mandate given it by Congress in 1867 to collect and disseminate educational facts and statistics and otherwise "to promote the cause of education," the U.S. Office of Education during 1940 rendered service to and for American education in many ways.

*Administration*—Studied the organization of State departments and boards of education, their functions in organizing and administering the educational program, and practices in city school administration.

*School Finance*—Published digests of plans for financing public education in Florida, Minnesota, Rhode Island, Texas, Washington, and West Virginia. Surveyed State financing of public education.

*School Law*—Digested and analyzed State laws governing distribution of power and control over education in State offices and agencies, State and national legislation, court decisions affecting education.

*School Building*—Began study of school building work and trends in school building construction throughout the United States.

*Elementary Education*—Prepared and issued a publication entitled, "Elementary Education, What Is It?," based upon conference discussions with elementary school supervisors. In progress is a study, "The Release of Public School Pupils During School Hours for Religious Instruction."

*Secondary Education*—Prepared report on State supervision of secondary education and bulletin, "Statistics of Public High Schools, 1937-38." Co-operated with Committee on Implementation of Studies in Secondary Education, and the National Committee on Co-ordination and Co-operative Study of Secondary School Standards.

*Higher Education*—Co-operated with Department of State Cultural Relations Division in selecting students and teachers for exchange between the Latin American republics and the United States. Entered upon second year of the Survey of Higher Education of Negroes. Studied and published series of articles on Federal Government Schools. Revised publication, "Federal Laws Relating to Land-Grant Colleges and Universities"—laws which are administered by the Federal Security Agency through the U.S. Office of Education. Studied problems relating to administration of higher education in finances, accrediting of post secondary schools. Published bulletin on accrediting practices in 30 selected States. Studied administration of State teachers colleges and other institutions engaged in training teachers for the schools. Stimulated programs of study to prepare leaders for work in education. Co-operated with Association of American Universities in improving



standards in graduate schools, and in its preparation for a study of selection of students by graduate schools. Studied organization and activities of college placement services to learn of placement successes, and how contacts of services with employers reacted to accomplish a better adaptation of college curricula to employment needs. Ascertained the extent to which schools of engineering could be of assistance in training men needed by government and industry in the national defense program. (See *National Defense* under this article.)

*Parent Education*—Studied parent education services of State Departments of education, and parent education activities in parent-teacher programs.

*Public Forums*—Sponsored Federal Forum Project which aided in organization of public forums in 21 States—total number seeking adult civic education at these forums, one half million persons. Principal emphasis in discussions—problems of national defense.

*Rural Education*—Studied supervision of adult education and out-of-school-youth. Issued publications on rural high school curriculum, community centered schools, correspondence study, one-room schools. Promoted activities of the Future Farmers of America now enrolling 227,500 boys studying vocational agriculture in 6500 public high schools of 47 States, Hawaii, and Puerto Rico.

*Exceptional Children*—Studied State supervision of education of exceptional children and compiled statistical data on special schools and classes for exceptional children. Endeavored to bring into closer relationship State departments of education and State training schools.

*Negro Education*—Prepared publication on the relation of occupational status of Negro high school graduates and non-graduates to certain school experiences. Listed references on life and education of Negroes. Completed study of Negro education supervision by State departments of education. Began study of higher education of Negroes.

*Territorial Education*—Studied and issued publication on education in the Panama Canal Zone—one of a series of U.S. Office of Education bulletins on education in our territories and insular possessions.

*Visual Education*—Inventoried college courses available to teachers of visual education. Studied sources of visual materials and equipment suitable for school work. Prepared educational exhibits for major national educational conventions. Terminated services of all Film Service staff members on June 30, 1940. Congress did not appropriate funds to continue the Film Service staff beyond this date.

*Radio Education*—Provided service through the Educational Radio Script Exchange to more than 1200 producing groups. Expanded the Exchange to include educational transcriptions. Distributed upon request 35,000 copies of radio scripts, 11,000 radio manuals, handbooks, and courses. Serviced 12,000 educational and civic organizations and radio stations through this Exchange. Allocated funds to schools and colleges for radio education demonstrations or studies. Continued co-operation in broadcasting "The World Is Yours," educational radio program. Received three major radio awards for educational radio service. Represented American education's interests in urging Federal Communications Commission to retain educational band on ultra-high frequency channel for use by educational institutions. Secured continued reservation

of band which uses frequency modulation method of transmission.

*Library Service*—Provided 38,000 educational books and 1200 theses through U.S. Office of Education library for reference and reading use. Increased collection of theses received from colleges and universities to nearly 4000. Made statistical surveys of public libraries, college and university libraries, and studied State agencies providing library service. Began survey of library facilities at various public housing projects. Prepared pamphlet, "Know Your School Library."

*Statistical Service*—Compiled statistics covering more than 266,000 schools. Worked toward simpler and more uniform school records and reports. Formulated census questions for 1940 on education.

*Comparative Education*—Evaluated educational credentials of 1160 students, highest number in 15 years, including those of many refugee students and professional workers from many countries establishing themselves in the United States. Evaluated credentials submitted by 190 colleges and universities in 39 States, the District of Columbia, Canada, and Philippine Islands. Studied educational offerings in Cuba. Translated educational records from 36 different languages.

*Conservation Education*—Prepared bulletins on conservation education, including elementary school conservation curriculum and list of colleges and universities offering courses for teachers in conservation education.

*Publications Service*—Prepared and issued 80 new publications reporting research findings on educational problems.

*Trade and Industrial Education*—Continued emphasis upon making more adequate provision for trade training in non-urban areas being met by establishment of county, sectional, or State trade schools. Continued study of trade-school graduate placement. Encouraged joint educational projects between State and local boards for vocational education, WPA, NYA, and the CCC. Focused attention upon opportunities for training in diversified occupations courses.

*Home Economics Education*—Encouraged out-of-class experience for prospective home economics teachers in college training classes. Emphasized education for home and family living, and the need for more research in home economics education.

*Distributive Education*—Urged State employment of itinerant instructors to conduct distributive education courses in small cities and rural areas. Directed training program toward small store employees.

*Agricultural Education*—Aided in increasing number of high school courses in vocational agriculture from 7665 in 1939 to 8300 in 1940. Stimulated development of long-term programs of research in States. Endeavored to find openings in farming for out-of-school farm youth.

*Public Service Training*—Extended opportunities for training of public service workers through courses organized for prison officers, waterworks employees, tax assessors, sewage disposal workers, highway construction men, park maintenance workers, and many other public-service employee groups.

*Occupational Information*—Collected and disseminated to professional workers in guidance and to laymen information on occupations and guidance. Helped to develop State programs in Massachusetts, Missouri, Vermont, and in Puerto Rico.



Encouraged co-operation between vocational and general services in State department activities in this field.

**Vocational Rehabilitation**—Continued rehabilitation service for persons who, becoming disabled by accident or disease, needed physical restoration or retraining in order to return to productive employment, and to physically handicapped young persons of employable age, who upon leaving high school or college would enter the occupational world under the handicap of a physical disability. Developed a uniform system of reporting on service. Surveyed rehabilitation work in California and Michigan. Assisted in organizing State programs in Kansas and Delaware. Surveyed many industries in program looking toward placement of more blind workers in jobs. Directed establishment of nearly 1000 vending stands with blind persons in charge in Federal and private buildings, located in 43 States, the District of Columbia, and Hawaii.

**CCC Camp Education**—Provided specific training programs for individual enrollees based on their interests, needs, and abilities. Prepared more than 40,000 enrollees sufficiently well to warrant their discharge from camp to accept employment. Gave academic instruction to more than 100,000 enrollees each month. Developed special educational programs for enrollees who had not completed elementary grades, using six workbooks in language usage and six in elementary arithmetic. Urged co-operation of schools and colleges adjacent to camps which offered instruction to nearly 8000 enrollees. Provided teaching staff of 1500 educational advisers to direct educational programs available to more than 6,000,000 enrollees. Granted eighth grade certificates to 5000; high school diplomas to 1000. Sponsored conferences to promote education for 26,000 war veterans in 136 camps for veterans.

**National Defense**—Urged schools and colleges throughout the United States to make their best possible contributions to aid in the national defense program. Presented to Federal Government agencies and officials information showing American education's facilities for defense training service. Began administration to State Boards for Vocational Education and educational institutions of Federal funds for defense training authorized by Congress and the President as follows: \$41,000,000 for pre-employment refresher and supplementary courses for defense jobs in industry; \$10,000,000 to train rural and non-rural youth; \$7,500,000 to train NYA workers in vocational schools; \$9,000,000 for short courses in engineering colleges and universities to meet shortage of engineers; \$8,000,000 for defense training equipment needed in vocational school shops. WPA, NYA, and U.S. Employment Service co-operated in supplying qualified persons to receive defense training in vocational schools and to help place those trained in essential defense occupations. Vocational schools trained 350,000 workers for defense jobs July 1 to Dec. 31, 1940. Adapted entire program of research and other services of the U.S. Office of Education to meet defense needs of government, industry, and education.

J. W. STUDEBAKER

## EGG PRODUCTION. See POULTRY.

**EGYPT.** A kingdom of northeastern Africa. Capital, Cairo. Ruler in 1940, Farouk I, who succeeded to the throne Apr. 28, 1936.

**Area and Population.** Excluding the Anglo-

Egyptian Sudan (q.v.), Egypt has an area of about 386,000 square miles of which only about 13,600 square miles along the Nile are occupied. The estimated population on June 30, 1939, was 16,522,000, including about 65,000 Italians and 100,000 Greeks. Populations of the chief cities at the 1937 census were: Cairo, 1,307,422; Alexandria, 682,101; Port Said, 126,907; Tanta, 94,421; Mansura, 68,637; Asyut, 59,925; Damanhur, 61,791.

**Religion and Education.** Of the 1927 population, 91 per cent were Moslems, 8.34 per cent Christians (mostly Copts), and 0.45 per cent Jews. Arabic is the official language. About 88 per cent of the adult inhabitants were illiterate in 1927. The school attendance in 1937 was 1,308,252.

**Production.** Agriculture supports more than 60 per cent of the population directly. The yields of the chief crops in 1939-40 were (in metric tons): Wheat, 1,333,800; barley, 238,200; corn, 1,522,300; rough rice, 887,800; sugar cane, 159,800; groundnuts, 16,600; cotton, 390,500. Livestock statistics for 1937 showed 983,000 cattle, 956,000 buffaloes, 1,919,000 sheep, 1,311,000 goats, 155,000 camels, and 1,142,000 asses. Mineral production for 1939 was (metric tons): Phosphates, 547,000; petroleum, 666,000; manganese ore, 35,000. The fishing industry in 1938 employed 52,970 persons with 10,022 boats.

**Foreign Trade.** In 1939 imports were valued at £E34,091,000 (£E36,934,000 in 1938) and exports at £E34,081,000 (£E29,342,000 in 1938). Imports were chiefly from the United Kingdom (£E9,371,000), the United States (£E2,683,000), Germany (£E2,625,000), and Italy (£E2,059,000). Exports were destined chiefly for the United Kingdom (£E11,322,000), France (£E3,499,000), Japan (£E2,427,000), Germany (£E2,214,000). Chief imports were cotton textiles, fertilizer, coal, coke, briquets, and machinery. See TRADE, FOREIGN.

**Finance.** For the fiscal year ending Apr. 30, 1941, the budget estimates placed receipts at £E44,960,000 and expenditures at £E46,960,000. For 1939-40 the estimates called for receipts of £E40,595,000 and expenditures of £E42,125,000. The consolidated public debt on May 1, 1939, was £E87,762,740. The Egyptian pound exchanged at the average rate of \$4.5463 in 1939 and \$5.0130 in 1938.

**Transportation.** In April, 1938, there were 2763 miles of government-owned railway lines (excluding sidings) and 976 miles of private lines. Up to Jan. 1, 1940, the government spent a total of £E612,901 on railway construction under the terms of the Anglo-Egyptian Railway Treaty of 1936. Of this sum, £E556,301 was used in strengthening the existing railway line between Alexandria and Mersa Matruh, and £E36,873 on lines in the Suez Canal district. In the fiscal year ended Apr. 30, 1940, receipts of the Egyptian State Railways totaled £E5,468,332. Highways in 1940 extended 6838 miles; automobiles numbered 33,787. Cairo is an important aviation center with airlines radiating to South Africa, Europe, and Asia. A new civil airport in Alexandria was under construction in 1940. See SUEZ CANAL.

**Government.** The Constitution of Apr. 19, 1923, abrogated on Oct. 22, 1930, was restored on Dec. 12, 1935. It provided for a Parliament of two houses—a Senate with 147 members, two-fifths nominated by the Crown and three-fifths elected by universal male suffrage, half for five and half for 10 years, and a Chamber of Deputies with 264 members elected for five years. The elections of Mar. 31 and Apr. 2, 1938, for the Chamber of Dep-

uties showed the following results: Liberal Constitutional party, 93; Saadist, 89; Ittehad Esh Shaabi, 19; Wafd, 13; Watani, 3; Independents, 47. Premier at the beginning of 1940, Ali Maher Pasha, heading a coalition of Saadists and Independents. For 1940 developments, see *History*.

#### HISTORY

**Egypt and the War.** The danger that Egypt would become a major battlefield of the European War deepened throughout 1940 until the British defeat of the Italians at Sidi Barrani in December. The precautionary measures taken under the terms of the Anglo-Egyptian military alliance in 1939 (see *YEAR BOOK*, 1939, p. 217) were intensified in May, 1940, when Italy's entrance into the conflict seemed near. The Egyptian Government, in consultation with the British, authorized the evacuation of civilians from towns near the Libyan border. Air raid precautions were tested. A general blackout was instituted May 26. Scores of Axis spies and suspects were rounded up. Meanwhile Allied forces in Egypt were reinforced and the Egyptian army was ordered to emergency stations. On June 8, 6000 children and aged persons were evacuated from Alexandria in anticipation of Italian air raids.

Two days after Italy declared war on Britain, the Egyptian Government severed diplomatic relations with Italy (June 12), suspended all economic and financial relations with Italy and Italian nationals, and rounded up or sent home a few of the many Italians remaining in Egypt. The Egyptian Government, however, took no action beyond the technical requirements of the Anglo-Egyptian treaty (see *YEAR BOOK*, 1936, for terms). There was no declaration of war. Egyptian troops were ordered not to attack the Italians and some frontier detachments were withdrawn a few miles from the border. According to a statement of Premier Ali Maher Pasha to Parliament on June 20, this was done "in order not to involve the country in a state of war before the government and Parliament had an opportunity to decide what was in the best interests of the country." It was June 19 before the Italian Minister and his staff of 121 persons were persuaded to leave Cairo. Thousands of Italian residents were left unmolested.

The Italian invasion of Egypt from Libya in September and the bombing of Alexandria, Cairo, and other Egyptian cities produced no basic change in the Egyptian policy toward the war. However the state of siege was extended to all parts of the country, the government widened its emergency powers, and strikes and lockouts in defense industries were prohibited. The British forces in Egypt were granted the full use of Egyptian ports, airfields and defense bases, and the other military facilities specified in the military treaty, but the Egyptian Government continued to maintain that its position was that of a neutral.

**Internal Politics.** This anomalous situation was due partly to the general desire to avoid involvement in the war and partly to the internal political situation. After the collapse of France most Egyptians considered Britain's prospects as none too bright. They apparently felt that a victorious Axis would treat Egypt less harshly if it remained neutral than if it joined in the conflict. This belief was encouraged by Mussolini's statement that Italy would not drag Egypt and other Mediterranean countries into the conflict unless they adopted a hostile attitude.

At the same time the revolutionary Wafd party, which was much more powerful than its small representation in the Lower Chamber indicated, and many other Egyptian nationalists including the King desired the complete elimination of British influence. Enmity between the Wafd and the other parties that were more favorable to co-operation with Britain also influenced government policy. The attitude of the Wafd was indicated in a memorandum submitted to the British Ambassador on Apr. 2, 1940. The party expressed willingness to support the Allied cause provided British soldiers left Egypt immediately after the war, provided Britain promised to negotiate an immediate settlement of the Anglo-Egyptian Sudan question after the war, and provided Egypt was allowed to "defend her rights" at the peace conference. The Wafd also demanded that Britain make restitution for the loss of Egypt's cotton market through the British blockade and that Egypt be permitted to decide whether martial law should continue.

Premier Ali Maher Pasha had worked in close collaboration with the British before Italy entered the war, but thereafter his obvious anxiety to avoid involvement led the British to complain that the internal precautions of the Egyptian Government and its co-operation with the British military forces was not in accordance with the spirit of the Anglo-Egyptian treaty. With the support of the Saadist and some other Egyptian leaders, the British Ambassador intimated to the King that a stronger government was necessary to carry out defense and internal security measures.

On June 23 the King accepted the resignation of Ali Maher Pasha's government and on June 29 a new ministry was formed under Hassan Sabry Pasha, representing a coalition of all political parties except the Wafd. The new Premier's statement of foreign policy pledged loyal execution of the treaty, maintenance of Egyptian independence, and avoidance of war. This showed no outward change from Ali Maher Pasha's policy, but the British Foreign Secretary in mid-July said British relations with the new government were "completely satisfactory."

Hassan Sabry Pasha's Government found itself under attack from two sides. Led by Ahmed Maher Pasha, chief of the Saadist party and president of the Chamber of Deputies, an influential minority group demanded that the government declare war on Italy and actively enter the conflict. The Wafdist, on the other hand, attacked the government for co-operating with the British and for its failure to extract concessions from them. On August 21 the Premier reportedly told a secret session of the Chamber that Egypt would fight if Italian troops crossed the frontier. But this promise was not fulfilled when the Italian invasion began in mid-September. This led to the resignation of four Saadist Ministers from the cabinet on September 21. The government on September 23 declared full martial law and commenced a round-up of all Italians, but even the bombing of Cairo on October 21 did not budge the government from its "neutral" policy. (Between June 12 and December 2, 155 Egyptian civilians were killed and 425 injured by Italian air raids.)

While reading the King's speech from the throne to the opening session of Parliament on November 14, Premier Sabry Pasha collapsed and died. He was replaced the next day by another non-party Premier, Hussein Sirry Pasha, who retained a number of Sabry Pasha's Ministers. The new gov-

ernment continued to follow the middle-of-the-road policy of the preceding ministries, and this course was approved by the Chamber on December 26, 1922 to 68. Meanwhile the British victory at Sidi Barrani had removed the threat of an Italian conquest of Egypt and materially strengthened the position of Britain and its supporters in Egypt.

**Other Developments.** Egypt suffered severely from the economic effects of the war after Italy's entrance. Its foreign trade slumped drastically. Prices of manufactured and imported goods soared. There was little prospect of disposing of Egypt's cotton and other export crops, and more than 100,000 persons were thrown out of work. This situation was capitalized by the Wafd in pursuing its anti-British policy. Some alleviation of the economic depression occurred when the British Government in August undertook to purchase the entire 1940 cotton crop. Later the rising expenditures of the expanding British forces in Egypt (estimated at £20,000,000 annually) offset to a large degree the effects of curtailed foreign markets.

Egyptian nationalism was reflected in economic as well as political measures. On Mar. 28, 1940, the Senate authorized the government to guarantee present and future deposits of the Banque Misr, to strengthen its position and ensure its success.

The bank was an Egyptian-owned institution, responsible for the development of some 19 national industrial companies. The government also espoused a £10,000,000 project for erection of a powerful hydro-electric plant utilizing the overflow of the Assuan Dam. The power was to be used for the manufacture of artificial fertilizers and the industrialization of southern Egypt.

Conventions for the abolition of the Public Debt Commission were concluded with Great Britain on July 17 and with France on August 3. The commission, consisting of representatives of Britain, France, and Italy, had partially controlled Egyptian finances since 1876. Its funds were turned over to the Egyptian Government, which accepted responsibility for all its liabilities. A law of August 12 prolonged until 1980 the charter and note-issuing privilege of the National Bank of Egypt. The law provided that the chairman and a majority of the board of directors must be Egyptians.

See *ARCHAEOLOGY*; *EUROPEAN WAR* under *Campaigns in Africa*; *INDUSTRIAL CHEMISTRY*.

**EIB.** See *EXPORT-IMPORT BANK*.

**EIRE.** See *IRELAND*.

**ELECTION, U.S. National.** Franklin D. Roosevelt was re-elected President of the United States, on the Democratic ticket, November 5, for a third consecutive term, unprecedented in the Fed-

#### PRESIDENTIAL VOTE BY STATES

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States	Roosevelt, Democratic	Willkie, Republican	Thomas, Socialist	Babson, Prohibition	Browder, Communist	Aiken, Soc. Labor
Alabama	250,726	42,184	100	700	509	
Arizona	95,267	54,030		742		
Arkansas	158,622	42,121	305	793		
California	1,877,618	1,351,419	16,506	9,400	13,586	
Colorado	265,364	278,855	1,905	1,599	376	
Connecticut	417,621	361,819			1,091	971
Delaware	74,599	61,390	129	207		
Florida	360,407	126,412				
Georgia	265,194	46,362		983		
Idaho	127,835	106,555	497		269	
Illinois	2,149,934	2,047,240	10,914	9,190		
Indiana	874,063	899,466	2,075	6,437		706
Iowa	578,800	632,370		2,284	1,524	452
Kansas	364,725	489,160	2,347	4,056		
Kentucky	557,222	410,384	1,014	1,443		
Louisiana	319,751	52,446				
Maine	156,478	163,951			411	
Maryland	385,546	269,544	3,967		1,216	635
Massachusetts	1,076,522	939,700	4,091	1,370	3,806	1,492
Michigan	1,032,991	1,039,917	7,593	1,795	2,834	795
Minnesota	644,196	596,274	5,454		2,711	2,553
Mississippi	168,267	7,364	193			
Missouri	958,476	871,009	2,226	1,809		209
Montana	145,698	99,579	1,443	664	489	
Nebraska	263,677	352,201				
Nevada	31,945	21,229				
New Hampshire	125,292	110,127				
New Jersey	1,016,404	944,876	2,823	851	8,814	446
New Mexico	103,699	79,615		100		
New York	3,251,918	3,027,478	18,950	3,250		
North Carolina	609,015	213,633				
North Dakota	124,036	154,590	1,279	325	545	
Ohio	1,733,139	1,586,773				
Oklahoma	474,313	348,872		3,027		
Oregon	258,415	219,555	398	154	191	2,487
Pennsylvania	2,171,035	1,889,848	10,967		4,519	1,518
Rhode Island	181,122	138,214		74	239	
South Carolina	95,470	4,360		2		
South Dakota	131,362	177,065				
Tennessee	351,601	169,153	463	1,606		
Texas	840,151	199,152	728	925	212	
Utah	154,277	93,151	198		191	
Vermont	64,269	78,371			404	
Virginia	235,961	109,363	282	882	71	48
Washington	462,145	322,123	4,586	1,686	2,626	667
West Virginia	496,146	372,662				
Wisconsin	704,821	679,206	15,071	2,148	2,394	1,882
Wyoming	59,287	52,633	148	172		
Totals	27,245,422	22,333,801	116,796	58,674	49,028	14,861

eral Republic. He defeated Wendell L. Willkie, Republican candidate, in the popular vote, by a plurality of 4,911,621, carrying 38 States. Roosevelt won 449 electoral votes; Willkie, 82. The total of the popular vote for all the Presidential candidates, including a scattering vote of 413, was 49,818,995; highest previous, 45,647,117 in 1936.

The table on page 207 shows the totals of the popular vote for President in each State and the totals for the United States (reprinted by permission of the Associated Press).

Here are the comparative figures for 1940, 1936, and 1932:

Party	1940	1936	1932
Democratic	27,245,422	27,751,597	22,821,857
Republican	22,333,801	16,679,583	15,761,841
Socialist	116,796	188,014	884,781
Prohibition	58,674	37,661	81,869
Communist	49,028	80,159	102,991
Socialist Labor	14,861	12,508	33,276
Other votes . . . .	413	897,595	129,907
Total vote . . . .	49,818,995	45,647,117	39,816,522

The conditions environing the election itself, and the campaign before it, bore in some respects more resemblance to those of 1916 than to those of 1936; for war abroad lent activity to many important sorts of manufacturing, while it spread the apprehension of peril to the country. The Administration's policies continued to please, broadly speaking, those who lived by employment or by public support alone and to antagonize many who had a stake in productive business, property, or funds. Among the latter group, rather than the former, were a great part of the more substantial farmers, whose land formed an important aggregate investment. Conditions differed from those of 1916 as to the foreign situation, in that very few of the population wanted the country to enter the war in Europe. Also, they differed in that the Government had reached the statutory limit of \$45,000,000,000 upon its debt and was engaged in a vast increase of armament bound to send debt yet farther above the ceiling of all older figures. Issues uppermost in the minds of anti-Administration folk were the policy of making distinction between earners and owners, the treatment of agriculture, the continued vast increase of the public debt, and the question of the proper cost of a prudent addition to the Nation's means of defending itself against attack from without. Since earners cast more votes than owners and poor farmers than rich ones, since the size of the debt meant little to the many who looked to the few to bear it, and since the effort to limit military preparation must incur reproach as unpatriotic, the appeal of the issues, politically viewed, favored the Administration. The Republican cause carried the handicap of not daring to handle them as freely as the other side.

**Pre-Convention Activity.** Several aspirants to the Presidency, in each of the major parties, spent the months prior to the nominating conventions in efforts to win popular followings. On the Democratic side, two leading members of the Administration prepared to seek the nomination—Vice-President Garner of Texas and Postmaster-General Farley of New York—while a third Democrat, also connected with the Administration though less closely, former High Commissioner McNutt of the Philippines, took the same course. Among Republicans, exclusion from Federal office for nearly eight years had so far cut down the

number of experienced statesmen that candidacies were limited mainly to leading men among the small group of Republican Senators and to persons until then outsiders in the shaping of Federal affairs; Ex-President Hoover, though presented as a candidate and equipped with abundant experience, had no chance to overcome the antagonism due to the misfortunes that the country and the party had suffered in his administration. The most formidable seekers of the Republican nomination were two Senators—Vandenberg of Michigan and Taft of Ohio—and two newcomers in National politics—Wendell L. Willkie and Thomas E. Dewey. Dewey had won notice for remarkable success in prosecuting big criminals as District Attorney of New York County. Willkie had caught the eye of the New Deal's opponents by bringing the Administration to buy out at a substantial price the imperiled properties of the Commonwealth and Southern Corporation in the area where the TVA sought a monopoly of the distribution of electrical current.

Among the Democratic aspirants none developed sufficient strength to disturb the strong undercurrent toward the renomination of the President. Vice-President Garner, seemingly formidable because of his prospect of controlling the vote of Texas in the nominating convention, and as one in good repute with the friends of social and economic tradition, could get only the halfway assurance of the Texan delegation's initial support in the convention. Farley, who had performed wonders as Roosevelt's political manager, could do little on his own account, even in his own State of New York. These two and McNutt as well, could get no man's attention, while the President pointedly avoided, for month after month, saying that he would not take a third term.

This silence of Mr. Roosevelt on his political plans came to dominate the whole field of Democratic preliminary maneuver. Till he should take himself out, few cared or dared to back another. And so long as he forbore from counting himself in, he could not be seriously attacked for planning to overthrow the potent tradition of two terms and no more; he was not asking for Theodore Roosevelt's "third cup of coffee."

Among the seekers of the Republican nomination Dewey made the pace until May; speaking in a great number of States, he won hearers by his ability to present a plausible case against Democratic rule. In some States he won indorsements in the Republican Presidential primaries, to the disadvantage of other aspirants who sought to clothe themselves with more than a "favorite son's" single-State claim to consideration. He was less successful in winning the confidence of old-time partisan leaders powerful in their own areas. Willkie, meanwhile, had gradually built up a reputation as an energetic and forceful campaigner. He had done particularly well in New England and in the Middle West. Yet on the eve of the convention he seemed less formidable than Dewey, who claimed 400 of the convention's votes as pledged to him.

**Republican Convention.** The delegates of the Republican party held its National convention at Philadelphia in the week of June 24. It gave the party's nomination as candidate for President to Wendell L. Willkie. He won on the sixth ballot; the three leading names before the convention were Thomas E. Dewey, Robert A. Taft, and Willkie. Willkie's vote, originally 105, mounted with each succeeding ballot. Dewey's vote dwindled steadily

from 360 on the first ballot. Taft's vote, 129 on the first ballot, mounted with Willkie's through the fifth ballot, but less rapidly. Sen. Charles L. McNary of Oregon, popular with farmers as an early sponsor of agrarian legislation, was nominated for Vice-President.

**Republican Platform.** The Republican platform, as adopted by the convention, declared that the Administration, by the President's own admission, had "left the Nation unprepared to resist foreign attack"; it promised "to support all necessary and proper defensive measures proposed by the Administration"; it approved material aid to foreign nations fighting for liberty; it promised to put the Federal grants for support to the poor under the administration of the respective States; it favored raising old-age benefits, as far as the revenues for the purpose would permit; collective bargaining (for labor) was approved, but the revision of the National Labor Relations Act was proposed "in fairness to employers and all groups of employees"; agriculture was promised an expansion of industrial and business activity to increase the purchases of farm products, but in the interim it was to get continued aid for soil-conservation, involving continued Federal cash "benefits," without having to submit to Federal control of production; the reciprocal trade agreements were condemned as put through too hastily, without the approval of Congress, and the party promised to explore the possibilities of "genuine reciprocity"; Congress was to reclaim from the President its Constitutional power over money, repeal the Thomas "Inflation" Amendment and the authorization to purchase foreign silver, and "take all possible steps" to put gold back in circulation; the principle of "truth in securities" was approved, but in order to put dollars and men back to work the Securities Act was to be revised; taxes sufficient to meet civil expenditure, interest on debt, and part of the expenditure on defense were promised; a Constitutional amendment against a President's serving more than two terms was advocated.

**Democratic Convention.** The Democratic National Convention was held in the Chicago Stadium in the week of July 15. On the opening day President Roosevelt's persistent silence as to his intentions had not yet been broken; no one asserted any authoritative knowledge of what he would do, but among the delegates, as indicated in the press, the conviction prevailed that he would be nominated and would accept. Some of his most influential supporters were reported from the outset as pressing otherwise-minded delegates to join a movement to "draft" Roosevelt, as the only one to be trusted to handle National defense at a moment fraught with menace. Some among the delegates did indeed oppose breaking historic tradition that forbade a third term for a President and, in particular, repudiating the anti-third-term declaration of the party's platform of 1896; these men, too, had to be "drafted." On the 16th Senator Barkley, at the end of his speech as permanent chairman, made, as spokesman for the President, the latter's long-withheld declaration: The President had no desire or purpose to become again a candidate for the office; he wished the delegates to feel "free to vote for any candidate." As the word "any" included himself, the declaration was hailed as implying that he would run if named. Objectors were deprived of the argument that even the President hesitated to overthrow the third-term tradition.

Franklin D. Roosevelt was chosen Democratic

candidate for President on July 18 on the first ballot. The Convention gave him an overwhelming vote amid a tumult of shouting and marching. The minority put three other names in nomination, by way of protest against a third term rather than with any hope of success. Glass, aged Senator from Virginia, nominated Farley; the two others nominated were Garner of Texas and Senator Tydings of Maryland. The President delayed an expected address to the Convention by radio until after its choice of Secretary of Agriculture Henry A. Wallace, the President's reported preference, as candidate for Vice-President, on the 19th.

**Democratic Platform.** The Democratic platform, as adopted by the Convention on July 17, was largely a rejoinder to the Republican platform issued in June. It paralleled the Republican pledge against foreign wars, approval of aid to foreign nations defending their liberty, purpose to defend the Monroe Doctrine, and recognition of the need to improve armaments. It praised the President's foresight in having brought defenses to "the peak of their peace-time effectiveness," (as against admitted unpreparedness, in the Republican version). Farmers received assurance of continued parity as well as soil-conservation payments (Republicans promised only the latter), of more money for tenants' purchase of farms, for refinancing farm mortgages, for continued commodity loans, for free lunches in schools, and for cheap sales of milk so as to market more of farmers' goods. Without praising the much criticized NLRB by name the platform promised to "continue to enforce fair labor standards" and maintain the principles of the Labor Act. The Republicans' nomination of "a utility executive" for the Presidency was declared to raise the issue whether "the Nation's water power" should be for the selfish interests of the few. Falling water's power, said the platform, was "a gift from God," consequently belonging "to all the people"; a public monopoly of water-power and electricity therefrom was approved—"the people have the right, through their Government, to develop their own power sites and bring low-cost electricity to their homes, farms, and factories." The Republican proposal to vest in the States the control of Federally financed work-relief was called "a thinly disguised plan to put the unemployed back on the dole." The platform promised "to destroy the treasonable activities of disguised anti-democratic and un-American agencies" but did not specify the sorts of agencies so to be regarded.

**Presidential Campaign.** The true campaign started only with Willkie's speech of acceptance on August 17. In the meantime, Farley, an avowed anti-third-term, resigned as Postmaster-General and also as chairman of the Democratic National Committee; there followed a rebuilding of the Democratic National organization. Edward J. Flynn, leader of the Democratic organization in the Bronx Borough of New York City, became Farley's successor in the National Democratic organization—a step carrying recognition that help from the party's other leaders in big cities would suit the National ticket. Flynn ignored protests and issued the Democratic campaign book, carrying 100 pages of advertising, some at least of which had been obtained from interests that might find it difficult to refuse a solicitation. This advertising was said to have been arranged before the passage of the year's amendments to the Hatch Act and therefore not to infringe the new restrictions on politi-

cal activity. In regard to another newly outlawed way of raising campaign funds, the levy on holders of public employment, Flynn sent out to State campaign managers in October a letter advising that "even where the . . . Government or State employees cannot . . . make contributions . . . their friends and relatives are in no way prohibited from such activities." One of the features of the Democratic campaign organization was the energetic co-operation of some of the most prominent leaders of municipal organizations within the party—the Tammany group in New York City, Hague in Jersey City, and the Kelly-Nash group in Chicago.

At Elwood, Ind., the home of his youth, Willkie (August 17) made the speech of acceptance, his first full-length utterance as his party's candidate, —a quiet but earnest presentation of his ideas on the Nation's needs in contrast with the ideas of the New Deal. He called himself a liberal, a believer in the regulation of enterprise and declared for curbing monopolies, for labor's right of collective bargaining, for minimum limits to wages and a maximum to working hours, supported the Federal regulation of interstate utilities and markets for securities, and approved social security and aid to underpaid farmers. He taxed the New Deal, not with achieving these things, but with overexpenditure, attacks on those whom it disliked, and a program of helping the needy by taking from others rather than by building up a further material progress. He warned that, as in the case of France, a scheme of national life built on not more, but less, production and taking from one for another's need must lead "to the end of the road." It was a winning rather than a convincing speech, for it did not demonstrate how policies could be changed to overcome the normal excess of the country's huge productivity. It left the way open to Secretary Ickes' jibe in a speech of rejoinder a few days later: "He agreed with Mr. Roosevelt's entire program of social reform and that it was leading to disaster."

Obliged to make himself better known throughout the country, Willkie covered many thousands of miles on speaking tours. He began with a trip through the West in the latter part of September, which took in 18 States on a route of 38,000 miles; 14 of the States were west of the Mississippi River; four of the seven main speeches of the trip were delivered on the Pacific coast, in a fruitless effort to wean that area from the Democratic party. In October Willkie devoted his attention chiefly to the northeastern and east-central States, though he went as far west as Minnesota; he spoke in all the chief cities of the Atlantic seaboard. Much of the time he was in bitterly hostile territory; this was most evident in Detroit where his party was repeatedly pelted with a variety of missiles in the streets. He showed himself not only tireless but fertile in indictment, as when he cited past unkept promises as warning to mistrust the Administration's pledge not to send Americans into a foreign war. The very variety of his attacks was in a way their weakness; they lacked the force of concentration on the more vital matters; thus, at Springfield, Ill. (October 18), he charged the New Deal with leading to State socialism, yet he failed to drive this charge home by sufficient reiteration and to present any detailed condemnation of that system.

President Roosevelt withheld his own main participation in the campaign until a fortnight before

the election. He had previously made several "tours of inspection"; thus (October 10) he started on a tour, ostensibly to inspect defensive preparations in Pennsylvania and Ohio and actually affording occasion for a public address at Dayton (October 12) displaying him as the author and adept of the Nation's new recourse to giant defensive measures. Starting a real tour at Philadelphia on October 23, he made six campaigning speeches, the other five at New York (28th), Boston (30th), Brooklyn (November 1), Cleveland, and his hometown of Hyde Park. In these he bitterly attacked what he termed the falsifications in the Republican charges against his administration; reviewed its achievements and in particular, its course in upbuilding armament; and, in the character of a trusted leader in a difficult time, asked for a "vote of confidence."

**Minor Parties and Movements.** The minor parties played no more than their usual part in the campaign. An effort of John L. Lewis, creator of the C.I.O., to swing its votes from Roosevelt to Willkie had no perceptible effect. A group styling itself the "Democrats for Willkie" had men of distinction among its leaders but lacked any important organized following. The solid South, despite evidences of anti-Roosevelt sentiment in a number of States, gave no sign of serious switching toward Republicanism. The Socialist party nominated Norman Thomas again (the fourth time) for President, on a platform carrying his isolationist views and a demand for immediate public industry. (See SOCIALISM.) The Communists nominated Earl R. Browder. Roger W. Babson was nominated by the Prohibition party. The Socialist Labor party nominated John W. Aiken and called for the conversion of the Nation's resources to the interest of the whole people and the abolition of capitalism.

**The Vote.** While about 10 per cent more of the popular vote went to Roosevelt than to Willkie, the victor scored a personal rather than a partisan victory, as appeared from several States' electing Republicans to important office while giving him substantial pluralities. The preference for Roosevelt among the wage-earners appeared in the fact that every city of 400,000 people or more, except Cincinnati, voted heavily in his favor and that several such cities overcame, singlehanded, the Willkie vote in the remainder of their respective States. Eight of the ten States for Willkie had far less than the average proportion of urban population; Indiana had somewhat less, and Michigan, the tenth, alone had considerably more. Except for the solid South, the vote of 1940 displayed much more plainly than that of 1936 the gain of urban over rural ways of thinking.

The popular vote as a whole (49,818,995, as against 45,647,117 cast in 1936) exceeded that of 1936 by well above 4,000,000. The vote for Roosevelt, however, fell short of that in 1936 by about 510,000, while that for Willkie exceeded the Republican Presidential vote of 1936 by more than 5,600,000.

**Elections to Congress.** The terms of 60 Senators—44 Democrats, 15 Republicans, and 1 Independent—held over. In the autumn's elections 36 Senators were elected: of these, 22 were Democrats, 13 were Republicans, and 1 was a Progressive. Thus the membership of the Senate of the 77th Congress became 66 Democrats, 28 Republicans, 1 Progressive, and 1 Independent. Prior to the election the Senate of the 76th Congress held 69 Democrats, 24 Republicans, and 1 each of the

Farmer-Labor, Progressive, and Independent designations. The number of anti-Administration Democrats, a floating quantity, defied estimate as usual. In the newly elected House of Representatives the election raised the Democrats' number to 270 from 260 in the old House, lowered the Republican strength to 160, from the former 167, and gave the remaining seats to 3 Progressives, 1 American Laborite, and 1 Independent.

See NEW JERSEY; NEWSPAPERS AND MAGAZINES; SOCIALISM; UNITED STATES under *Administration and Investigations*. For results by States, see the States.

**ELECTRICAL ILLUMINATION.** The year 1940 was more significant for the further development and application of existing items than for new discoveries. Fluorescent lighting continues to be the outstanding illumination development. (See 1938, 1939 YEAR BOOKS) During the year the range in sizes of these lamps was extended, downward to a 6-watt lamp 9 inches long and upward to a 100-watt 60-inch size having an output of 4400 lumens. Notable is the improvement in fixtures to accommodate and enable effective use of fluorescent lamps. A new "soft white" color has been developed, especially for use where meats or other foods are displayed or served, or where a color of light complimentary to a person's appearance is required.

Germicidal lamps found many new applications. In addition to the 3-, 5-, and 15-watt sizes mentioned in the 1939 YEAR BOOK, a 30-watt lamp now is available which is identical to the 36-inch standard fluorescent lamp except for the omission of the luminescent phosphor and the use of a special glass which allows the bacteria-killing ultra-violet radiation to pass through. A New York hotel used eight of these latter lamps in each of 40 portable units to be used for the sterilization of guest bathrooms between occupancies. Other applications of the germicidal lamps include large walk-in refrigerators for meats, and in the manufacture of mattresses to reduce the number of bacteria in the cotton filling.

"Black light" is another form of ultra-violet radiation that is finding increased application. During 1940 many advances were made in both techniques and materials for the utilization of such radiation to activate fluorescent chemicals for utilitarian and decorative purposes. Carpets having patterns of fluorescent dyes show promise of effective use in theaters, the materials activated by "black lights" appropriately concealed. Murals painted with fluorescent paints are planned for several theaters. Demonstrations have indicated that the hazards of "blackouts" incidental to modern warfare may be greatly reduced in industrial plants and other places through the use of "black lights" in connection with fluorescent paints or other materials on objects and along passageways, stairways, etc.

Industrial heating has found a new tool for economically expediting various drying, baking, evaporating, and material-treating processes. It is a new incandescent-filament lamp, previously introduced, designed to produce less than 5 per cent of visible light, most of the remainder of its energy output being in the form of infra-red radiation of the type that makes the sun so effective a drying agent. The range of available sizes of these lamps has been extended to include 250-, 500-, and 1000-watt sizes.

Many of the benefits of the new sealed-beam

automobile headlamps used on most 1940 cars were made available to the users of older cars through the commercial development of replacement and auxiliary sealed-beam units.

The trend continues toward better street and highway lighting in the interest of safety. Notable highway installations of 1940 include a complete system of 10,000-lumen sodium luminaires along the entire 35-mile length of New York City's new Belt Parkway; similar units on the 1¼-mile floating pontoon highway bridge across Lake Washington near Seattle, Wash., and similar luminaires for all tunnel approaches and important interchange points along the 160-mile high-speed "superhighway" between Pittsburgh and Harrisburg, Pa. Throughout the total of nearly 7 miles of tunnels on that highway more than 1000 mercury-vapor lamps provide a longitudinal visibility of more than 1000 ft. through the medium of their characteristic blue-green light.

Forbes Field, Pittsburgh, became the latest and assertedly the most brilliantly lighted baseball park, utilizing 864 floodlights to produce some 210,000,000 candle-power. A new lightmeter utilizes a built-in filter to give the instrument a sensitivity closely matching that of the human eye, thereby obviating the use of correction factors when measuring the illumination produced by fluorescent lamps, mercury lamps, or other illumination sources of the electric-discharge type.

The sale of incandescent lamps in 1940 crossed the billion mark for the first time, with estimated sales of 590,000,000 large lamps and 510,000,000 miniature lamps. In June the prices of nearly 100 popular types and sizes of Mazda lamps were reduced, the twentieth such major reduction in 19 years.

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**ELECTRICAL INDUSTRIES.** Production in the electrical manufacturing industry as tentatively reported for 1940 amounted to \$2,683,000,000 as compared with \$2,143,000,000 for 1939, and \$1,600,000,000 for 1938. The year was slightly below the 1929 peak, but 1941 seems destined to establish new records. First-quarter losses were about offset by second-quarter gains in total orders booked by leading manufacturers, but third-quarter bookings set new industry records, even above the boom year of 1929, and the strong upward trend continued through to the year-end. The overall index of sales of electrical goods for the year increased by about 25 per cent over 1939, twice the rate for general business for the same period. Considering production for 1925 as an index of 100, the Federal Reserve Board's indexes for general production in the United States were reported as follows: 134 for 1940, 119 for 1939, 97 for 1938, 124 for 1937, 113 for 1936, 121 for 1929. (These figures represent the FRB's 1940 revision for the entire series, and hence will differ somewhat from figures quoted in previous years.) On the same basis (1925 = 100), other electrical industry estimated indexes for 1940 as compared with finals for 1939 are respectively as follows: manufacturing, total production, 154 and 123; employment, 104 and 84 (U.S. population, 115 and 114); small appliances, 148 and 128; electric refrigerators, 1331 and 1100; industrial apparatus, 177 and 127; power transmission and distribution equipment, 123 and 104; insulated wire and cable, 82 and 71; miscellaneous supplies, 142 and 116.

By the close of 1940 the aluminum industry had



become the first to develop a major and concentrated demand for electric power incidental to the expanding National Defense program. Indications are that by mid-1942 at least a million h.p. in electric generating capacity will be required for the production of this vital metal. Expansion of plant facilities in the Pacific Northwest is expected to utilize 100,000 kilowatts of power from the Bonneville-Grand Coulee power pool. In addition to an allocation of approximately 100,000 kw of TVA power to aluminum production, the Aluminum Company itself has filed with the Federal Power Commission a declaration of intent to construct a 300,000-h.p. hydroelectric project on the Little Tennessee River near Montana, Tenn.

In spite of adverse recommendations from technical experts, the Defense Commission late in the year agreed to approve a contract for the production of ammonium nitrate at Muscle Shoals, involving TVA construction of a synthetic ammonia plant of 150 tons daily capacity and modernization of the old World War works, etc., at a cost to the Army of some \$10,000,000.

**Industrial Developments. Welding.** The steady trend of increasing use of electric arc-welding in industry was accelerated during the latter part of 1940 incidental to industry's efforts to meet Defense requirements. Perhaps the most significant trend was a striking increase in alternating-current arc-welders, especially in shops where heavy work is being done and where welds can be made on planes horizontal or nearly so. New arc-welding equipment developed during the year includes—built-in power-factor correction devices to reduce the burden on electric supply lines; a new resistor-type d.c. arc-welder for mine service; new d.c. equipment designed to provide any welding current from 25 to 250 amperes. The so-called energy-storage method of resistance welding utilizing electronic rectifier tubes and control apparatus was applied extensively by aircraft and other manufacturers utilizing spot-welding for aluminum and other thin metal sheets. Multiple-operated d.c. welding systems consisting of constant-potential motor-generator sets serving groups of individually controlled welding circuits found application in many phases of shipbuilding operations.

**Air Cleaning.** That clean air is as beneficial to machines as it is to human beings is indicated by the rapid spread of the relatively new "precipitron" type of electrostatic air-cleaning equipment which has demonstrated its ability to remove from the air such finely divided particles as those which comprise the smoke from a cigarette. Steel mills have become one of the largest users of such apparatus, having made installations totaling approximately  $1\frac{1}{2}$  billion cu. ft. per minute in air-handling capacity in steel plants to clean the cooling air for big mill motors and other electrical machinery, for ventilating mill office buildings, etc. By keeping industrial dirt out of the motors, etc., frequent and expensive cleanings and repairs have been sharply reduced. The ability of this equipment to remove pollen and bacteria from the air is bringing about increased hospital applications. The sugar industry is using the apparatus to reduce undesirable bacteria and fungus growths by cleaning the warm air used in granulating and drying machines.

**X-Ray.** A new X-ray development has enabled high-speed (millionth-of-a-second) pictures to be taken of such things as a bullet while passing through a block of wood; the bones in the kicker's foot and the insides of a football while being

kicked; etc. It is expected that this new device will perform valuable industrial service by enabling the "insides" of certain apparatus to be studied for stresses and strains while in full operation. It may be the forerunner of X-ray motion pictures. A new million-volt industrial X-ray equipment is capable of making a photograph through 4 inches of cast steel in 2 minutes. Notable for its compactness, this unit is only 3 ft. in diameter and about 5 ft. high and weighs 1500 lb. In contrast with this is the laboratory-type 1.4-million-volt X-ray apparatus installed recently at the U.S. Bureau of Standards that comprises a 10-section 12-inch glass envelope about 20 ft. high and a generator consisting of a cascaded series of 10 full-wave rectifiers arranged in a column 30 ft. high. The equipment will be used for research and standardization work in X-rays and X-ray technique. Medical X-ray equipments were improved, and greatly simplified in their operation by the introduction of precalibrated controls to replace time-consuming manual and mental operations heretofore required. Offsetting the loss of European supply, U.S. manufacturers brought out a new X-ray diffraction tube and related equipment.

**Electric Drive.** The continuing application of electric drive and control equipment in the paper industry is typified by one 1940 mill improvement whereby the operating speed of a 210-inch Kraft machine was increased from its original designed speed of 1250 ft. per min. to 1540 ft. per min., a new record for such a machine. The year also has witnessed a trend toward individual electric sectional drive for auxiliary processing—coating, combining, calendering, forming, etc.—machines in the pulp and paper industry. These drives require a minimum of floor space and reduce maintenance expense and accident hazard through the elimination of open lineshafts, open belts and gearing, etc. Flexibility of new electric control and drive equipment is exemplified in a supercalendering machine designed to run at 50 ft. per min. for threading and at from 1500 to 2000 ft. per min. for production.

In the petroleum industry, oil sands discovered at ever-deeper levels require heavier mechanical equipment and correspondingly larger capacities in driving motors and in electric supply equipment. During the year the capacity of motors used for drawing drill bits from deep wells has doubled—jumping from 400 to 800 h.p., with 1000-h.p. motors under consideration—in the interest of improving drilling efficiency by reducing the time required for the withdrawal and replacement of drill bits in holes ranging up to 2 miles or more in depth. For wells intermittently pumped—whether because of low capacity or proration schedules—there is a definite trend toward automatic pumping by time-switch control, the flexibility of which enables pre-selection of any desired sequence of operating cycles. Electric drive and precision control equipment is finding ever-widening use in refineries. Cathodic protection of pipe lines against electrolytic damage from earth currents has become extensive, and small weatherproof rectifier units have been developed to furnish from local alternating-current supply lines the direct currents at low voltage required to energize the pipe lines to neutralize the effects of earth currents.

In textile mills a deviation from all-electric drive for cloth-finishing ranges consists of a steam turbine-generator unit directly coupled mechanically to the lead unit of the range, with follower



units coupled electrically by squirrel-cage induction motors fed from the generator. This arrangement has been found to provide fully synchronized operation of all related units throughout acceleration, running, and deceleration periods. A stroboscopic device synchronized to a cloth-printing machine enables the printed design to be inspected as if stationary while actually the cloth is moving 200 ft. or more per minute.

**Steel Industry.** In the steel industry the decade of electrification and modernization reported in previous YEAR BOOKS is now standing the industry in good stead, faced as it is with peak production requirements under the National Defense program. A new record in total production was set in 1940. The heavy demands for high-quality alloy and carbon steels for aviation, automotive, machine-tool, armor, and ordnance needs has resulted in the installation of many new electric arc furnaces, several of very large capacity. One electrical manufacturer alone has furnished some 150,000 kv-a in transformer capacity for 20 such installations ranging from 800 to 15,000 kv-a. Continuing the upward trend of operating speed in cold-strip rolling mills (see 1939 YEAR BOOK), 1940 saw a 2500-ft.-per-min. mill put into operation (2000 ft per min. was tops in 1939) and a 3800-ft.-per-min mill ordered. The five rolling stands of this mill are scheduled to be driven respectively by 800-, 2000-, 2500-, 2500-, and 3000-h p motors—a total of 10,800 h.p. Devices for detecting pinholes and flaws, and other devices for automatically measuring and indicating thickness, width, and tension in this fast-moving strip, found increased application during 1940.

**Aviation.** Aircraft instruments or controls developed or improved during the year include devices to facilitate the accurate synchronization of the several engines of a multi-engine ship to reduce vibration and equalize tractive efforts; devices to indicate the number of rounds of ammunition remaining in the magazines of aircraft machine guns; devices for feathering the propeller when it becomes necessary to stop an engine in flight; devices for producing and utilizing special radio signals to guide planes down out of "thick" weather onto airport runways; motor-operated gun turrets on military craft; etc. A new 60-inch high-intensity carbon-arc mobile antiaircraft military searchlight constitutes a complete unit with its associated portable power plant and remote electrical control station. Special high-speed electric motors of exceptionally small sizes have been built for use by airplane manufacturers in testing model aircraft. One such unit is a water-cooled motor only 10 inches in diameter and 30 inches long, but capable of delivering 200 h.p. at 5000 r.p.m.; another only 28 inches in diameter and 35 inches long delivers 1000 h.p. at 2100 r.p.m.

One large electrical manufacturer announced during the year the complete re-styling of a wide line of motors for industrial applications. The significant move was reported to involve new design methods, new materials which make for compactness, and new manufacturing methods including standard usage of cast-iron frames and endbells which give protective enclosure. See HEATING and VENTILATION.

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**ELECTRICAL MACHINERY.** See ELFC-TRICAL INDUSTRIES; ELECTRIC LIGHT AND POWER; MACHINE DEVELOPMENT; POWER PLANTS, etc.

**ELECTRICAL TRANSPORTATION.** See RAILWAYS.

**ELECTRIC LIGHT AND POWER.** National Defense activities were reflected in an increased demand for electric energy throughout the United States in 1940. Industrial power requirements were up by 16 per cent, commercial by 7 per cent, and residential by 10 per cent as compared with 1939. Available capacities on electric utility systems enabled these sudden increases to be met without difficulty, and the industry's prompt advancement of schedules for increasing capacity assure ample supply of electric power for even the record demands that appear to be immediately ahead.

**Power Production.** Production of electric energy in the United States increased by nearly 12 per cent during 1940 as compared with 1939. Increases were general in all parts of the country. Statistical data are given in Table 1.

TABLE 1 ELECTRIC POWER GENERATION—1940  
(Billions of Kilowatt-hours)

Year	From Fuel	From Hydro	From Canada	Gross Total	Uses & Losses	Available for Consumers' Use
1940	97.3	47.3	1.0	145.6	27.1	118.5
1939	86.3	44.0	1.2	131.5	25.8	105.8
1938	71.8	44.8	1.1	117.7	24.1	93.7
1932	49.1	33.3	0.4	82.8	19.1	63.7
1929	62.7	33.2	1.0	96.9	21.6	75.3

**Financial.** A new record for gross revenue from the sale of electric energy was established in 1940—\$2,413,234,000. Although the usage of electric energy increased by some 12 per cent in 1940, corresponding gross revenue increase amounted to only a little more than 5 per cent, reflecting increased sales of large blocks of low-rate industrial power and the effects of still further rate reductions. Taxes against private utilities for the year amounted to some \$405,000,000—up nearly double any other yearly increase, and more than 17 per cent above the 1939 tax bill—representing 18 cents out of every dollar of gross revenue. During the year the average urban residential consumer increased his usage from 890 kilowatt-hour to 950 kw-hr for the year while his rate went down from 4.05¢ to 3.81¢ per kw-hr as compared with 1939. In ten years the residential usage of electric energy has increased from an average of 540 kw-hr and the average rate has decreased from 6.0¢. Selected statistical data concerning customers, sales, and revenues are given in Table 2.

TABLE 2 ELECTRIC POWER SALES—1940

	Urban Residential	Rural	Commercial Industrial
New customers	885,000	52,000	49,000
Total customers	24,850,000	686,000	4,555,000
Per cent of gross total	82.6%	2.3%	15.1%
Power use in per cent of gross power sales	19.1%	1.7%	79.2%
Gross revenue from 1940 power sales	\$885,900,000	\$49,674,000	\$1,477,660,000
Per cent of gross revenue	36.8%	2.1%	61.1%

The volume of electric utility financing during the year amounted to about \$989,460,000, representing some \$92,000,000 in new capital and the remainder refundings. Capital expenditures for extensions and improvements to electric power systems as reported for 1940 are as follows: for fuel power plants, \$200,430,000; for hydroelectric pow-

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er plants, \$9,270,000; for transmission facilities, \$55,900,000; for substation facilities, \$57,760,000; for distribution facilities, \$237,700,000; for miscellaneous items, \$35,520,000; total, \$596,580,000.

**Generation.** New capacity in electric generating plants as reported for 1940 amounted to 1,851,900 kilowatts; a 50 per cent greater increase than for 1939, but less than half the 3,900,000 kw in new capacity scheduled for 1941 to meet National Defense and normal needs. Statistical data are given in Table 3.

crease is nearly 40 per cent greater than for 1939, but less than already is scheduled for 1941. All of which reflects the preparations of the electric light and power industry to meet Defense requirements for electric energy.

Developments in equipment include improvements to trailer-mounted mobile substation units for emergency service; extension of the "wound-core" method of manufacturing distribution transformers upward to 500-kilovolt-ampere sizes; improvements to and more extended use in industrial

TABLE 3: ADDITIONS TO ELECTRIC GENERATING CAPACITY—1940

Year	Fuel Plants Public		Fuel Plants Private		Total		Hydroelectric Plants Public		Hydroelectric Plants Private		Total		Totals	
	No.	Kilowatts	No.	Kilowatts	No.	Kilowatts	No.	Kilowatts	No.	Kilowatts	No.	Kilowatts	No.	Kilowatts
1940	39	243,400	57	1,210,500	96	1,453,900	8	263,200	9	134,800	17	398,000	113	1,851,900
1939	21	119,750	48	794,930	69	914,680	4	86,450	12	283,700	16	370,150	85	1,284,830
1938		1,350,200				1,350,300						345,600		1,695,600
1934						52,800						41,900		94,700
1929						2,081,300						249,200		2,329,500

The geographic distribution of electric generating capacity in public utility plants as of the close of 1940 was about as shown in Table 4.

TABLE 4: DISTRIBUTION OF PUBLIC UTILITY POWER PLANTS—1940

Area	Number of Plants	Aggregate Capacity (Kilowatts)
6 New England States	332	3,061,000
3 Middle Atlantic States	397	9,678,000
5 East North-Central States	660	9,320,000
7 West North-Central States	819	3,264,000
8 South Atlantic States	410	5,076,000
4 East South-Central States	196	2,149,000
4 West South-Central States	428	2,103,000
8 Mountain States	367	2,186,000
3 Pacific Coast States	301	4,163,000
Totals	3,910	41,000,000

Because of relative economics, and in spite of extensive and costly government development of hydroelectric projects, the growth in both generating capacity and power production continues to be preponderantly in fuel plants. Improved equipment and better load factor brought the fuel rate down to 1.36 lb. of coal per kw-hr, 2½ per cent less than for 1939 and 20 per cent less than in 1929. Fuel—gas, oil, coal—consumed in the generation of electric power in 1940 amounted to the equivalent of more than 65 million tons of coal. (See POWER PLANTS.)

**Transmission and Distribution.** More than 7000 miles of transmission lines (11,000 volts or above) were reported as constructed during 1940, heaviest in the 5 East North-Central, 9 South Atlantic, and 3 Pacific States, which among them accounted for some 3800 miles. Tentatively scheduled for 1941 are 6000 more miles. The average United States total for 1937–39 was slightly more than 5000 miles per year. As the year closed, the sixth major transmission line was under construction incidental to the Hoover (Boulder) Dam project—this the second 220,000-volt line of the Southern California Edison Company, Ltd. Other lines now in service are three 287,000-volt lines of the Los Angeles Bureau of Power & Light and a 138,000-volt line of the Nevada-California Electric Corporation.

New substation capacity reported totalled 3,800,000 kw, nearly a third of which was concentrated in the 5 East North-Central States. The year's in-

plants of metal-clad "load-center units" consisting of transformer and all related switching and control equipment; extensions in application of oilless and "oil-poor" designs of circuit breakers; improvements in metering and automatic control equipment. Among air-blast circuit breakers produced were a 23,000-volt indoor unit and a 138,000-volt outdoor unit, each designed to have an interrupting capacity of 1,500,000 kv-a.

**Rural Electrification.** As of midyear, the Rural Electrification Administration reported that some 630 systems had been completed and placed in operation, serving 568,000 customers over 233,000 miles of lines. This represents a total expenditure of public funds amounting to about \$221,000,000, including the 1940 allotment of about \$99,000,000. REA now reports 32 generating plants aggregating about 26,000 kw in capacity which generated about 35,000,000 of the 440,000,000 kw-hr distributed over REA lines in 1940.

**Government.** The outcome of the national elections in November, 1940, was expected to reinforce the determination of the Securities and Exchange Commission to apply literally the full provisions of Section 11 of the Public Utility Holding Company Act—the "utility death-sentence." Although officially spoken of in terms of "integration" of utility systems, the Act apparently actually aims at disintegration of holding-company systems into small segregated and purely local operating units, any one of which the parent company may elect to retain subject to approval of SEC. Early in the year SEC ordered several of the largest utility systems to submit answers to a group of questions and allegations, but avoided giving any orders that could be used as bases for court tests of the Act as currently interpreted by SEC. Various preliminary hearings were held and SEC made various "suggestions," but no conclusive action had been taken at the year's end.

A startling and far-reaching decision of the U.S. Supreme Court in the 15-year-old case of the Appalachian Power Company vs the Federal Power Commission swept aside all precedents, as well as the protests of more than 40 States, in ruling that the Federal Government has full jurisdiction over all streams and their tributaries regardless of actual navigability. Against the States' contentions that Federal control is limited to "navigable waterways," the Court decided, 6 to 2, that the Federal

authority "is as broad as the needs of commerce."

See ALABAMA; CALIFORNIA under *San Francisco*; CO-OPERATIVE MOVEMENT; MUNICIPAL OWNERSHIP; NEBRASKA; POWER PLANTS; TENNESSEE VALLEY AUTHORITY; UNITED STATES under *Administration*.

G. ROSS HENNINGER.

**ELECTRIC TRANSMISSION AND DISTRIBUTION.** See ELECTRIC LIGHT AND POWER.  
**ELECTRON MICROSCOPE.** See CHEMISTRY; PHYSICS.

**EMBRYOLOGY.** See ZOOLOGY.

**EMERGENCY PEACE MOBILIZATION.** See COMMUNISM.

**EMIGRATION.** See IMMIGRATION, EMIGRATION, AND NATURALIZATION

**EMIGRÉ LITERATURE.** See GERMAN LITERATURE; RUSSIAN LITERATURE

**EMPLOYMENT.** See LABOR CONDITIONS.

**EMPLOYMENT SECURITY.** Bureau of (formerly the U.S. EMPLOYMENT SERVICE). See SOCIAL SECURITY BOARD; also, NATIONAL YOUTH ADMINISTRATION.

**ENDERBURY ISLAND.** See under CANTON ISLAND.

**ENDOCRINOLOGY.** See BIOLOGICAL CHEMISTRY.

**ENGINEERING.** See BRIDGES; BUILDING; DAMS; ELECTRICAL MACHINERY; FOUNDATIONS; GARBAGE AND REFUSE DISPOSAL; TUNNELS; WATERWAYS, etc. See also EDUCATION.

**ENGINEERS, Corps of.** The Corps of Engineers, U.S. Army, under the direction of the Secretary of War and supervision of the Chief of Engineers is charged so far as concerns its civil functions, with investigation and construction of works for improvement of rivers, harbors, and other waterways for navigation and flood control. Many of the projects involve features designed for power development, irrigation, pollution abatement, or water conservation. During 1940 approximately 1000 river and harbor projects were in force and active work was prosecuted on 385. Active work was also under way on 159 of some 380 general flood control projects, in addition to authorized flood protection work for the alluvial valley of the Mississippi River, and for the Sacramento River and tributaries. An Act of Congress approved June 24, 1940, appropriated \$67,365,310 for the prosecution of river and harbor works, \$70,000,000 for general flood control projects, \$30,800,000 for Mississippi River flood control work, and \$1,242,000 for Sacramento River flood control work. This Act also appropriated \$2,000,000 for continuing the construction of the hydroelectric power plant at Fort Peck Dam, Montana, and \$3,400,000 for similar work at Bonneville Dam, Oregon. Also, in the First Supplemental Civil Functions Appropriation Act of Oct. 9, 1940, the further sums of \$8,127,000 for river and harbor works and \$4,000,000 for power plant purposes at Bonneville Dam were made available.

During 1940 major river and harbor projects under way included: Rock removal and dredging in New York and New Jersey Channels to secure increased depth of at least 35 feet in this intensively used waterway which extends through Lower New York Bay, Raritan Bay, Arthur Kill, and Kill Van Kull to deep water in Upper New York Bay; deepening of the Delaware River Channel from Philadelphia to the sea to 40 feet; improvement of the Chesapeake and Delaware Canal in

Delaware and Maryland by dredging, construction of mooring facilities, bank protection, and a new high level highway bridge at St. Georges; deepening of the Great Lakes-Hudson River waterway to 14 feet and alteration of bridges to provide 20-foot headroom; widening and deepening of Cape Cod Canal; deepening of the Atlantic Intracoastal Waterway from Winyah Bay, S.C., to St. Johns River, Florida, to provide a 12-foot channel; and dredging of the Gulf Intracoastal Waterway southwest of Freeport, Tex., a channel of not less than 9-foot depth now being available generally from Freeport, Tex., to Carrabelle, Fla.

The Tuscaloosa Lock and Dam on the Warrior River, Alabama, was completed, replacing old locks and dams Nos. 10, 11, and 12, which were removed. On the Upper Mississippi River to Minneapolis the last of the authorized 26 locks and dams—No. 24 at Clarksville, Mo.—was opened to navigation. Enlargement of the harbors at Fairport and Ashtabula, O., was effected and work was advanced at Sturgeon Bay and Lake Michigan Ship Canal, Wisconsin, Keewawee Waterway, Michigan, Erie Harbor, Pennsylvania, and Buffalo Harbor, New York. Fort Peck Dam, Montana, and Bonneville Dam, Oregon, have been completed except for installation or extension of power plant facilities now under way. An 18-foot channel with protecting entrance jetties was completed at Yaquina Bay and Harbor, Oregon. Dredging was continued to provide project depths of 35 and 26 feet in Area M, San Diego Harbor, California, and in San Joaquin River to provide the 30-foot widened channel to Stockton. One of four concrete arch debris dams was finished in the Sacramento River Basin and another is well advanced. For the 27-foot channel project, Vancouver to Bonneville, on the Columbia River, 32 dikes were completed and dredging was carried out.

Flood control activities included completion of the Arkport Dam, New York, the Crooked Creek and Tionesta Dams in Pennsylvania, and local protection projects at 37 localities in various river basins throughout the United States. The latter projects ranged in scope from the extensive levee and flood wall systems constructed for protection of the Cities of Ceredo and Kenova and the business section of Huntington, W.Va., in the Ohio River Basin to the small levee systems which protect numerous agricultural areas from floods in the Columbia River Basin. Construction was also continued or started during the year on reservoirs and local protection projects at important industrial areas in the Merrimack and Connecticut River Basins; on reservoirs and related works for the protection of numerous manufacturing centers in the Southern New York area of the Susquehanna Basin; on levees and flood walls for protection of several industrial cities along the Susquehanna River in Pennsylvania; on several units of the comprehensive plan for flood control in the Ohio River Basin, including the Mahoning, Loyahanna, and Youghiogeny Reservoirs, channel improvement work for protection of Johnstown, Pa., local protection for several important cities and towns along the main stem and tributaries of the Ohio River; on reservoirs in the basins of the Red, Arkansas, and White Rivers; on reservoirs, channel improvements and related works for the protection of the metropolitan area of Los Angeles and Orange Counties, California; and on reservoirs and bank protection works in the Willamette River Basin in Oregon. In the alluvial valley of the Mississippi

River work was continued on levee construction, floodways, reservoirs, and local protection works, including construction of Sardis Dam in the Yazoo Basin and Wappapello Dam on St. Francis River. In the Sacramento Valley the authorized program was advanced to 90 per cent of completion.

JULIAN L. SCHLEY.

**ENGINES.** See AUTOMOBILES; ELECTRICAL INDUSTRIES.

**ENGLAND.** See GREAT BRITAIN.

**ENGLAND, Church of.** The War continued in 1940 to affect in varying degrees every branch of the life and work of the Church of England. The year brought not only tribulation and loss but also vast new opportunities.

The material loss included the destruction of Coventry Cathedral; damage to Westminster Abbey, St. Paul's Cathedral, Canterbury Cathedral, Liverpool Cathedral, St. Martin-in-the-Fields, St. Margaret's, Westminster, St. James's, Piccadilly, St. Mary-le-Bow and other City churches, and to Lambeth Palace; and the destruction or injury of over 1000 churches, schools, halls, and vicarages in the country as a whole. The Archbishops of Canterbury and York appointed a special Commission in connection with the question of the repair, restoration, or rebuilding of churches or other Church property damaged by enemy action, and particularly to consider the provisions of the Government Insurance Bill and in due course the question of any general fund for the assistance of dioceses and parishes. The official statistics for 1939, published in December, 1940, in *The Official Year Book of the Church of England 1941*, showed that many Church activities had been gravely but not disastrously affected by evacuation, mobilization, the black-out, taxation, etc., in the first four months of the War; and by the uncertainties of the preceding period.

The archbishops, bishops, and clergy were tireless in exhortation and leadership, and Church organizations of all kinds co-operated in the vast migrations of women and children from the danger areas. The wonderful response of the younger clergy at the outbreak of the War to the need for Chaplains to the Forces had its sequel in the heroic work of those Chaplains in the evacuation of the B.E.F. from France. Some deliberately chose to become prisoners of war rather than leave the wounded and a number received rewards for gallantry.

Building work was continued in the course of the year on the new Cathedrals of Liverpool, Guildford, and Blackburn, and on the extension of Portsmouth Cathedral. H.M. the King opened, on June 10, the new Church House, Westminster, probably the world's most important architectural building completed in 1940, which is to be the central business headquarters of the Church of England and a center also for the whole of the Anglican Communion.

During the year more and more thought was given by leaders of opinion in the Church of England to postwar planning and reconstruction; and of the definite trends which quickly became discernible in such thinking perhaps none was so definite as the increasing realization of the important part which religious education must play in the educational system of the country after the War. Under the chairmanship of the Archbishop of York the important conference of the National Society and the Central and Diocesan Boards of

Finance, which first met in 1939, continued to press upon the dioceses the need for improved administration throughout the whole field of education. In particular it urged the need for diocesan surveys of Church schools and for Diocesan Directors of Religious Education. There was steadily increasing co-operation between the Church of England and the Free Churches in many spheres such as work for Refugees and especially in the sphere of education.

In the wider world of the Anglican Communion special mention must be made of the decision of the Nippon Seikokwai (Japan Holy Catholic Church) to assume complete independence of Western aid; of the continuing difficulties of the dioceses in China due to the war; of the very special difficulties of the Diocese of Gibraltar and the Anglican chaplaincies in the jurisdiction of Northern and Central Europe; of the affiliation of the Church of England to the World Council of Churches (in process of formation), which is to carry on officially the work of the Oecumenical Movement on behalf of the Churches; of the serious decline in the incomes of important British missionary societies, and of the generous decision of the Protestant Episcopal Church in the United States to include in its Budget a gift of \$300,000 in aid of the missionary work of the Church of England.

The year 1940 was the hundredth year of the existence of the Ecclesiastical Commissioners' Common Fund, which has added in one way or another upwards of £2,000,000 a year to the permanent value of benefices. In view of the war the Commissioners felt bound to defer further progress with permanent augmentation and are making income-grants to the clergy for the calendar year. The new schemes include not only a scheme of relief of pension-charges so far as they reduce the incomes of benefices below £350 but also a scheme of help of incumbents who owing to the war have lost benefice-income or suffered exceptional hardship of some other kind.

Among the appointments of the year were the following: The Right Rev. C. W. West-Watson to be Primate and Archbishop of the Province of New Zealand; The Right Rev. G. V. Smith to be Bishop of Leicester; The Ven R. Brook to be Bishop of St. Edmundsbury and Ipswich; The Rev. H. C. Montgomery Campbell to be Bishop Suffragan of Willesden, The Rev. M. H. Edwards, O.B.E., to be Chaplain-in-Chief, Royal Air Force; The Right Rev. H. Hensley Henson to be Canon of Westminster Abbey; Canon J. L. White to be Provost of the Cathedral Church of St. James, Bury St. Edmunds.

**ENGLISH LITERATURE.** See LITERATURE, ENGLISH AND AMERICAN.

**ENGRAVING.** See SCULPTURE.

**ENTOMOLOGY, Economic.** The Bureau of Entomology and Plant Quarantine is concerned with investigations on insects and their economic relations; the development and application of methods for their eradication or control; the carrying out, in co-operation with the States, of necessary work to prevent the spread and to control or eradicate insect pests and plant diseases that have gained more or less limited foothold in the United States; and the utilization of those species that are beneficial. These activities include investigations on and direction of control campaigns against the species injurious to agriculture and forestry; investigations on the species affecting the health of man and

animals, or infesting human habitations or injurious to industries; the culture and use of honeybees and beekeeping practices; investigations on the natural enemies of insects and plant pests and the possibility of using these as aids for control; the taxonomy, anatomy, physiology, and responses of insects; chemical and other problems relating to the composition, action, and application of insecticides; and the development of methods of manufacturing insecticides and materials used with them.

To aid in carrying out these assignments and to protect agriculture from plant pests and diseases, the Bureau is responsible for the strict enforcement of acts and restrictive orders promulgated thereunder.

During the year a building was completed in Hoboken, N.J., which is to be used for the inspecting of plant materials which may be imported under permit for propagation. The fourth floor of this new building has been specially designed and equipped to serve as a receiving station in connection with the introduction from foreign countries of natural enemies of insect pests.

**Apple and Pear Insects.** A new laboratory was established at Charlottesville, Va., to undertake the study of Comstock's mealybug, which has been reported with increasing frequency since 1934 from numerous orchards from South Carolina to Ohio and Connecticut. Three large-scale orchard tests of tree scrapings and banding to control codling moth were carried on at Yakima, Wash. Similar tests conducted during five seasons have shown that the parts of the orchard so treated produced more good fruit than the untreated blocks even when one less spray was applied. In the Hudson River Valley two sprays of phenothiazine following a light arsenical program successfully reduced a heavy infestation of the apple maggot.

**Peach Insects.** During the three years ending at the close of the 1939 season, 12 experimental releases of the most effective parasite of the oriental fruit moth were made to test the value of mass liberation of parasites early in the season in areas where the parasite is established, and all but one of these experiments has been followed by a lowering of ripe-fruit infestation in the year of release. In field cage experiments at Fort Valley dichloroethyl ether continued effective against larvae of the plum curculio in the soil.

**Peach Mosaic.** During the past year in the peach mosaic eradication campaign 96,173 properties were visited on which 3,851,000 trees were inspected, disclosing the presence of 64,194 mosaic-affected trees of which 18,396 had been removed at the end of the year 1939. An additional 155,600 trees, largely in abandoned orchards, were removed as a sanitary measure.

**Phony Peach Disease.** Co-operative activities for the control of phony peach during the past year resulted in the inspection of 92,000 properties on which were 13,051,000 trees of which 58,285 were found to be affected by this disease. Of the infected trees 27,533 had been removed by the end of the year and an additional 9,518,000 escaped and abandoned trees were removed as a sanitary and precautionary measure.

**Grape Insects.** A study by the Sandusky, Ohio, laboratory on the practical use of cultivation for controlling the grape berry moth in the vineyard indicates that about 86 per cent of the cocoons are found in a soil strip 18 inches wide directly under the vines. This emphasizes the importance of giving special attention to the area under the trellises,

which is the most difficult to reach. Only about 18 per cent of the moths are prevented from emerging by ordinary spring cultivation. Forty-five per cent of the moths were prevented from emerging by fall plowing, but the method as used in the experiment has certain serious disadvantages from a horticultural standpoint. An all-season treatment that included four applications of phenothiazine gave a high degree of control of the grape berry moth under conditions of moderate infestation. A tank-mix nicotine-bentonite program, which included four applications during the season, gave an outstanding degree of control, but it left such a heavy deposit of visible residue as to render the fruit unmarketable, except possibly for wine or juice.

**Japanese Beetle.** The area of general infestation of the Japanese beetle is approximately 16,300 square miles, an increase of 1183 square miles over that of last year. Trapping showed a carry-over of infestation in 78 cities and towns in non-regulated territory and 48 first-record infestations, the latter in Indiana, Maryland, Michigan, New York, Ohio, Pennsylvania, Virginia, and West Virginia. Lead arsenate was applied for the control of Japanese beetle to a total of nearly 900 acres in Georgia, Illinois, Indiana, Michigan, Missouri, New York, North Carolina, Ohio, and Virginia. During the summer of 1939 co-operative work was undertaken with the New Jersey Department of Agriculture and the University of Maryland for a colonization of Type A milky disease, a very effective disease in controlling grubs of Japanese beetle. In a natural inoculation of this disease in northeastern Maryland the population of white grubs was reduced from 38 to 6 per square foot. Two-thirds of the grubs found were affected with the disease. The most significant development on the work on fumigation of balled and potted nursery stock and farm products for the control of the larvae, eggs, and adults was the importance of the conditions under which the material is held during the post-fumigation period. Distribution of the two most important Japanese beetle parasites was continued.

**Pear Psylla in the Northwest.** A program for the suppression of an incipient infestation of the pear psylla in the Pacific Northwest was undertaken in co-operation with State agencies in Washington and Idaho. This insect was found for the first time in the Northwest in 1939. It has been known as a serious pest in the Northeastern States for more than 100 years.

**Pine Bark Beetles.** Field work on the hazard-inventory survey of the commercial ponderosa pine area in northeastern California was almost completed. This survey was based on the results of research in Oregon and California on the susceptibility of ponderosa pine to attack by insects, particularly bark beetles. Forest stands or areas have been given hazard ratings based on the history of their recent losses from insects and on the present condition of the individual trees. The most susceptible trees on the high-hazard areas may be marked for cutting. This will enable the owners to concentrate their logging operations in the areas where there is most danger of serious losses from bark beetles in the near future. The Forest Service and several large private operators in California and Oregon are making immediate use of the information supplied by the Bureau and are modifying their management plans to permit rapid and frequent coverage of their lands in an effort

to take out susceptible trees before these are attacked by insects and rendered worthless.

**Ambrosia Beetles.** Ambrosia beetles and the associated stains caused by fungi constitute one of the most serious problems of the lumber industry in the Southern States. Dichlorodiphenyl oxide gave consistent protection against damage by these insects and is now being tested on a commercial scale in the Gulf States. A simpler method of preventing attacks by ambrosia beetles is to end-rack lumber for from 12 to 15 days.

**European Spruce Sawfly.** An insect disease this year checked the inroads of the European spruce sawfly, an insect immigrant from northern and central Europe that has been defoliating spruce forests in New England for the last five years. An infection has almost wiped out the needle-eating worms in southern Vermont and southern New Hampshire.

**Gypsy Moth.** Eight thousand one hundred and twenty-two attracting cages in which were placed charges of an extract obtained from the tips of the abdomens of female moths in order to attract males and locate infestations were put out in 73 towns. Of these, 148 in 25 towns attracted male moths and resulted in the discovery of 98 infestations totaling approximately 9000 egg clusters. During the summer of 1939 defoliation of various degrees of intensity covered 492,640 acres, a substantial increase over the acreage recorded in 1938. Defoliation in the area between the Connecticut River and the barrier zone was slightly less than in the previous year, and no defoliation was recorded in the barrier zone or in New York, New Jersey, or Pennsylvania.

**Dutch Elm Disease.** During the fiscal year 1940 there was a 49-per cent reduction in the number of trees found to be infected by this disease. There were 16 confirmations of the finding of this disease outside of the major disease area. Since the discovery of this disease in the United States in 1930, 57,400 elms have been found to be infected. The entire zone in which field operations are being carried on is now 11,610 square miles, an increase of only 790 square miles over last year. During the year 9864 infected trees were removed and 206,540 additional trees were removed in the sanitation program and 56,428 trees in the selective operations. The grand total of all trees removed last year was over 773,000. This brings the grand total of elms that have been removed since 1933 to 5,576,680.

**White Pine Blister Rust.** The combined work of the Bureau and its co-operating agencies during the calendar year 1939 resulted in the eradication of 82,312,000 currant and gooseberry plants on white pine control areas covering 1,863,000 acres. There was no large extension of limits of the known infected area in this country. These bushes are the necessary alternate hosts for the very serious disease of pine known as white pine blister rust. The breeding of plants that are immune or resistant to attack by insects and insect-borne disease is occupying increasing attention of entomologists, plant breeders, and plant pathologists.

**Insect-Resistant Corn.** Extensive tests in several localities of inbred and hybrid field and sweet corn for resistance to the corn ear worm showed wide differences in the degree of infestation and give promise that reduction of injury by this insect may be accomplished through the eventual commercial use of resistant strains of corn. Simi-

lar breeding work for resistance of corn to attack by the European corn borer indicates similar possibilities.

**Insect-Resistant Wheat.** Continuation of the work in breeding wheat resistant to the attack of Hessian fly has resulted in the production of a variety that in California gives absolute immunity to Hessian fly infestation, whereas check varieties were 70-per cent infested. Similar, though not as conclusive, results were obtained on experimental breeding of hard red winter wheats in Kansas.

**Alfalfa Resistant to Pea Aphid.** Plant-breeding work with alfalfa resulted in the production of strains that show marked resistance to the pea aphid. Maximum plant infestation of resistant varieties never exceeded 22 per cent, whereas susceptible varieties were 100-per cent infested.

**White-fringed Beetle.** This insect has been apparently eradicated in several limited areas and materially reduced in all infested areas, thus lessening the danger of natural spread. Effective application of insecticidal dusts in nonresidential areas was accomplished by the use of Federal-owned airplanes. The total known area now infested by this insect comprises approximately 70,000 acres, located in Alabama, Florida, Mississippi, and Louisiana.

**Mormon Cricket.** Sodium fluosilicate bait was used in all infested States and gave satisfactory control even in areas of heavy infestation. This material has been specially valuable in districts where both grasshoppers and crickets are present. It is estimated that the control operations protected more than 1,000,000 acres of crop lands. Damage occurred on only about 7000 acres of crops.

**Grasshoppers.** Operations for the control of grasshoppers in 24 Western States were continued in co-operation with the several States and interested Federal agencies. The activities of the campaign for the 1939 crop season were especially effective on idle range land adjacent to crop land and resulted in a crop saving estimated at over \$128,000,000, or \$52 worth of crops for each Federal dollar spent on control. The outstanding accomplishment of the season's campaign was the effective control of infestations of the long-winged migratory grasshopper through the use of light airplanes for survey purposes and of heavy planes for the spreading of bait. The aerial equipment was brought into use in areas inaccessible by means of ground spreaders, where infestations were such as to constitute a menace to crop areas.

**Chinch Bug.** Fall surveys in 1939 indicated extensive infested areas in southern Iowa, the northern third of Missouri, southeastern Nebraska, the eastern third of Kansas, several counties in northeastern Oklahoma, and localized areas in Indiana and Illinois. Nearly 2½ million gallons of creosote were furnished by the Federal Government to 167 counties in these States. The use of this material resulted in very large savings of valuable corn crops.

**Black Stem Rust.** The co-operative control campaign to eradicate barberry bushes, which act as an alternate host for black stem rust of small grains, resulted in the removal of over 31,300,000 barberry bushes on over 2700 properties. This brings the grand total of barberry bushes removed to 259,000,000 on over 34,000 properties.

**Soil Fumigation for Wireworms.** Early experiments with dichloroethyl ether gave considerable promise. The margin of safety between effec-

tive dosage and plant injury, however, is narrow. Naphthalene as a soil fumigant is found to be effective only under certain soil type and temperature conditions.

**Sweet Potato Weevil.** Co-operating Federal-State control and eradication activities against the sweet potato weevil were continued during the year in Alabama, Georgia, Mississippi, and Texas. Four counties were released from quarantine, all infestations having been eliminated.

**Pink Bollworm.** During 1939, 400,000 acres in southern Texas were cleaned for the control of this pest. In the lower Rio Grande Valley there was an increase in infestation on both the Texas and Mexican sides of the river. There was a spread from that region to additional southern and southwestern Texas counties, and light infestations developed in several additional west-central counties of Texas in the vicinity of San Angelo and Colorado. During the past season all known wild-cotton colonies in southern Florida were cleaned twice and a considerable part of the area was cleaned three times. Over 1,000,000 cotton plants, seedlings, and sprouts were destroyed on approximately 39,000 acres.

**Foreign Parasite Introduction.** Owing to war conditions in Europe, the Bureau's field station for the collection of foreign parasites to be shipped to this country located at St. Cloud, France, was discontinued in October, 1939. Two members of the staff of this station were assigned to work in South America with headquarters at Montevideo, Uruguay.

**Insecticides.** During the year a new method for dispersing insecticides was devised. This consisted of spraying the liquid insecticides or solutions of insecticides on a hot surface so that the material is dispersed as smoke. Although in the experimental stage, this method may prove to be an efficient way of controlling insects in closed spaces. See BOTANY.

LEE A. STRONG.

**ENTOMOLOGY AND PLANT QUARANTINE.** Bureau of. See ENTOMOLOGY, ECONOMIC.

**EPILEPSY.** See PSYCHIATRY.

**EPISCOPALIANS.** See PROTESTANT EPISCOPAL CHURCH; ENGLAND, CHURCH OF.

**ERITREA.** See ITALIAN EAST AFRICA.

**EROSION CONTROL.** See LAND UTILIZATION, OFFICE OF; SOIL CONSERVATION SERVICE; TENNESSEE VALLEY AUTHORITY; CIVILIAN CONSERVATION CORPS.

**ESPIONAGE.** See BELGIUM, CANADA, ICELAND, INDIA, IRELAND, MEXICO, NORWAY, PANAMA CANAL ZONE, PORTUGAL, SWEDEN, and SWITZERLAND, under *History*; DIES COMMITTEE; FEDERAL BUREAU OF INVESTIGATION; FIFTH COLUMN.

**ESTONIA.** A former Baltic State, which proclaimed its independence from Soviet Russia Feb. 24, 1918, and was reannexed to the U.S.S.R. as a constituent republic Aug. 6, 1940. Capital, Tallinn.

**Area and Population.** Estonia has an area of 18,359 square miles, including internal lakes, and a population estimated on Jan. 1, 1940, at 1,122,000. The population on Jan. 1, 1939, was estimated at 1,134,000. The decrease was attributed to the removal of Baltic Germans to German Poland and the exodus of Estonians who foresaw their country's absorption by Soviet Russia. Living births in 1939 numbered 18,450 (16.3 per 1000); deaths, 16,940 (15.0 per 1000). Estimated populations of the

chief cities on Jan. 1, 1939, were: Tallinn, 144,978; Tartu, 60,281; Narva, 23,834; Pärnu, 21,886.

**Religion and Education.** About five-sixths of the people are Lutherans and the rest chiefly Greek Orthodox and Roman Catholics. Adult illiteracy was slightly less than 4 per cent in 1940.

**Production.** Agriculture and dairying support nearly 70 per cent of the population. Yields of the chief crops in 1939 were (in metric tons): Wheat, 85,300; barley, 90,000; rye, 227,700; oats, 149,400; potatoes, 874,300; flax, 6100. The leading industrial products are cotton fabrics and yarn, woodpulp (112,000 metric tons in 1939), cellulose, paper, timber, shale oil. On Apr. 1, 1940, there were 56,456 wage earners in manufacturing establishments.

**Foreign Trade.** Total imports in 1939 were 101,351,000 crowns (107,198,000 in 1938) and exports of Estonian products were 118,217,000 crowns (103,928,000 in 1938). For trade distribution see 1939 YEAR BOOK; consult also the article on TRADE, FOREIGN in this volume.

**Finance.** For the fiscal year ending Mar. 31, 1941, the budget was estimated to balance at 114,988,740 krooni (crowns), as against revenues of 105,878,187 and expenditures of 105,816,637 krooni in the fiscal year 1939-40. The public debt on Jan. 1, 1940, totaled 127,605,613 crowns. The Estonian crown exchanged at an average rate of \$0.2711 in 1939 and \$0.2712 in 1938.

**Transportation.** In 1939 Estonia had about 1328 miles of railways; gross earnings totaled 17,762,000 crowns. Highways extended 13,416 miles. Airlines connected Tallinn with Helsinki, Leningrad, Stockholm, Berlin, Warsaw, and other cities. The gross tonnage of the merchant marine on Jan. 1, 1940, was 195,745.

**Government.** The Constitution effective Jan. 1, 1938, vested extensive powers in a President elected for six years. It provided for a bicameral National Assembly consisting of a Chamber of Deputies of 80 members elected by universal suffrage and a National Council of 40 members, chosen for the most part by public organizations and local governmental bodies. The President appointed a Premier, whose cabinet was responsible to the National Assembly. President at the beginning of 1940, Konstantin Päts, elected Apr. 24, 1938; Premier, Juri Uluots, appointed Oct. 12, 1939.

## HISTORY

**Soviet-Estonian Tension.** As was generally foreseen, the mutual assistance pact that Estonia was forced to conclude with the Soviet Union on Sept. 29, 1939, under threat of a Soviet invasion (see 1939 YEAR BOOK, p. 231), proved the first step toward the subjugation and sovietization of the little Baltic republic. The surface cordiality that marked relations between the Estonian Government and people, the newly installed Soviet garrisons, and the Moscow Government showed signs of wearing thin early in 1940. There were reports of widespread popular dissatisfaction with Estonia's status as a virtual Soviet protectorate. Civil and military officials of Estonia, Latvia, and Lithuania were said to have laid plans for closer co-operation in defense and other matters.

The Baltic Entente Conference, held in Riga, Latvia, on March 16, reiterated the "absolute neutrality" of Estonia, Latvia, and Lithuania in the struggles of the great European powers. Later that month the Russians enlarged their demands in Baltic Port (Paldiski). Although only a lease on part of the port was called for in the mutual



assistance pact, they forced the Estonian Government to evacuate all civilians from the port city. On May 15, in response to Estonian representations, the Kremlin agreed to remove all Russian garrison troops on the mainland, except those at Baltic Port, to the bases leased on the islands of Oesel and Dagoe.

**Russian Ultimatum.** During the spread of the European War into the Low Countries, the Soviet Government adopted a more belligerent tone toward Estonia and the other Baltic republics. On May 30 it established a forbidden zone along the Soviet-Estonian frontier. On June 17, the day after a Soviet ultimatum to Lithuania (q.v.), Estonia and Latvia received identical demands for the right of "free passage" of more Russian troops into their territories and the immediate formation of "governments that would insure honest implementation" of the mutual assistance pacts with the Soviet Government. The Estonian, Latvian, and Lithuanian governments and peoples were charged with unfriendliness toward the Soviet Union and with planning military collaboration against it. On the same day large Soviet forces entered Estonian territory.

Unable to resist, the Estonian Government accepted the Soviet demands. After agreeing to permit the stationing of Russian troops in the principal cities and towns, the Uluots Government resigned on June 21 in favor of a new government, headed by Dr. Johannes Vares, which was formed under the supervision of a representative of the Soviet Foreign Office. The new Cabinet consisted of pro-Soviet Socialists and professional men, none of whom had held government posts before. Gen. Juhan Laidoner, commander-in-chief of the army and hero of the war of independence in 1917-19, was replaced by Major General Rothberg, the new War Minister. The change in government was accompanied by an attempted revolt of armed Estonian Communist industrial workers, which was repressed by Estonian troops with a few casualties.

**Parliamentary Elections.** The Vares Government, under the direction of Moscow, quickly effected the transformation of Estonia from a nominally independent republic to an integral part of the Soviet Union. Parliament was dissolved, the Baltic Entente annulled, and anti-Soviet elements removed from governmental, military, and other positions. Communists working for outright union with Russia quickly obtained a commanding influence. On July 5 parliamentary elections were called for July 14-15. Only the candidates of the so-called Working Peoples' Bloc, controlled by the Communists and directed by Soviet Foreign Office agents, were permitted on the ballot. The Working Peoples' Bloc was composed almost entirely of the small class of Estonian industrial workers. The peasants, the bourgeoisie, and the intelligentsia, comprising the great bulk of the population, had little or no representation. Moreover mass arrests of the leaders of these anti-Communist elements took place on the eve of the parliamentary elections, and strong pressure was employed to secure the largest possible vote for the official candidates. The government announced that 81.6 per cent of the voters participated in the election and that 92.9 per cent voted for the candidates of the Working Peoples' Bloc.

**Annexation by U.S.S.R.** Immediately after the elections, a Moscow-directed campaign for union with the U.S.S.R. was conducted by the

controlled radio and press. On July 21 the newly elected National Assembly met, proclaimed Estonia a soviet republic, and voted to ask for incorporation in the Union of Soviet Socialist Republics. This petition, presented by Estonian delegates to the Supreme Soviet in Moscow, was accepted on August 6 when Estonia was incorporated as the 16th constituent republic of the Soviet Union. The final step in the process of governmental reorganization was the action of the National Assembly on August 24-25 in voting unanimously to adopt a soviet constitution. The secretary of the Estonian Communist party became president of the Council of People's Commissars.

Most of the Estonian diplomatic and consular representatives abroad denounced the annexation as an open violation of the Constitution and a cynical betrayal of every principal of representative government and national self-determination. The United States, Great Britain, and a few other foreign governments supported their stand by refusing to recognize the legality of Moscow's action and blocking Estonian assets within their respective jurisdictions. But in Germany, Italy, and the other countries dominated by the Axis, the representatives of the Baltic States were obliged to turn over their legations and consulates to Soviet officials.

**Sovietization and the Terror.** Meanwhile the complete introduction of the soviet economic, political, and social system was carried out in Estonia with increasing resort to terroristic tactics. Land, banks, industries, stocks of raw materials and goods, waterways, transportation facilities, etc., were nationalized. Properties of the larger landowners were redistributed among landless rural workers and those with small plots, pending eventual collectivization of agriculture. The Estonian army was co-ordinated with the Red Army and all officers suspected of anti-Soviet sympathies were ousted. The Soviet system of education was introduced. The theological faculty of Dorpat University and the Academy of Science were abolished. General Laidoner, President Päts, and other prominent members of the former regime were arrested. Properties of Estonians abroad who refused to return to Estonia were confiscated and their citizenship revoked.

Other characteristics of the Russian soviet state made their appearance—poor discipline among workers, economic disorganization, decreasing production, and growing scarcity of goods accompanied by charges of sabotage and "wrecking." The Soviet authorities dealt with these developments by the harsh methods customary in Russia. Following mass arrests of hundreds of persons, a people's tribunal was created on August 6 to wage a drive against "traitors." The decree provided the death penalty for "traitors," confiscation of their properties, and up to 10 years' imprisonment for members of their families.

See LATVIA, LITHUANIA, and UNION OF SOVIET SOCIALIST REPUBLICS under *History*; LEAGUE OF NATIONS; NAVAL PROGRESS; REPARATIONS AND WAR DEBTS.

**ETCHINGS.** See PRINTS.

**ETHIOPIA.** A former native empire in East Africa, formally annexed by Italy on May 9, 1936, following its conquest by force of arms (see 1935 and 1936 YEAR BOOKS under ETHIOPIA). Area, about 347,500 square miles; population, roughly estimated at over 4,000,000. By the decree law of June 1, 1936, Ethiopia was incorporated with Eri-





*Triangle*

**RUSSIAN ADVANCE AGAINST THE MANNERHEIM LINE**  
Sledges, with men in white camouflage, were drawn by huge tanks to front line positions



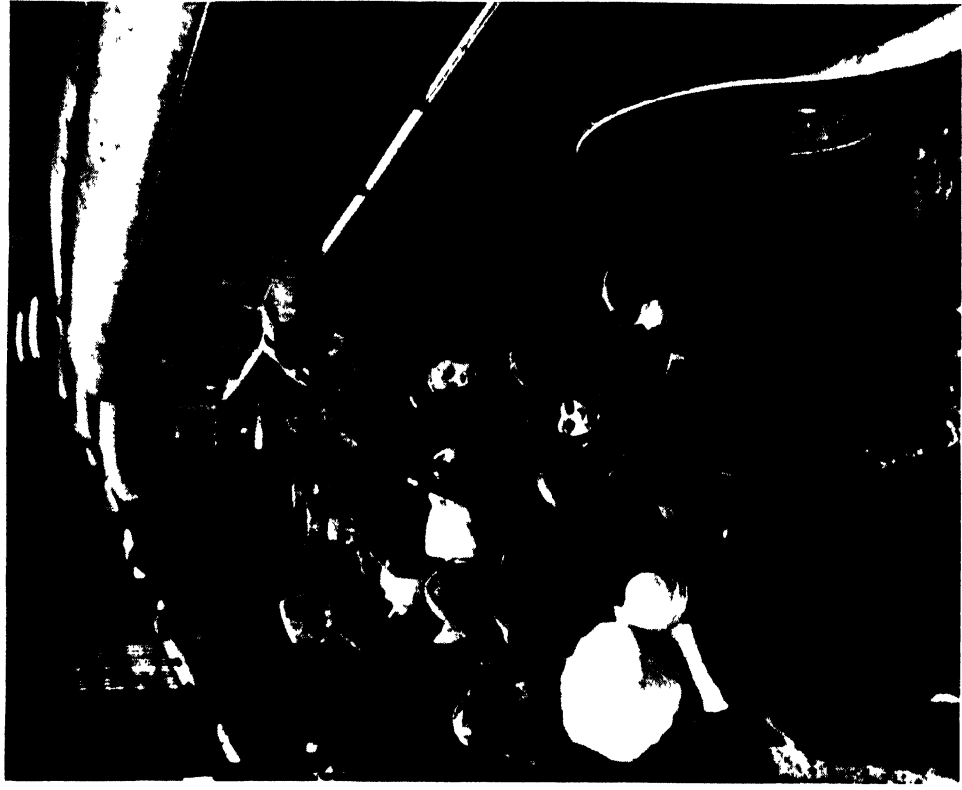
*Acme*

**FINLAND'S GREATEST VICTORY**  
In the Second Battle of Suomussalmi the Russian 44th Division was completely crushed. Here are some of the tanks and cars left behind in the rout.



Acme

FINNISH CHURCH AFLAME FROM RUSSIAN BOMBS



Wide World

WOMEN AND CHILDREN EVACUATED FROM A FINNISH CITY

trea and Italian Somaliland to form the colony of ITALIAN EAST AFRICA (q.v.). See EUROPEAN WAR under *Campaigns in Africa*.

**EUROPE.** A continent with an area of about 2,094,500 square miles and a population estimated at 400,100,000 (excluding the U.S.S.R.) on Dec. 31, 1938. See separate article on each European country; also BALKAN ENTENTE, COMMUNISM, EUROPEAN WAR, FASCISM, NAVAL PROGRESS, ETC.

**EUROPEAN SPRUCE SAWFLY.** See ENTOMOLOGY, ECONOMIC.

**EUROPEAN WAR.** The military campaigns of 1939 including the German conquest of Poland and the start of Russian-Finnish hostilities are described in the YEAR BOOK, 1939, pp. 233-250. From the fall of 1939 to the spring of 1940 there was little activity in the Allied-German war save in the air and on the sea. During the winter months of January, February, and March, the major land operations took place in Finland. Because of the close relation existing between these two conflicts, the events in Finland provide the major military background for the decisive campaigns of the spring and summer in the main European theater of war.

#### THE FINNISH CAMPAIGN: JANUARY TO MARCH, 1940

The Russian attack on Finland began on Nov. 30, 1939, with a curious disregard for weather and terrain conditions. Apparently the Kremlin overestimated the support to be secured from so-called Finnish Communists and underestimated Finland's capacity for resistance. Theoretically Russia's huge army of 26 regular infantry divisions and 14 regular cavalry divisions, plus a first line reserve of 21 infantry divisions and 15 cavalry divisions, plus a force of 42 territorial reserve divisions, making up a total available force of 2,011,000 men, should have had little difficulty in overcoming Finland's army of 3 infantry divisions, 1 cavalry brigade, and 1 tank company. Employing a force estimated at 20 divisions on a front from Petsamo to the Karelian Isthmus, the Russian high command (Gen. Boris Shaposhnikov, chief of staff) attempted an invasion of Finland from five major directions. A holding attack by second class troops was made on the Karelian front. North of Lake Ladoga four Russian divisions advanced toward Sortavala and Suojärvi, a movement which was designed to flank the Mannerheim line on the Karelian front. Three divisions based on Kem advanced in the direction of Lieska. A similar force based on Repola made an advance toward Nurmes-Suomussalmi. Farther northward an advance was directed toward Salla and Kemijärvi by a force of troops based on Kandalaksha. In the far north Russian divisions based on Murmansk made an attack on Petsamo, Finland's only arctic port. These widely separated military movements were dependent for supplies on the single-track Leningrad-Murmansk railway.

At the outset of hostilities General Baron Mannerheim, commander-in-chief of the Finnish army, and his Chief of Staff, Gen. Lennart Oesch, were able to expand the peace-time army of 3 infantry divisions into 3 army corps of 2 divisions each by adding trained reserves. In addition to this small mobile army capable of offensive operations, Finland possessed a partially trained reserve of some 200,000 men capable of serving in secondary positions and guarding communications. This allowed the six "regular" Finnish divisions to be employed as a mass of maneuver against the Russian invad-

ing columns. Finnish divisional commanders Ostermann, Wallenius, Ohquist, Talvela, and Heiskanen distinguished themselves in the fighting of December and January.

**Finnish Victories in North.** Russian advances in December on the four fronts north of Lake Ladoga succeeded in making initial progress in spite of the weather and difficulties of the terrain. It was only after considerable progress was made in each sector that the Russians met with repulse and disaster. Finnish ski troops encircled the flanks of Russian columns which were strung out along the narrow forest roads, cut their communications, prevented food and supplies from reaching the Russian troops, pinned them to the ground and let the sub-zero weather add to the destructive fire of their rifles and sub-machine guns. By January all the Russian advance columns were in retreat and disorder. In some cases they were pushed beyond the Russian frontier.

In January, 1940, the reinforced Russian armies under the command of Gen. Gregory Stern made their major efforts north of Lake Ladoga on the central and north-central front. Diversion attacks were continued on the Karelian front but without apparent weight. The principal attacks were delivered without variation from the December pattern against Sortavala and Suomussalmi in the central sector and against Salla in the north-central sector. These attacks met with the same fate as the December attacks. Once again the mobile Finnish troops were able to isolate Russian divisions and decimate them. The Russian 163d division was destroyed in this area in December. In January the 44th Russian division was trapped and destroyed. Portions of the 54th division and the 164th division were cut to pieces in the fighting on the Suomussalmi-Raate front. The strategic aim of these movements was to cut across the "waist" of Finland to menace her rail communications with Sweden. In the fighting north of Lake Ladoga in January the 34th Moscow Tank Brigade was surrounded and destroyed.

**Mannerheim Line Pierced.** As a result of the failures of January, Gen. Kyril A. Meretskov, commander of the Leningrad Military District, was replaced by Gen. Simeon Budenny, famed Cossack leader. Marshal S. Timoshenko took charge of all Russian operations against Finland. The whole strategy of the Finnish war underwent an immediate change. The main efforts from February on were concentrated on the Karelian front. Troops estimated at 300,000 were massed for an assault on the Mannerheim line. Russian bombers operating from nearby airfields made repeated attacks on Finnish railways and industrial districts. Heavy and railway artillery, tanks, armored sledges, flame-throwing equipment, and men were thrown into the attack. Minor diversions north of Lake Ladoga were attempted, but the 18th Russian division suffered heavily in the open warfare against elusive Finnish troops.

With the massing of Russian forces on the Karelian front the warfare took on the character of the Verdun battle of 1916. From February 1 to 10 almost constant artillery fire fell upon the Finnish fortifications in the Summa sector of the line. The famed Mannerheim line in this area consisted of concrete pill-boxes mounting cannon and machine guns, protected from tank attack by boulders and natural obstacles. At the height of the attack 300,000 artillery shells a day were fired at the Finnish positions. Russian infantry in armored sledges



*Courtesy of New York Times*

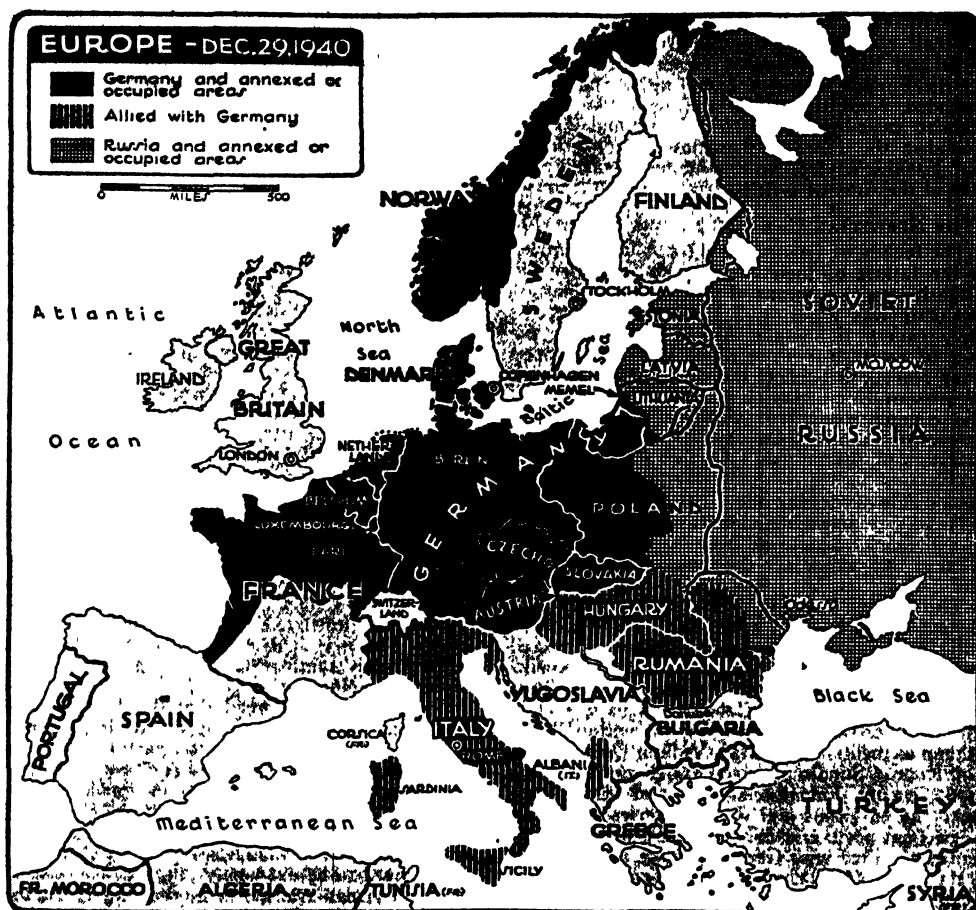
towed by tanks advanced against the fortifications covered by artillery and machine gun barrages. Engineers and demolition squads blasted away tank traps and wire. The type of attrition warfare which developed cost the Russians heavily in casualties, but it placed the Finnish high command at great disadvantage. The defending army lost the superiority in maneuver which had gained the impressive victories of December and January.

The six regular divisions which were the backbone of Finnish resistance were swallowed up in the battle of matériel. It was found impossible to relieve the exhausted Finnish troops on the Mannerheim front, for reserve troops and foreign volunteers proved unequal to the strain of constant artillery attack. On February 13 the Finnish Government appealed for outside aid on a large scale and called up men of 43 years of age.

Heavy fighting on February 14-16 on the Summa front led to the capture of that city on the 16th. The assault was led by crack Soviet troops, the 100th, the 103d, and 49th divisions. By February 23 the Russian advance had reached to within seven miles of Viipuri (Viborg), the key city to the western flank of the Mannerheim line. Koivisto Island in Viipuri Bay was attacked on February 24. Russian raiding parties advancing over the ice of Viipuri Bay during the last week of February

threatened to outflank Viipuri. In the face of heavy resistance advanced elements of the Russian army entered the outskirts of Viipuri on March 11. Fighting ceased on all fronts at 11 a.m. on March 12 with the conclusion of Russian-Finnish peace negotiations. See FINLAND under *History*, for peace terms.

When the war ended Finland's small army, though having suffered heavy losses, was still intact. Her main industries and railway communications were still functioning in spite of Russian bombing attacks. Continued resistance was possible, but after the full pressure of the Russian drive on the Karelian front had pierced her strongest fortified position, all hopes for a Finnish victory disappeared. That Baron Mannerheim was willing to accept the harsh terms offered on March 12 was vindication of the Russian strategy of concentrating on the Karelian front. The power and drive displayed by the Russian army in this campaign surprised the outside world and dismayed the Finns. Though the conquest of Finland did not enhance the prestige of the Red Army, it did reveal the fact that Russian military equipment was of modern design and good quality. Several Russian innovations such as the multiple incendiary bomb ("Molotov's breadbasket") and parachute troops were imitated by the German army.



Courtesy of New York Times

The fall of the Mannerheim line revealed serious engineering defects in its construction. The heavy concrete pill-boxes of this line were not anchored sufficiently with concrete aprons. As a result prolonged shelling by Russian artillery undermined the forward face of the emplacements causing them to sag. This threw the guns of the emplacement out of alignment and restricted their field of fire. Although similar defects were not necessarily involved in the construction of the Maginot and Siegfried lines, the fall of the Mannerheim line gave grounds for doubting the impregnability of formal fortifications. It may have influenced the German high command in its decision to attack the French and Belgian fortified positions in the west.

**Foreign Aid to Finland.** Since Russia was an ally of Germany the conclusion of the Finnish war was regarded in France and Britain as a blow to their cause. As long as Russia was involved in the war with Finland the amount of material aid she could render to Germany was negligible. The failure of the Allied governments to send substantial aid to Finland was widely criticized. According to French and British statements the aid sent included 285 planes, 590 guns, 100 anti-tank rifles, 5000 machine guns, 200,000 hand grenades, 60,000,000 rounds of small arms ammunition, and a great

many other items of needed military equipment.

That the Allied governments considered sending military forces to aid Finland was revealed by Premier Daladier of France who said that a force of 50,000 French troops was concentrated in embarkation points as early as February 26. Sweden's refusal to permit the transit of these troops across her territory made this move impossible. No doubt the government of Sweden feared that Germany would look upon the movement of so large a body of Allied troops through Swedish territory as endangering her supply of iron ore from the famous Kiruna mines. That Germany would take military steps to prevent this was regarded as a certainty in Sweden. Thus, the fear of extending the general European war to the Baltic countries prevented large-scale aid from reaching Finland even though some 8000-10,000 foreign volunteers, mostly Swedish, attempted to aid the Finns. See FRANCE, GREAT BRITAIN, and SWEDEN under *History*.

The severity of the Russo-Finnish peace terms, following the heroic resistance of the small Finnish nation, swept aside whatever doubts remained about the reality of the Russian victory. That they left Finland a virtual prisoner in the Baltic and robbed her of the strongest defense zones she possessed could not be concealed.

**Estimated Casualties.** Official Russian reports set their casualties in the Finnish war as 48,745 killed and 158,000 wounded. General Mannerheim set the Finnish losses at 15,000 killed and 30,000 wounded. Neutral sources in Scandinavia set the Russian casualties as 200,000 killed and 250,000 wounded, the Finnish casualties at 30,000 killed and 35,000 wounded. No reliable figures are available at the time of writing.

#### THE NORWEGIAN CAMPAIGN: APRIL 9-JUNE 10

The feeling of frustration in the Allied countries at the failure of their governments to utilize the Finnish war as a means of attacking the flank of Germany was widespread. Efforts were immediately made to tighten the blockade by stopping the flow of Swedish iron ore which had been shipped from Narvik throughout the winter in the relative security of Norwegian territorial waters. Charges and counter charges of violation of Norwegian neutrality followed. On April 7 a British submarine sank the German transport *Rio de Janeiro* which was loaded with fully equipped German troops. The same day the British Admiralty announced that minelaying operations had taken place in Norwegian territorial waters. This gave the Germans an excuse for the invasion of Denmark and Norway on April 9.

**The Surprise Attack.** Using the pretext that Denmark and Norway were about to be used as Allied bases against Germany, Nazi troops poured into Denmark in the early morning hours of April 9 and received the surrender of that state (see DENMARK under *History*). Elaborate plans were laid for the betrayal of Norway from within. Fifth column elements led by Maj. Vidkun Quisling and Col. Konrad Sundlo prepared to deliver vital ports to the enemy. Faked telegrams and orders confused the garrisons and shore batteries defending Norwegian ports and minefields. "Wooden horse" transports filled with German troops were waiting in the harbors of Trondheim and Narvik. First indications of the treacherous assault came at 4:30 a.m. on April 9 when two German destroyers appeared in a snow storm at Narvik, sank two Norwegian gunboats and a number of British steamers. Proceeding to the inner harbor they landed troops which took over the city. Similar landings surprised the Norwegian garrisons at Bergen, Trondheim, and Stavanger. By mid day the principal ports of Norway had passed into German hands.

If adequately defended the fjord of Oslo should have been almost impregnable to attack. Elaborate minefields and well-placed batteries defended the approaches to the capital. But the defending troops were confused by the receipt of what seemed like official telegrams and orders not to resist the Germans. German war vessels and transports passed through minefields whose contacts had been disconnected and under the muzzles of guns which could have blasted them out of the water. Norwegian naval cadets were taken aboard German vessels as hostages. Only a single minesweeper which had not received faked orders resisted. It torpedoed the German cruiser *Emden*. A few batteries at Horten opened fire on the cruiser *Blucher* and sank it. But aside from these events the great landing passed off successfully while the German air force cowed the capital with massed flights of bombers. By 4 p.m. Oslo had been occupied. The entrance was made by 1500 Nazi troops led by bands and by the Oslo police force. Its fall was

brought about by acts of treachery and cynicism unequalled in modern war.

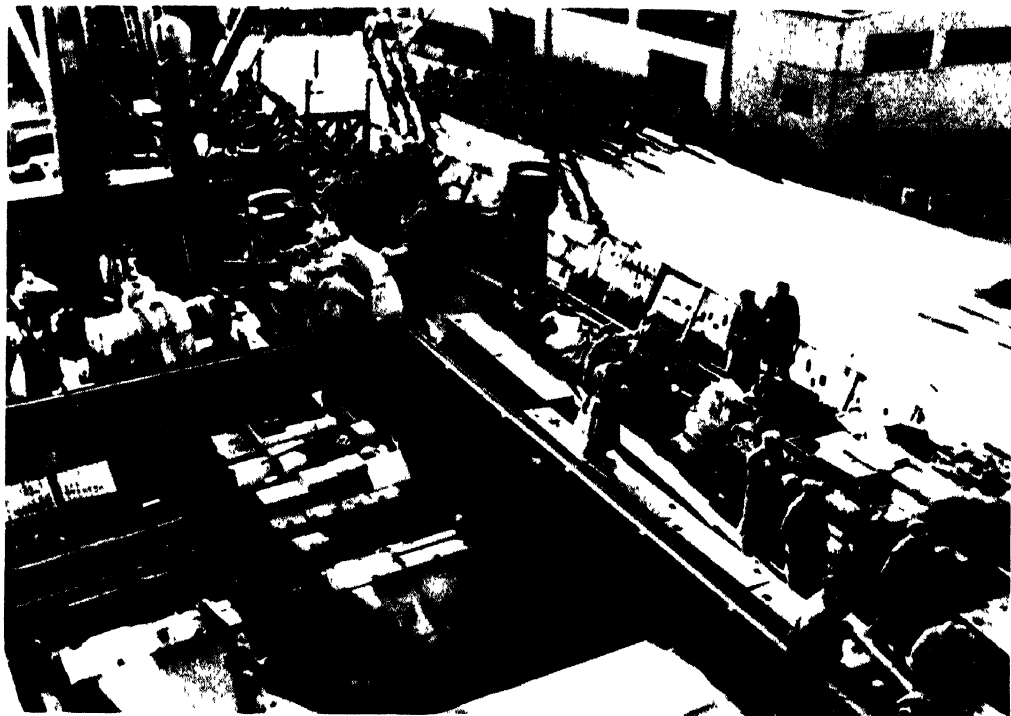
The fall of the capital disorganized Norwegian plans for resistance, because Oslo was the headquarters of the army organization. Most of the limited anti-aircraft guns were in the capital and fell into the hands of the Germans. The peacetime army consisted of only 15,000 men (main reserves approximately 80,000 men) and was organized on a militia basis in nine brigades. There were no mechanized units; the army possessed very little modern artillery, and less than 150 planes. The small Norwegian navy of 4 gunboats, 8 destroyers, and 9 submarines was lost when the big ports were captured. The coast defense forces at Kristiansand resisted the German landing and sank the cruiser *Karlsruhe* by gunfire. It was under these discouraging circumstances and with this limited force that the Norwegian Government retired from Oslo to Hamar and Elverum to prepare further resistance.

**The Naval-Air Struggle.** At the close of April 9 not more than 20,000 Germans had been landed in Norway. With Allied promises of aid to Norway, the success of the German campaign depended upon the speed with which she could reinforce her small garrisons in the captured ports. Unless Germany could throw more men into the ports and maintain lines of supply, they would ultimately be destroyed by Allied and Norwegian forces. The principal Allied objective became to prevent such reinforcements from reaching the Germans in Norway.

Hopes were widespread that the British navy, which had failed to prevent the daring German landings, would now be able to attack the sea communications between Germany and Norway. Winston Churchill made promises in Parliament on April 12 that every German ship in the Skagerrak and Kattegat would be sunk. But naval operations in areas controlled by land-based German air squadrons proved to be extremely difficult. The task of sinking German transports in the Skagerrak had to be entrusted to British submarines. Perhaps the German success in striking the British battlecruiser *Rodney* with a 1000 lb. bomb in the first days of the campaign caused British heavy units to shun the coastal area.

In any event the British fleet failed to bring any heavy German units to battle save for an indecisive clash between the *Renown* and the *Scharnhorst* off Narvik. Farther north outside the immediate zone of German air supremacy British naval units acted with more resolution. A small British destroyer flotilla (five ships led by Captain Warburton-Lee) rushed into Narvik fjord on April 12 to attack the German destroyer forces and though sinking some German craft was forced to retire with the loss of two vessels. This reverse was avenged on April 14 when the battleship *Warspite* and nine destroyers entered Narvik fjord and sank the whole flotilla of seven German destroyers. Elsewhere there were no major German naval losses though many transports were reported sunk.

Since Trondheim, the principal port in central Norway, was spacious enough to permit operations of large naval units, proposals were put forward in Britain that the port be rushed by heavy units of the fleet. Admiral Sir Roger Keyes of Zeebrugge fame offered to take command of this necessarily hazardous mission. It was decided, however, that Allied landing parties operating from north and south of Trondheim could force the German gar-



*International*

#### NAZI TROOPS LAND IN NORWAY

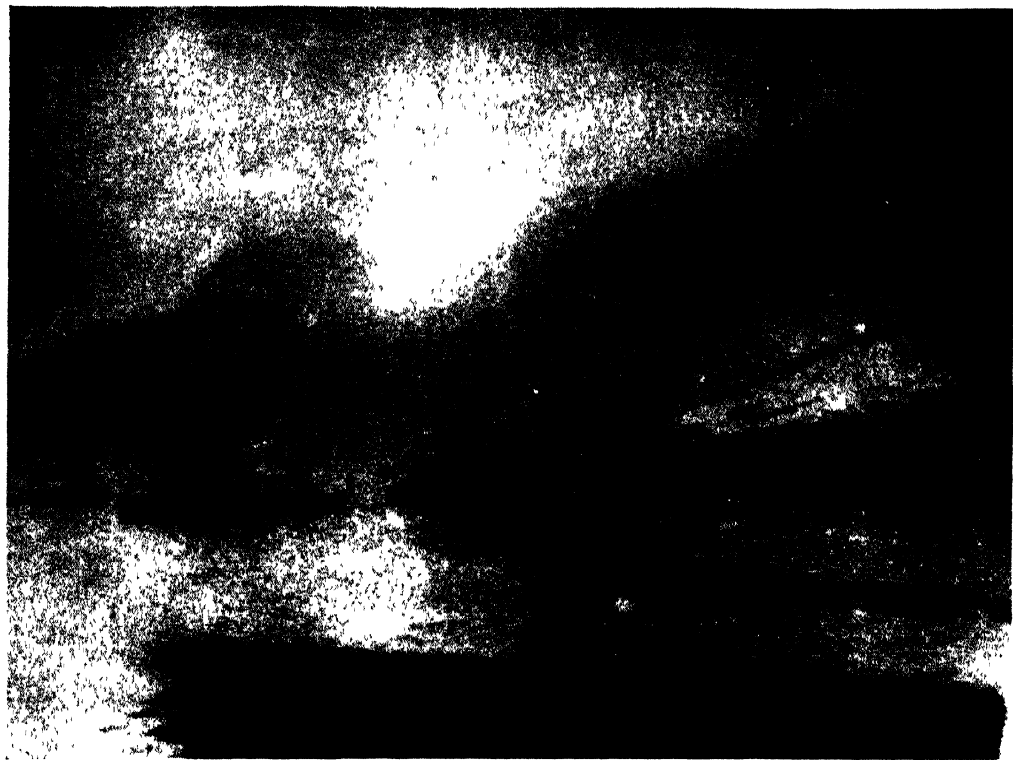
In an unnamed port men, trucks, and supplies are unloaded to effect the more complete occupation of the country



*Wide World*

#### NAMSOS STRUGGLES BACK TO LIFE

A few new buildings emphasize the completeness of the destruction of this Norwegian port, attacked by German bombers after the landing of British troops. A ruined church in upper center.



*Acme*

**BRITISH NAVAL ATTACKS ON NARVIK**  
German transport ships grounded and sunk in the attack on April 10th



*International*

**KING HAAKON (CENTER) AND CROWN PRINCE OLAV (LEFT) IN FLIGHT FROM GERMAN AIRMEN  
DURING RAID ON A SMALL TOWN IN WHICH THEY HAD TAKEN REFUGE**



rison out with less difficulty. This decision led to the organization of an Allied expeditionary force which reached Norway on April 15.

**Allied Land Force Defeated.** Before the Norwegian campaign was many hours old, it became apparent that the German high command was making energetic use of its air force to reinforce the troops in Norway. This was particularly true of the small force at Narvik which was a full 1000 miles removed from German bases by sea. When the Allied expeditionary force under Gen. Carton de Wiart reached Norway on April 15, it was forced to disembark in the small secondary ports of Laerdal, Namsos, Aandsnes, Aalesund, Molde, and Bodoe. These ports lacked dock and harbor facilities for handling heavy equipment. The landing took place without great loss but the Allied force soon came under heavy attack from German air squadrons. It was found that the Allied expeditionary force consisted in part of raw territorial units and French colonial troops. There was a tragic shortage of anti-aircraft equipment. The Royal Air Force operated under the handicap of having to fly from British bases or carriers while the Germans enjoyed the use of Norwegian air fields.

One Allied column operating with Norwegian support made an advance southward from Namsos toward the railway line connecting Trondheim with Oslo. Another column moved west and northward from Aandsnes and Molde toward Dombaas and Stoeren. Had either of these movements been made with sufficient speed and strength the whole German campaign in Norway might have been frustrated. But the Allied expeditionary force turned out to be only some 12,000 men. The troops moving from Namsos ran into a savage German counter attack at Steinkjer and retreated under heavy air bombardment. Bombing raids by German planes turned Namsos into a veritable shambles.

For a time it seemed that the Allied advance toward Dombaas would be successful, but Gen. Nikolaus von Falkenhorst moved mechanized columns with such unexpected speed up the Osterdaal and Gudbrandsdaal that a juncture with the German forces at Trondheim was made on April 30. This surprising development nullified the strategy and purpose of the Allied expeditionary force, and amid quarrels with the Norwegian army command the whole force was evacuated from the Trondheim area by May 3. The bulk of the Norwegian forces surrendered. The Norwegian King and members of the government announced their determination to continue the struggle, and did so, first in the Narvik district and later from England. See *NORWAY under History*.

**Narvik Abandoned.** Allied landing parties and a small Norwegian force maintained slow pressure on the isolated German garrison at Narvik and finally captured the city on May 30. This minor triumph was almost overlooked in the confusion of the battle of Flanders. In the face of the defeat of France and the threat of a German invasion of Britain, the Narvik force was evacuated on June 10. As if to set the seal of defeat on a totally unhappy venture, the British navy suffered the loss of the aircraft carrier *Glorious*, two destroyers and two transports in this operation. The German victory in Norway vastly increased the blockade difficulties of the British by extending the German control of the coast of Europe to North Cape. Though German losses in transport tonnage were

heavy, these were more than made up by the amount of shipping captured in Danish and Norwegian ports.

Official German reports gave the total casualties in the Norwegian campaign at 5296 killed and wounded. There are no reliable figures available for British, French, Polish, and Norwegian losses.

#### THE BATTLE OF FLANDERS: MAY 10-JUNE 5

The sequence of events in May and June shows that the Norwegian campaign of April was part of the German grand strategy of 1940. The occupation of the whole coast of Norway gave the Germans tremendous advantages in the naval war against Britain. It added one more block to the Nazi-dominated area in central Europe. In view of the impending German assault in the west in May, the Norwegian campaign may have been intended as a gigantic diversion to draw off Allied strength northward. The diversion effect, however, was slight since the Allies did not send large forces to Norway. The pretext for the invasion of the Low Countries was the same as that used in Denmark and Norway. Holland and Belgium were charged with being parties to Allied plots to use their territories as a base of operations against Germany.

There had been only local action on the western front since the commencement of hostilities in September, 1939. Under the cautious strategy of Gamelin the French had made short advances in the German territory between the Maginot line and the German Westwall in the fall of 1939. These gains had been gradually reduced by equally cautious German advances in the winter and spring of 1940.

**Allied-German Strategy and Forces.** The essential strategy of Generalissimo Marie Gustave Gamelin was to trick the Germans into a costly attack on the "impregnable" Maginot line. If necessary the Allies were prepared to wait until the blockade forced Germany to attack them in the west.

The Allied defensive plan of war was built up around the famed Maginot line protecting France from Switzerland to the Belgian frontier. From that point northward the Allied flank was covered by Belgian fortifications extending from Montmédy to Maastricht and by the strong Albert Canal line to Antwerp. There were strong fortifications along the Meuse at Liège and Namur, and a rear defensive line along the Dyle river. Some of these works, especially the modern forts at Liège, were held to be equal to any in Europe. The defensive positions of the Netherlands included a forward IJssel line, the Grebbe-Peel line, and the Fortress of Holland line.

These defensive positions depended for their full efficiency on a system of inundations and on the destruction of the main bridges over Dutch rivers. After King Leopold of Belgium had renounced the French alliance in 1936, the French contemplated extending the Maginot line northward to the sea, but by the spring of 1940 it consisted merely of a few strong points supported by a chain of concrete pill-boxes. At no place north of Montmédy did the Maginot extension approach the scale or strength of the Maginot line proper. The combined strength of all these positions, however, was regarded as so great that a German attack was regarded as unlikely by many military critics. The Allied defensive scheme of war had received its most convincing explanation just prior to the out-

break of war in 1939 in Capt. B. H. Liddell Hart's book *The Defence of Britain*.

When the German assault came on May 10 the western front was defended by 115 divisions of the Metropolitan army of France (General Gamelin, generalissimo), by 10 divisions of the British Expeditionary Force (General Viscount Gort, commander-in-chief), by 16 Belgian divisions (King Leopold in command), and by 14 Dutch divisions (Gen. Henri Winkelman, commander-in-chief). Against these forces the German high command (Gen. Wilhelm Keitel, chief of staff of the German armed forces, and Gen. Walther von Brauchitsch, commander-in-chief of the field armies) could concentrate a force of from 150-200 divisions, giving them a slight initial advantage in numbers but not the three-to-one superiority in mass held to be essential for success in an attack. The lack of co-ordination between the Allied-Dutch-Belgian forces could be counted on to increase the German advantages in numbers. By their assumption of the initiative and ability to concentrate mechanized strength and air power at the decisive point, the Germans gained fatal advantages over the Allies whose separate air forces and mechanized units were necessarily employed piecemeal and without maximum effect.

The battle of Flanders was but a part of the German plan of war. It contemplated the destruction in detail of the Dutch and Belgian armies, a break through to the coast endangering northern Allied units, and a final decisive battle against France from a position outflanking the Maginot line. The German plan was original and daring in conception. It went counter to the main German strategic concepts which since 1896 reflected the views of Count Alfred von Schlieffen.

The German movement in the west was heralded by widespread German bombing attacks on Allied, Dutch, and Belgian air bases. This attack delivered in the early morning hours of May 10 caught the Allied air force napping. Since aerial warfare had been confined to reconnaissance flights and individual dog-fights, they were unprepared for this sudden attack on their bases. Many planes were destroyed on the ground. French, Dutch, and Belgian cities far behind the lines which had enjoyed complete immunity from attack felt the power of German bombers. The "phony" war in the west suddenly became real. As if acting upon the Schlieffen plan, German troops invaded Holland and Belgium before daybreak. General Gamelin was so certain of the course of the German attack that his order of the day included the phrase "the attack which we have been expecting since September has at last arrived."

Conquest of the Netherlands. The German attack on Holland was entrusted to seven divisions of the 18th army (General von Keuchler) which advanced in three columns. One crossed the Dutch frontier in the north and moved directly toward Utrecht. Another column crossed the Gennep bridge, broke through the IJssel line and advanced toward Hertogenbosch which it captured after two days. A third column crossed the frontier at Roermond and advanced in the direction of Breda. Although the Dutch army opposing the advance of these columns consisted of twice the number of divisions, they were unable to hinder the advance due to the failure to destroy important bridges and to the helplessness of the Dutch forces under German air attack. Most important of all was the stunning "vertical envelopment" of the Dutch rear car-

ried out by German parachute troops and fifth column elements.

Before the Dutch had begun to fight parts of their capital and many of their important communications centers were in the hands of the enemy. Parachute troops had been employed by the Russians in Finland but with such scant success that no army in the world save the Germans took them seriously before May 10. Early in the morning German parachute troops were landed at the Waalhaven airport in Rotterdam and took possession of that vital point. German seaplanes landed troops in the Maas River. Innocent looking barges lying in the harbor discharged fully equipped German troops. Street fighting spread through the city. Similar landings took place at The Hague, at Delft, and at Dordrecht.

These troops and Dutch Nazi sympathizers made it possible for the Germans to capture the vital bridges at Gennep, Roermond, Moerdijk, and Dordrecht intact. The Dutch were prepared to wage war in the conventional 1914-18 pattern, but they were utterly unprepared for the confusion which followed these developments. General Winkelman, who anticipated a long struggle against the Germans, found himself trying to direct operations from his headquarters in The Hague whilst street fighting was raging around him on the first day of the assault.

Dutch appeals for help made on the morning of May 10 brought a French motorized division as far north as Breda by May 11. This remarkably speedy transport performance came to naught, however, when the French units became involved in the general confusion and retreated without materially affecting the course of the battle. The German armored column which took Hertogenbosch on May 12 advanced over the Moerdijk bridge and joined with the German parachute troops at Dordrecht on May 13. Contact was also made with the German troops at Rotterdam where severe fighting raged around the airport. Efforts of the German parachute troops to capture the Royal family caused them to seek refuge in Britain. By the night of May 13 confusion reigned supreme in Holland. The Dutch field army had been cut in two by the rapid penetration of German mechanized columns. Allied reinforcements began to retreat as soon as they arrived. It was in these circumstances that the German high command made use of the German air force to crack Dutch morale and force a speedy termination of hostilities.

At noon on May 14 the German Luftwaffe carried out a systematic bombing of the business district of Rotterdam which lasted for an hour and a half. Fifty-four planes operating from a field close to the Dutch border flew over the city in relays dropping their bombs in formation and quickly returning with another load. The Dutch anti-aircraft defense system was undergoing reorganization when the war broke out; the Dutch air force had been virtually grounded by the loss of its airports, and the German bombers were able to carry out the attack without interference. The raid devastated seven solid blocks of apartment houses and department stores, and set fire to the water front. Thousands of civilians (Dutch estimates say 20,000 to 30,000) were killed and wounded. There were no adequate air-raid shelters in large Dutch cities; and under the German threat to carry out similar raids on Amsterdam, Utrecht, and The Hague, General Winkelman was forced to suspend hostilities at 4 p.m. on May 14. The armistice was opera-

tive in all Dutch provinces except Zeeland where a small British landing party was trying to evacuate. The Royal Dutch Navy was ordered to continue a defense of Dutch colonial possessions. See *NETHERLANDS, THE*, under *History*.

So rapid had been the collapse of Dutch resistance that when the armistice came the Dutch army, though completely outmaneuvered, was still intact. Its losses, which were at first widely set at 40 per cent of their effectives, turned out to be less than 23,000 men. When the Dutch experience was added to that of Poland and Norway, it showed how completely inadequate were the conventional concepts of defense against total war.

**German Diversion against Belgium.** While the 18th German army was completing the destruction of Holland, the 6th (General Reichenau) and 4th German armies (General von Kluge) made an attack on Belgium accompanied by extensive air raids on Belgian airports. The 6th army moved across the Maastricht district of Holland and advanced directly against the Albert Canal position. Air infantry enabled them to capture two bridges intact and make a crossing of the water line. The 4th army astonished the world by capturing powerful Fort Eben Emael on May 12 and the city of Liège on May 13. Fort Eben Emael was the key to the Meuse defenses and its early fall dismayed the Allied world. The capture of this great strong point, at first attributed to a "secret weapon," was in reality brought about by a remarkably co-ordinated attack by pioneer (engineer) battalions and air troops landed by parachute or glider in the courtyard of the fort. The German troops engaged were said to have carried out practises on a model of the fort constructed in Poland during the winter. Immediately after the fall of the city of Liège, the 6th army pressed forward along the Meuse in the direction of Namur and Thionville. Thus far the German movements in the north looked essentially like the Schlieffen plan.

As if in automatic response to the heavy attacks of the 4th and 6th German armies in Belgium, Allied reinforcements sped northward with trucks and tanks on May 11. These forces consisted of the 7th French army (General Billotte), the 1st French army (General Blanchard), and the British Expeditionary Force (General Gort). Together with the French Cavalry Corps (General Prioux), the "relief" force comprised 30 divisions of the best trained and equipped troops in France. The movement northward was carried out with such speed that by May 14 all these divisions were north of the Belgian frontier. When, therefore, the main German blow fell at Sedan on May 14 breaking the Maginot extension, these 30 divisions were north of the break-through point.

Elsewhere in the war the Allied relief forces had been too weak and too late. In this case ironically they were too fast. They no sooner reached Belgian soil than the whole strategic purpose of their arrival was nullified by the German break-through at Sedan. After May 15 it was no longer a question of the defense of Belgium. Their main objective became to escape the gigantic trap into which they had fallen. This was the crowning blow of the war.

**The Main German Attack at Sedan.** While the Allied relief forces moved northward into Belgium, the main strategic aims of the German attack became clear. An attack was made on May 14 by 10 German armored divisions of the 2nd and 12th German armies (Generals Strauss and List)

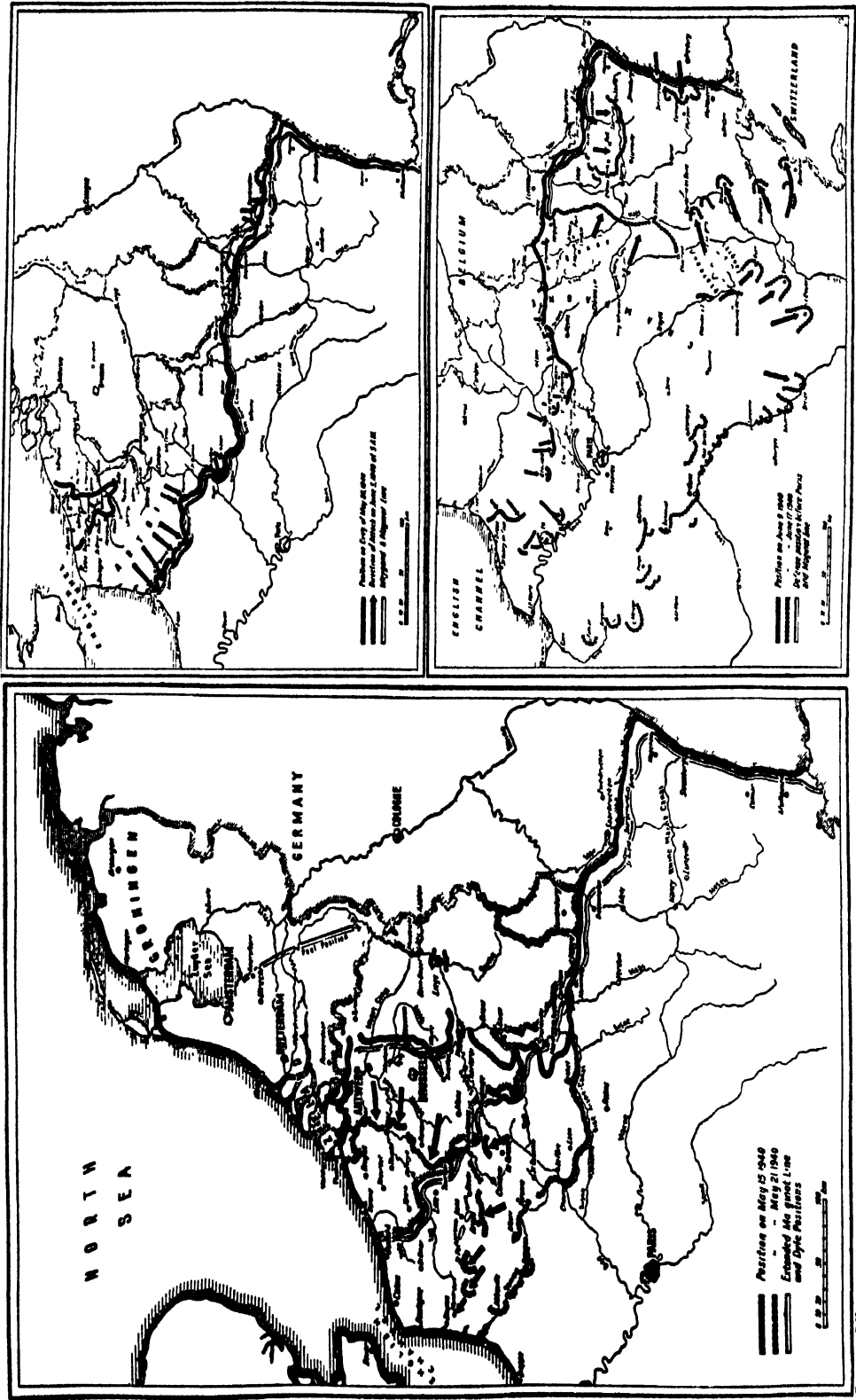
at Sedan with the 9th German army (General Weichs) in reserve. Thus a total mass of 70 German divisions fell upon the weak French 9th army (General Corap). The attack was prepared by 1000 dive bombers which rained destruction on the pill-boxes of the Maginot extension. Combat teams made up of pioneers and shock infantry filtered between French strong points, blasted pill-boxes and mopped up small units. French military leadership and training was not equal to these well-co-ordinated movements. The 9th French army was virtually destroyed as a fighting force in two days of battle.

Once the Maginot extension was broken, 10 German armored divisions rolled forward to Mézières, then to St. Quentin, Peronne, Amiens, and finally to Abbeville, which was reached on May 21. The 30 Allied divisions in the north were now completely cut off from the main French forces in the south. Behind the steel front of the armored divisions moved the 2nd, 12th, and 9th German armies, in Mr. Churchill's phrase "the dull brute mass of German infantry." What at first appeared to be a raid of armored units in great depth (as in Poland) turned out to be the amazingly rapid advance of three whole German armies which averaged more than 25 miles a day. The German armored units which reached Abbeville on May 21, turned northward and captured Boulogne on May 26. Its advance was checked for a few days at Calais by the heroic resistance of British territorial units, but by June 1 the German column was threatening Dunkirk from the south. What amazed military critics was the ability of the German army to maintain supplies for these advance forces. The exploit showed the closest kind of co-ordination between all arms in the German army. In audacity and execution it stood unrivaled in military history.

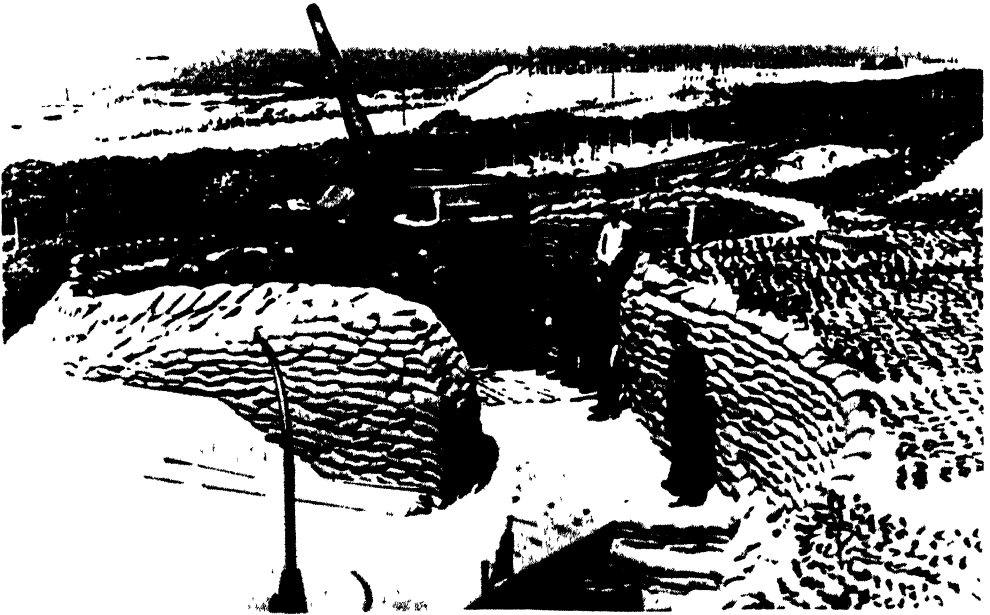
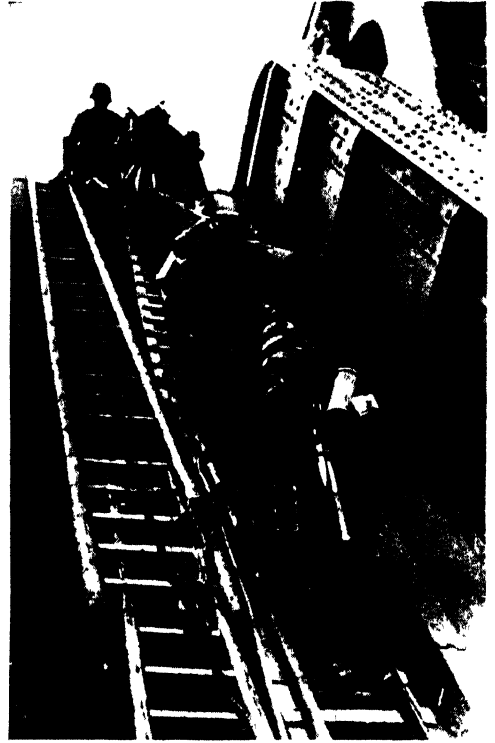
**Allied Generals Replaced.** Seven days of warfare in the west was sufficient to reveal the shortcomings of the Gamelin concept of war. Prime Minister Reynaud had never sympathized with his views and had been on the point of replacing him early in May. Four days after the break-through at Sedan he called the aged Marshal Pétain from Madrid to assume the post of Vice-Premier. On May 19 General Gamelin was replaced by Gen. Maxime Weygand who had arrived from Syria by plane. The German blow on May 10 toppled the government of Mr. Chamberlain, and Mr. Churchill became Prime Minister on May 11. On May 26 Gen. Sir Edmund Ironside, chief of the Imperial General Staff, was replaced by Gen. Sir John Greer Dill. Thus there were changes in command in both France and Britain during the crisis of May.

General Weygand, whose attitude on arrival in Paris was one of confidence, made several trips over the Somme battlefield by plane and attended a number of conferences with French, British, and Belgian leaders. He was appalled by the confusion created by the German break-through to the coast, but attempted to organize a counter attack to cut the Somme gap. Meantime the Allied and Belgian armies in the north retreated steadily under pressure of the 4th and 6th German armies. They retired from the Dyle line to the Dendre River on May 17. The retirement continued until May 27 when the Allied line in Flanders formed a rough triangle from Dunkirk to Valenciennes to Bruges.

Weygand's efforts to organize a single co-ordinated counter attack failed when General Billotte was killed in a motor accident and misunderstandings between Generals Ironside, Blanchard, and



THE BATTLE OF FRANCE  
Showing the positions of German and Allied troops from May 15 through June 17, 1940



#### GERMANY OCCUPIES THE LOW COUNTRIES—I

*Upper Left* A finished bridge strung over a row of small Assault boats. Abandoned Belgian barbed-wire entanglements may be seen on the opposite shore. *Upper Right* German soldiers scale a partly destroyed Dutch bridge with ladders. *Below* A German gun on the Dutch coast ready to repel British attack. All photos from *International*



*International*



*Wide World*

#### GERMANY OCCUPIES THE LOW COUNTRIES—II

*Above:* The Nazi war flag is raised by German soldiers over the City Hall in Brussels. *Below:* Belgians in panic-stricken flight as bombs rain upon their city

their staffs caused delays. On account of this failure the Allied counter attacks against the Somme gap were made in unco-ordinated fashion. Successful attempts at Maubeuge and Valenciennes on May 21, at Arras on May 22, at Cambrai on May 23, and at Amiens on May 24 failed. At no one point were the Allied forces in sufficient strength to make substantial progress against the German concentrations. Thus, though every armchair strategist in the world knew that a decisive Allied counter attack on the Somme was called for, it could not be organized under the existing chaotic conditions.

**The Evacuation from Dunkirk.** The British Admiralty began to concentrate small craft soon after May 14 from their pool of small vessels. Plans for the evacuation of the British Expeditionary Force must have been made long in advance, because withdrawals of troops began at Dunkirk as early as May 20. These facts were not known to the outside world at the time, but may have influenced the Belgian King in his decision to surrender. On May 28, with the failure of the Allied counter offensive apparent, and with little prospect of evacuating the Belgian army, King Leopold accepted terms amounting to unconditional surrender (see *BELGIUM* under *History*). This exposed the northern flank of the B.E.F. and speeded up the decision to evacuate all of the Flanders force.

Resistance was continued on the Lys-Cassel front until June 1, while troops and equipment poured into Dunkirk. Though units of the 1st and 7th French armies and of the B.E.F. were captured (German estimates at 85,000) in rearguard actions, 335,000 men were successfully withdrawn from Dunkirk by June 5. The French Navy employed over 200 vessels of all types in this strange operation, and the British Navy used 220 war vessels and 650 other small craft. Fortunately for the French and British a slight haze hindered German aviators and the weather remained calm. Due perhaps to the concentration of German aircraft in the Somme area to guard against possible French counter attack, and to the German plans for an attack on the Somme front which were laid for June 6, the German Luftwaffe could not successfully dispute the local mastery of the air over Dunkirk which was maintained during the evacuation by the R.A.F.

Though the evacuation of Dunkirk under German artillery fire and air attack will rank among the great feats of military history, the successful removal of 335,000 men from the Flanders trap could not conceal the fact that by June 5 the Allied cause had suffered a disaster of first magnitude. The evacuating armies had been forced to abandon all their military equipment except rifles and light machine guns. The amount of military equipment which fell into German hands cannot be estimated, but it comprised the very best tanks, trucks, artillery, and ammunition of 30 first line divisions. By June 5 the Germans had also taken over all the military equipment of the Dutch and Belgian armies. The British and French troops rescued from Dunkirk could not be equipped for many months even if their morale was equal to an early resumption of combat duty.

Thus, in 25 days the German operations in the west had cut down the total Allied forces by 14 Dutch, 16 Belgian, and 30 French and British divisions. The military destruction of these 60 divisions enabled the German high command to throw 150-200 divisions (minus casualties) against approximately 95 French and one British division in

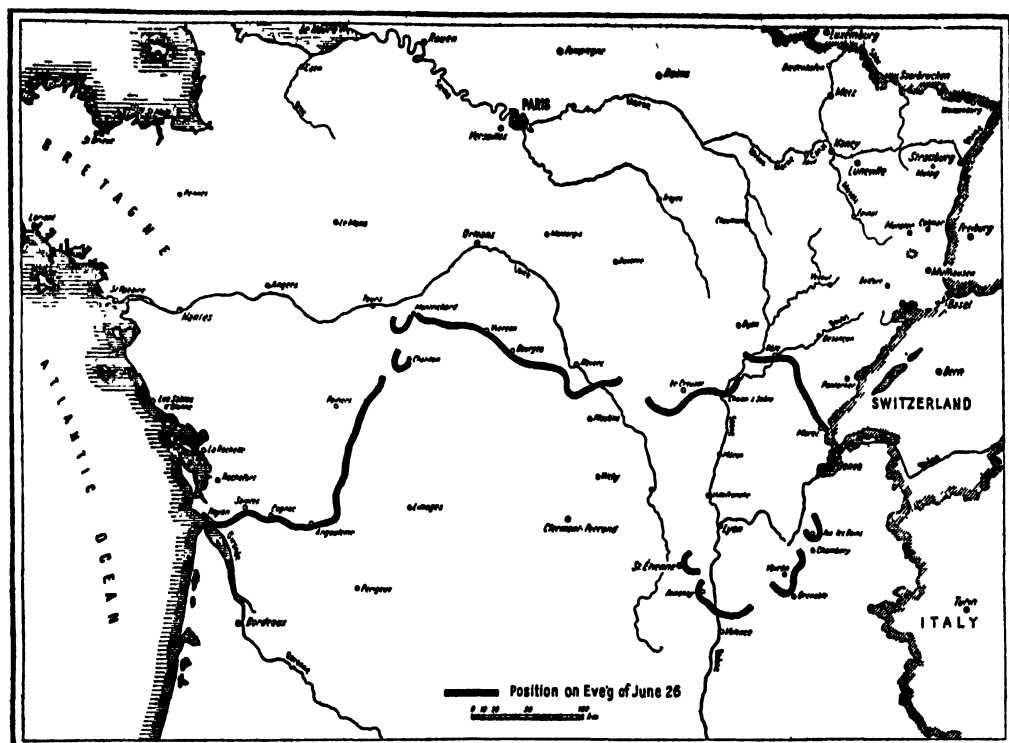
the battle of France. The numerical advantage gained by the Flanders battle was far greater than the mere number of divisions indicates, because French morale had suffered tremendous blows, and in view of Italy's impending belligerency French divisions had to be maintained on the Italian frontier. Twenty-seven of the available French divisions were detailed for the defense of the Maginot line and were not available for the defense of the "Weygand line" hastily prepared along the Somme-Aisne front. By June 5 the final defeat of the French armies was assured even if 20 days of fighting were to follow before the surrender took place.

#### THE BATTLE OF FRANCE: JUNE 6 TO JUNE 25

**The Weygand Line.** While the battle of Flanders was drawing to its dismal conclusion, General Weygand made frantic efforts to prepare the Somme-Aisne-Maginot line for the blow he knew was coming. With the assistance of one British division he was forced to defend a long river line reaching from Montmédy to the sea. In some cases divisions were expected to cover a front of 20 miles or more. He wisely adopted the system of elastic defense in depth. Since French anti-tank guns were found to be ineffective against German tank armor, 75mm. field guns were employed in mutually supporting positions. Tanks which penetrated the front positions would find themselves facing increasing resistance as they advanced. The defensive line thus created was called the "Weygand line." Actually it was merely a series of hastily dug entrenched positions without wire or tank obstacles. The terrain along the Somme and the Aisne, however, favored the defense, and there were hopes that energetic and intelligent use of the scanty French reserves would enable Weygand to slow up if not check the coming German stroke. Preparations were made in Britain to ship the 1st Canadian division (General McNaughton) to France, but it arrived too late to be of service.

**The German Attack.** The German plan of attack called for the employment of all three German army groups in the west. In the battle of Flanders only the army groups of Bok and Rundstedt had been engaged. The southern army group of General von Leeb had merely acted as a holding force. In the operations of June 6 the northern army group (Bok) was to attack on the lower Somme and threaten Paris from the west. The central army group (Rundstedt) was to break through the Aisne front and outflank both Paris and the Maginot line. The southern army group (Leeb) was to break through the Maginot line and cut off the retreating French armies from the south. There was to be no breathing spell between the Flanders battle and the attack against France. The fact that the new offensive was staged the day after Dunkirk fell speaks well of the organization behind the German lines. In 1918 Ludendorff had been forced to pause for weeks between his great offensives.

On June 6 after severe fighting the army group of General Bok penetrated the French defensive line on the Somme between Abbeville and Amiens and drove rapidly to the Bresle river and the sea at Eu. This move cut off some 20,000 French and British soldiers who were pinned to the coast at St. Valéry and captured. On June 7 the German forces crossed the Bresle river and mechanized divisions moved rapidly toward Forges-les-Eaux which was captured on June 9. From this point they drove in a southeasterly direction toward



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#### THE BATTLE OF FRANCE

Showing the positions of German and French lines at the time of the cessation of hostilities

Gisors and Beauvais. Rouen fell on June 10, the day on which Italy entered the war. The following day with the Germans some 30 miles from Paris, the government moved to Tours, and General Weygand contemplated a stand behind the Loire river. On June 13 Paris was declared an open city and on June 14 the advanced troops of General Keuchler's 18th army entered Paris unopposed.

Simultaneously with this rapid movement on the Somme front, the central German army group under General Rundstedt made a heavy attack on the French positions along the Aisne. After four days of bitter fighting the French front along the famous Chemin-des-Dames ridge was broken. Through this gap the armored divisions of Generals Guderian and Kleist raced southward with the distinct objectives of Troyes and St.-Dizier.

**Fall of Paris.** The rapid and deep penetration of these columns caused a general retirement of the whole French front. On June 13 the German forces had crossed the Marne river and threatened the capital from the east. With the fall of Paris on the following day, the armored columns of Guderian and Kleist were freed to move southward in the direction of the Swiss frontier. Since Weygand had determined upon a stand behind the Loire, French troops were withdrawn from the Maginot line for this purpose. Millions of refugees clogged the roads making troop movements difficult. Virtually unopposed the columns of Guderian and Kleist raced southward and reached the Swiss frontier near Besançon on June 17. In audacity of conception and execution this bold raid was only exceeded by the break-through to Abbeville in

May. This movement cut off the Maginot line and isolated its garrison.

**Maginot Line Shattered.** On the day that Paris fell and the French troops were recoiling from the blows of the northern and central army groups, the German southern army group of General von Leeb went into action against the Maginot line. Withdrawals of garrison troops had cut down its crews and the fortresses were able to offer only token resistance. On June 14 the army of General Witzleben broke through the Maginot line near Saarbruecken and captured Verdun on June 15. The fall of this mighty fortress and symbol of French resistance in 1916 profoundly discouraged the French nation. Farther south the forces of General Dollman broke through the Maginot line near Colmar and advanced through the Vosges mountains to make contact with the armored columns of Guderian and Kleist. These desperate reverses convinced Marshal Pétain that further resistance was useless. On June 17 he appealed to the enemy for "honorable terms."

Military operations went on during the negotiations for an armistice with French armies offering ineffective resistance. The approximate positions of the German troops on June 18 ran from Cherbourg-Rennes-Orleans-Nevers-Pontalier. When the Franco-German armistice was signed at Compiègne in the same car used in 1918 on June 22, the German armies had advanced as far as Brest-Lorient-La Roche-Vichy-Lyon-Bellegarde. Contact with the advancing Italian forces was approaching. The Franco-German armistice became operative only after the conclusion of Franco-Ital-



ian armistice terms. These were reached on June 24 and fighting ceased in France at 1:35 a.m. German summer time, June 25. The German line of occupation then ran from Rochefort-Poitiers-Chaefeau-rox-Limoges-Clermont-Ferrand-St. Etienne-Bellegarde. The German army did not stop its advance, however, until it reached the Spanish frontier on June 27. This gave it control of the coast line of Europe from North Cape to the Pyrenees.

Italian operations on the French frontier prior to the armistice had met with little success. Limited advances had been made in certain areas but no major clash of forces took place.

**German Casualties.** German official reports gave the casualties in operations from May 10 to June 25 as 27,074 officers and men killed, 18,384 missing, and 111,034 wounded. Total prisoners captured during the same period were given as 1,900,000 men. Captures of matériel included all the equipment of 55 French divisions and the guns and equipment of the Maginot forts. Figures are not available for French casualties in the period May 10 to June 25.

**Terms of Franco-German Armistice.** The first 10 articles dealt with military matters. Article 1 called for the cessation of hostilities and the surrender of all weapons in the hands of resisting troops. Article 2 provided for the German occupation of all French territory north of a line from the Spanish frontier at St. Jean-Pied-de-Port to Mont-de-Marsan to Angoulême to Loches to Vierzon to Bourges to Moulins to Paray to Châlon to Dôle to the Swiss frontier. Article 3 defined German rights within the occupied zone. Article 4 called for the demobilization of all French forces except those required to maintain order. Article 5 demanded the surrender in good condition of all military equipment in the unoccupied zone. Article 6 provided that military equipment not required for the preservation of order should be stored in German hands and forbade the manufacture of military equipment in unoccupied France. Article 7 called for the surrender in an undamaged condition of land and coastal fortifications in the occupied zone. Article 8 provided for the demobilization in specified ports of the French navy under German and Italian control excepting certain units for the protection of the French colonial empire. The German Government solemnly declared its intention not to employ French naval units thus surrendered for war purposes except units necessary for guarding the coasts and sweeping mines. The German Government further expressly declared that no further demands respecting the French fleet would be made at the conclusion of a peace. Article 9 demanded that the location of all French mines be given and required French aid in sweeping them up. Article 10 required a pledge of the French Government to forbid any armed forces from undertaking resistance to Germany in any manner. French citizens and members of the armed forces were to be prevented from leaving France to fight against Germany and Italy.

Articles 11 to 21 dealt with matters of transport, shipping, radio, air service, prisoners of war, and the cost of occupation by German troops. These articles placed French shipping under German control, placed a German censorship on all radio communications, demanded the repair and maintenance of harbors, industrial facilities, and railways in the occupied zone by the French Government. The French Government was called upon to facilitate the transit of freight from Germany to Italy

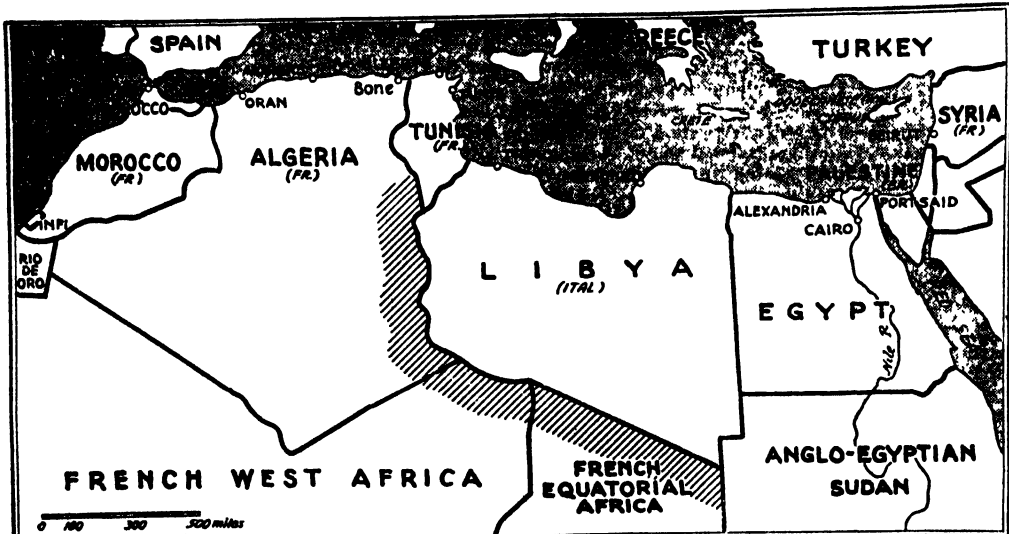
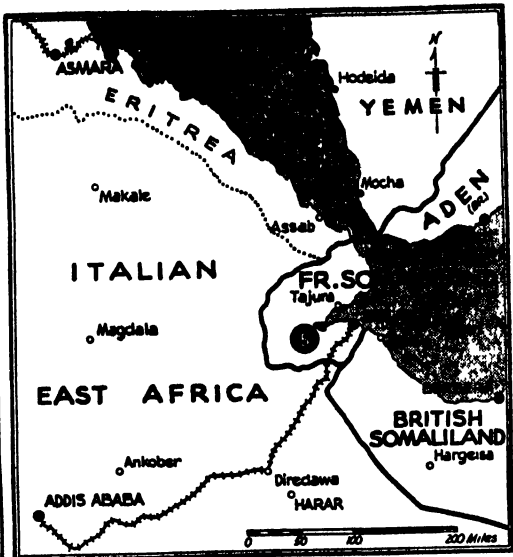
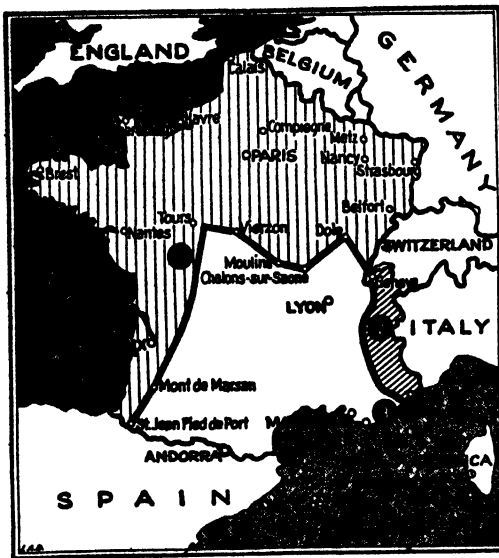
through the unoccupied zone. There was to be no transfer of economic valuables from the unoccupied zone abroad or from the occupied zone to the unoccupied zone. The French Government was to pay the costs of German occupation. All German prisoners of war in French hands were to be released. French prisoners in German hands were to be held until the conclusion of a formal peace. Articles 21-24 provided French responsibilities for the observation of terms, set up an Armistice Commission to deal with questions arising, and provided for penalties in case of French failure to fulfill obligations.

**Franco-Italian Armistice Terms.** The first six articles of the armistice dealt with military and naval terms. Article 1 called for the cessation of all hostilities. Article 2 provided that the Italian forces would maintain the line occupied at the moment hostilities ceased. Article 3 set up a demilitarized zone to be drawn 50 kilometers in advance of the Italian lines in Metropolitan France. The Tunisian-Libyan frontier was to be demilitarized. In Algeria and in French African territories south of Algeria bordering on Libya a demilitarized zone 200 kilometers wide was to be maintained until the conclusion of peace. Italy was to receive full rights to use the port of Djibouti in French Somaliland and the French section of the Djibouti-Addis Ababa railway. The coast of French Somaliland was to be demilitarized. All demilitarized zones were to be evacuated by French troops within 10 days. For the duration of the Italian war against Britain the fortified areas and naval bases of Toulon, Bizerta, Ajaccio, and Oran were to be demilitarized. The remaining articles of the Franco-Italian armistice conformed to articles 4-24 of the Franco-German armistice.

#### EFFECTS OF THE FALL OF FRANCE

The most important immediate effect of the fall of France was that it brought Italy into the war. The Italian half of the Axis did not join in the military effort of the "new order in Europe" until the defeat of France had been assured by German action. Her belligerency was, therefore, only important in terms of the war against Britain. From a purely military standpoint the resources she threw into the balance were considerable. The Italian army (Marshal Pietro Badoglio, chief of staff) consisted of 54 infantry divisions, 3 mechanized divisions, 2 motorized divisions, 3 *celere* (speed) divisions, and 5 divisions of Alpine troops. The Italian divisions were smaller in size than most European divisions which made for easy handling. Many units of the armed forces had seen active service in Ethiopia and Spain. The Italian air force was estimated at 3000 first line planes. Her navy made a welcome addition to Axis sea power in the war against Britain. The fleet was made up of 6 battleships, 7 heavy cruisers, 15 light cruisers, 62 fast destroyers, 90 modern submarines, and many fast torpedo-carrying motor boats.

The addition of Italian sea power to the Axis and the occupation of the whole coast of Europe from Norway to the Pyrenees by the Germans multiplied British naval problems. In view of the greatly extended tasks of the British fleet, the ultimate disposition of the French fleet became a matter of vital concern. If Germany, contrary to her armistice promises, employed the surrendered French vessels against Britain, Axis sea power would clearly threaten the British naval position. Certain French naval forces had taken refuge in



Courtesy of New York Times

#### TERRITORIAL TERMS OF FRANCO-GERMAN AND FRANCO-ITALIAN ARMISTICES

Showing the area in France occupied by German troops (1); the demilitarized zone along the Italian frontier, extending 50 kilometers beyond the Italians' most advanced line (2); French naval bases at Toulon in France (3), Ajaccio in Corsica (4), Bizerte in Tunisia, and Oran in Algeria that were demilitarized by the Italo-French treaty; French Somaliland (5), where the coast was demilitarized and Italy obtained full rights to use the port of Jibuti (Djibouti) and the railway to Addis Ababa, capital of conquered Ethiopia; the Tunisian-Libyan border, where France was obliged to demilitarize strong frontier fortifications; and the demilitarized zone (shaded area) 200 kilometers wide along the remainder of the Libyan-French African frontiers

British ports. These were quietly taken over by the British on July 1. Other units were interned by vote of the crews at Alexandria. A considerable force of heavy ships had fled to Oran in Algeria. These vessels included the battleship *Bretagne* (22,189 tons), the battle cruisers *Dunkerque* (26,000 tons), *Provence* (26,000 tons), and the *Strasbourg* (26,500 tons), the airplane tender *Commandant Teste*, light cruisers and destroyers. The unfinished battleship *Richelieu* (30,000 tons) took refuge in Dakar, Senegal.

**Battle of Oran.** These heavy naval units had to be prevented from falling into Axis hands. Ac-

cordingly on July 3, the British fleet based on Gibraltar (Vice Admiral Sir James F. Somerville) consisting of 3 battleships, 1 aircraft carrier, 3 cruisers, and destroyers served a six-hour ultimatum on the French commander, Vice Admiral Marcel Gensoul. The ultimatum demanded (a) that the French fleet at Oran join the British or be interned in British ports, (b) that the French vessels be interned in American ports, (c) or that the vessels be scuttled by their crews. Failing the acceptance of any of these alternatives, the vessels would be destroyed by British action.

Admiral Gensoul allowed the time allotted to



*Black Star*

#### A CITY "SOMEWHERE IN FRANCE"

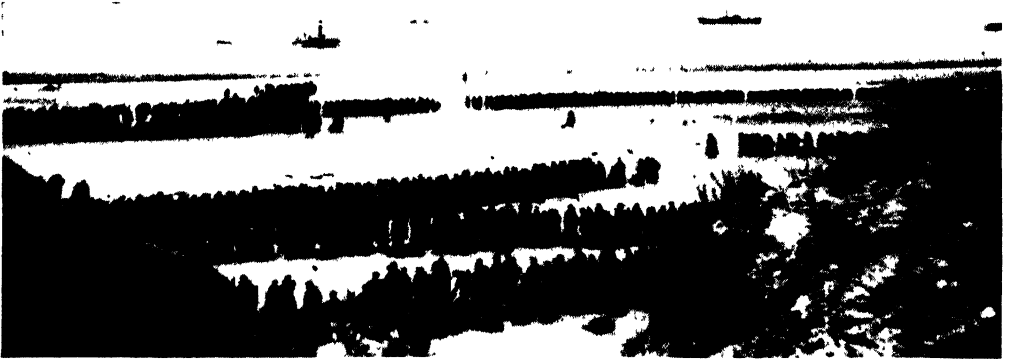
Advance German forces enter the town after bombs and shells have beaten down the French resistance



*International*

#### A HISTORIC SCENE IN REVERSE

In the same railway car in which, twenty-two years earlier, German delegates listened to the terms of the Armistice, French delegates now hear the terms of French surrender acceptable to the Nazi Fuehrer. Gen. Wilhelm Keitel (standing), German Chief of Staff, is reading the German terms. Starting with the German Foreign Minister, Joachim von Ribbentrop (with back to camera), those seated around the table are (left to right) Adm. Erich Raeder, head of German Navy; Marshal Hermann Goering, Adolf Hitler; Gen. Walther von Brauchitsch (facing camera), Commander-in-Chief of German Army; Rudolf Hess (also facing camera), deputy leader of Nazi Party. Seated on the right are the French delegates, with Gen. Charles Huntziger in center (in light uniform) and General Bergeret (nearest the camera)



#### THE EVACUATION AT DUNKIRK

*Above* British and French troops, trapped and surrounded by Nazi forces, wait on the shore for rescue boats from England  
*Below* Shallow shores prevented the close approach of any but small boats, not always available. Here men are seen wading to their chins to reach a Clyde River steamer. Both photos from *Wide World*



*Pix*

VICTORIOUS GERMANS PARADE THROUGH THE ARC DE TRIOMPHE IN PARIS]

expire without either replying to the British demands or preparing his vessels for action. When the dead-line arrived and no response had been made to British demands, flights of bombers from the carrier *Ark Royal* sowed magnetic mines across the entrance to the harbor and the guns of the British fleet opened fire at long range on the French ships at anchor. In a three-hour action the *Bretagne*, *Provence*, and *Commandant Teste* were sunk and the *Dunkerque* was driven ashore badly damaged. The *Strasbourg* with a few light cruisers and destroyers escaped under a smoke screen to the safety of Toulon. On the night of July 8 the French battleship *Richelieu* was severely damaged in the harbor at Dakar by a British motor launch which exploded several depth charges under its stern.

These sad actions between former allies accounted for all the heavy units of the French fleet except the *Strasbourg* and the unfinished battleship *Jean Bart*, which had been towed to Casablanca. French naval units in the West Indies (the aircraft carrier *Béarn*, the cruiser *Emile Bertin*, the training ship *Jeanne d'Arc*, 2 light cruisers, and 4 destroyers) were watched by British patrols but made no effort to leave their bases. The immediate danger that French sea power would be employed against Britain was removed, although the "massacre" at Oran in which 1000 French sailors lost their lives increased French ill feeling against Britain.

**Attack on Dakar.** Many Frenchmen who did not support the pro-Axis policy of the Vichy Government and escaped to Britain, joined the Free French forces of Gen. Charles de Gaulle, who had opposed the surrender. He now attempted to utilize the French colonies in the war against Germany and Italy. On September 23, supported by 2 British battleships, 4 cruisers, and 6 destroyers, General de Gaulle attempted to take Dakar, the chief French base in Senegal. Gov. Gen. Pierre Boisson resisted and successive attempts to land troops of the Free French army at Dakar and Rufisque failed. French air squadrons based in Morocco raided Gibraltar in retaliation on September 24.

For a time the fate and loyalty of the French troops in Morocco, Algeria, Tunisia, and Syria (q.v.) remained in doubt as the Vichy Government attempted to maintain the torturous policy of defending the colonies and joining the new order in Europe. In view of the publicly announced partition aims of the Axis calling for the division of Africa into Italian and German spheres, this policy became increasingly unrealistic. French Equatorial Africa (q.v.) went over to General de Gaulle, and his forces occupied Duala, capital of the Cameroons (q.v.) on October 10, and Libreville in Gabon on November 11. The future status of African colonies became uncertain. Late in December rival forces were gathering themselves for a decisive struggle for the control of French Africa. See FRANCE under *History*.

#### THE BATTLE OF BRITAIN

The fall of France found Britain in an extremely vulnerable position. Her expeditionary force of 10 divisions had been destroyed as a military force through loss of all their heavy equipment. It would require many months before these troops could be fitted to meet the enemy in combat. Although German military writers had concerned themselves with the possibility of an invasion of Britain, no responsible British official held this to be possible

before the collapse of France. With the entire coast of Europe in German hands and with German shipping losses more than made good through capture of shipping in Norway, Holland, Belgium, and France, the invasion of Britain loomed as inevitable in July. Herr Hitler promised the German people that he would destroy the British and conquer the islands.

In the face of this threat Britain turned itself into a fortress between the fall of France and September. Beaches, roads, bridges, airfields, harbors, and public utilities were guarded. American shipments of surplus World War equipment (900,000 Enfield rifles, 83,000 machine guns, 2200 75mm. field guns, and other items) enabled the rapid re-arming of British troops. A vast army of citizen soldiers was formed into a Home Guard. Aircraft production was placed in the hands of Lord Beaverbrook and reached new levels. Under the inspiring leadership of Prime Minister Churchill, British morale rose. By September the defenses of the islands were so far advanced that responsible ministers welcomed a German invasion attempt.

From the standpoint of land operations the fall of France left Germany and Italy in an unassailable position on the continent of Europe. Not since the days of Napoleon had such crushing military power been concentrated in the hands of a few men. With military and national morale high in Germany after the defeats of Poland, Norway, Holland, Belgium, and France, there seemed no possibility of early internal collapse. The military conquests and subsequent diplomatic victories reduced the effects of the British blockade on Germany. Requisitions enforced with an iron hand on the conquered territories augmented German reserves of food and raw materials. Germany and Italy could dispose of 200-250 divisions of well-equipped troops and enjoyed a three to one advantage over Britain in airpower. Only in the realm of sea power were they at a disadvantage.

From June 25 to late in August the German army in France was busy in preparing advance bases for the war against Britain. The German Luftwaffe moved up to occupy airfields which formerly housed the French air force and R.A.F. Guns from the Maginot line and French naval arsenals were mounted along the French coast. By September 1 these preliminary steps had been taken and the stage was set for the battle against Britain.

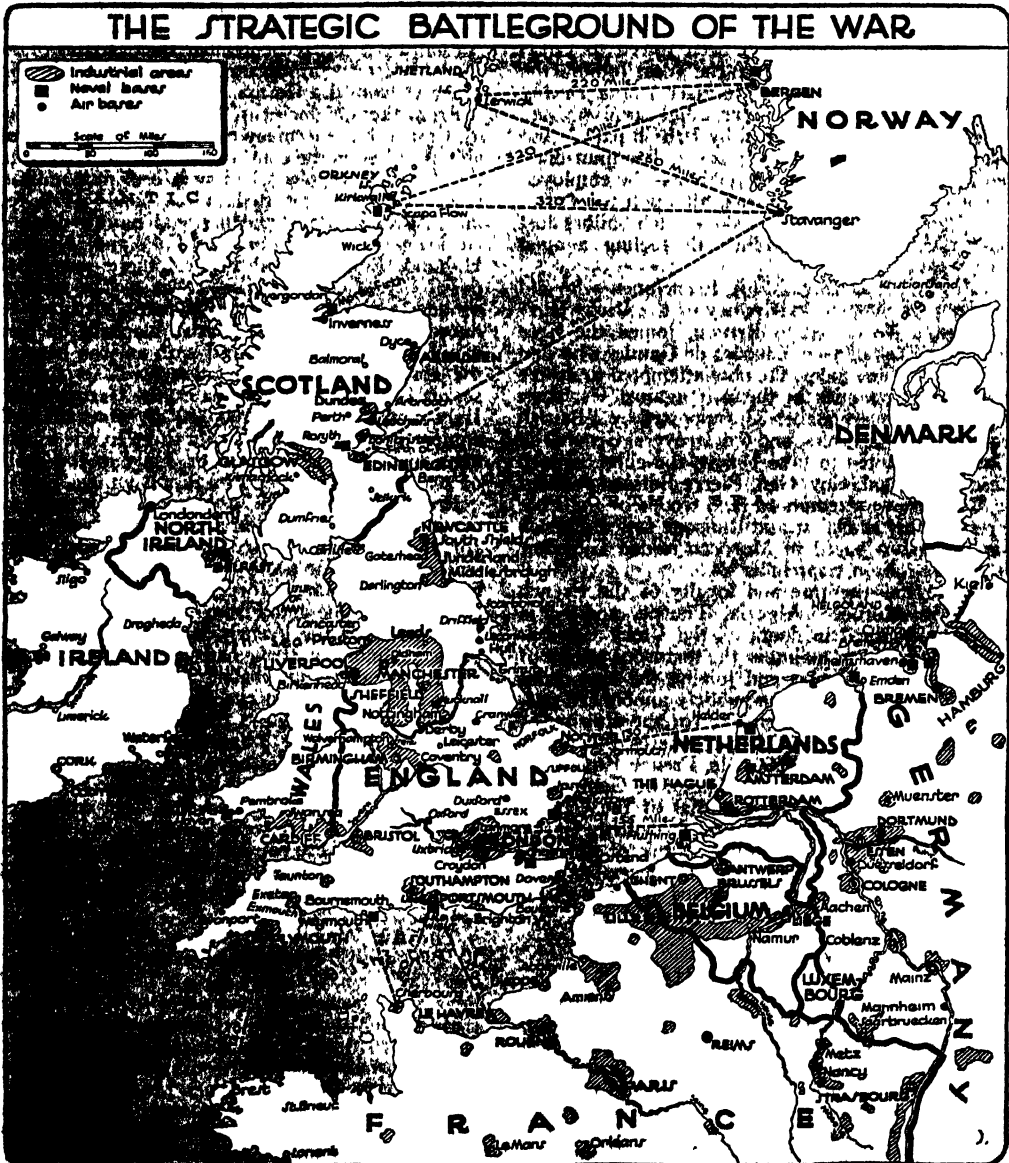
As if timed with an eye for maximum effect in encouraging Britain, the President of the United States on September 3 announced the trade of 50 over-age American destroyers to Britain in return for use of British Atlantic bases. These ships were of World War vintage but had been completely reconditioned. They lacked modern anti-aircraft armament but were capable of undertaking convoy duties. Their acquisition relieved other more modern British destroyers for service in the Mediterranean.

**The Air War.** From September, 1939, to May 10, 1940, with the exception of the German bombing attacks on Warsaw, the air fleets of the belligerents concentrated on purely military targets. Until the outbreak of the German offensive in the west, the rival air forces had contented themselves with reconnaissance flights over enemy territory. But on May 14 the German Luftwaffe made a savage attack on the civilian areas of Rotterdam. On June 4 Paris was raided with a force of 200 bombers. These steps presaged the coming of unlimited air war.

Before the German army could successfully cross the 20-mile reach of the Strait of Dover the country would have to be softened by air attack. In all operations of the war the German air force had played an extremely important role. With large numbers of planes available and command concentrated in one person, the Luftwaffe was always able to outnumber the enemy in Poland, Norway, Holland, Belgium, and France. Its employment in German hands had been energetic and resourceful. As if to emphasize the importance attached to the role of the Luftwaffe in the defeat of France, Hitler raised Gen. Erhard Milch, and Air Fleet Commanders Sperrle, Kesselring, and Jeschonnek to the rank of Marshal. Field Marshal Goering, the creator of the Luftwaffe, was made "Marshal of the Reich" and decorated with the "Grand Cross

of the Iron Cross." Though the exact number of planes in the Luftwaffe was unknown, it was thought that the five fighting fleets contained 5000 first line fighters and 5000 bombers.

In addition to its superior numbers, clear cut doctrines of war, and energetic leaders, the Luftwaffe possessed other notable advantages over the R.A.F. Its planes were of a standard type. There were only three makes of bombers: the Junkers, the Heinkel, and the Dornier. The Messerschmitt pursuit ship was made in two types. The ships were fast, well-made, and contrary to common reports were fully equipped with instruments. Messerschmitt fighters carried one cannon in addition to multiple machine guns. The R.A.F. was forced to service many types of planes ranging from the heavy Wellington bomber, the Hampden bomber,



the Blenheim light bomber, the American built Lockheed-Hudson bombers, Spitfire, Hurricane, Curtiss P-40, and Defiant pursuit ships. With the release of additional American models, they also had to service Boeing (B-17C's), four-engine bombers (flying fortresses), and four-engine Consolidated (B-24) bombers.

The R.A.F. also was forced by the course of developments in the air war to abandon much of its pre-war doctrine. British bombers were provided with power-driven rear gun turrets on the assumption that they would be able to defend themselves against fighter aircraft in daylight operations. The cannon-equipped Messerschmitt fighters broke down this assumption, and after some very costly operations by large units of British bombers in May, daylight bombing was abandoned in favor of night bombing. The British pursuit ships were equipped with multiple Browning machine guns, but their armament, heavy as it seemed, had to be increased after the air war began in earnest.

The R.A.F. was divided for operation purposes into two commands, the fighter command for defensive operations and the bomber command for offensive tasks. In addition to the two commands of the R.A.F., there was also a Fleet Air Arm and an air force attached to the Coastal Command. Operations in Norway and Flanders showed that co-ordination between British land, sea, and air forces left something to be desired. The strength of the R.A.F. at the beginning of the battle of Britain was estimated at 2500 fighters and 3000 bombers.

**R.A.F. Raids on Reich.** The air war between Germany and Britain developed gradually. Throughout May, June, July, and August, raids were carried out nightly on a systematic basis against military targets in Germany by the R.A.F. In turn the German Luftwaffe began by attacking Channel shipping and ports. While the Luftwaffe was establishing its new bases in France, the R.A.F. operating from its own British bases was able to carry out impressive raids deep into German territory. Steel plants were attacked at Essen and Duisberg, power plants bombed at Dortmund and Bottrop, plane factories at Friedrichshaven, Augsburg, Munich, Hamburg, Bremen, Rostock, Dessau, Wismar, and Kassel were raided. Railway yards, canals, oil depots, barge concentrations, and invasion bases on the Channel were repeatedly visited.

These raids made it clear that it was impossible to stop night bombing attacks with existing equipment. To the accompaniment of growing German irritation, the raids were extended to Leipzig in July and to Berlin in late August. The curtain of German censorship prevented any clear picture being formed of the damage caused by these raids. In his *Sportspalast* speech of September 4 Herr Hitler described them as irritating nuisances, having nothing to do with the real business of war. If they were not stopped he threatened London with 100-fold reprisals. As if in direct reply to these threats the R.A.F. carried out its heaviest attack on Berlin on the night of September 6. The reply of the Luftwaffe was immediate. On September 7 the large scale German raids on London began.

Conveniently located air fields in Northern France enabled German fighter planes to protect bombers in their raids on Britain. During the preliminary daylight raids on shipping and harbor installations during July and August the excellent

quality of R.A.F. planes and pilots was demonstrated. Figures on plane losses released by the belligerents are almost meaningless, but competent American observers reported that German plane losses in this period were never less than three to one British plane.

**Bombing of London.** London suburbs had been visited by small units of enemy planes but no mass attacks on the center of the city took place until September 7. Throughout that day masses of German bombers protected by fighter aircraft broke through the British fighter squadrons and balloon barrage and dropped tons of bombs on the city. Fires swept buildings, docks, warehouses, department stores, and apartment houses. Gas mains were broken in some sections, and subways were out of commission for several days in certain areas. Buildings of historical importance such as Buckingham Palace and St. Paul's cathedral were damaged as the raids continued day after day.

Because of the unexpected intensity and duration of the first day's attack the casualty list was heavy. Between 600 and 1000 persons were killed. Delayed action and incendiary bombs increased the terror and hazards of the raid. London's civilian Air Raid Precaution system worked well and volunteer firemen fought valiantly to check the spread of fires, but the system of under-ground shelters was soon demonstrated to be inadequate to the prolonged bombardment. Subway shelters and bomb-proof dugouts were not designed to sleep London's vast population. Soon from 25,000 to 30,000 civilians were homeless and had to be given temporary shelter. Despite the vigorous anti-aircraft fire and the efforts of British fighter planes the raids continued day after day. Herr Hitler's promise that London would receive 100 bombs for every one dropped on Berlin seemed more than fulfilled.

#### PLANE LOSSES AUGUST TO DECEMBER 1940\*

Month	German Planes	British Planes	British Pilots
August 8-31.....	1,097	295	150
September.....	1,088	318	160
October.....	239	115	48
November.....	288 <sup>b</sup>	42	19
December.....	9 <sup>a</sup>	39	14

\* Reports of the British Air Ministry. <sup>b</sup> Including Italian planes.  
<sup>a</sup> Lost over Britain only.

#### CIVILIAN AIR RAID CASUALTIES IN BRITAIN\*

Month in 1940	Killed	Wounded
September.....	6,954	10,615
October.....	6,334	8,695
November.....	4,588	6,202
December.....	3,646	5,044

\* Reports of the British Air Ministry.

#### PLANES DESTROYED IN THE AIR, 1940\*

<b>German losses.</b>		
Over Britain by fighter aircraft .....	2,993	
Over Britain by anti-aircraft fire .....	444	
The Norwegian campaign .....	55	
The Franco-Belgian campaign .....	954	
<b>Italian losses.</b>		
All causes .....	416	
<b>British losses.</b>		
The Norwegian campaign .....	56	
The Franco-Belgian campaign .....	375	
Over Britain .....	847	
By Italian action .....	75	
Bombers lost over German territory .....	374	

\* Reports of the British Air Ministry.

**Plane Losses and Casualties.** Mass raids of bombers by daylight, however, proved to be too costly. The incomplete official British list of German and British planes lost, as shown on page 235, makes it clear that the Luftwaffe paid heavily for the damage inflicted.

**German Tactics Changed.** Gradually the Luftwaffe abandoned the program of day bombing except by fast fighter planes equipped with bomb racks. The heavy bombers limited their visits in masses to nights. The leading bombers lighted the target by incendiary bombs and the main body of bombers carried on with high explosives. German plane losses fell off immediately, but the effectiveness of the attack necessarily carried on from a great altitude was also diminished. Prime Minister Churchill estimated that the German air force was able to average 400 bombers a day (or night) over London from September 7 to October 7. They dropped an estimated 5,000,000 lb. of bombs which killed 6954 civilians and wounded 10,000 others. Counter raids of the R.A.F. on Berlin during the same period killed 72 persons.

Nightly raids continued on London until November 15 with only a few night's respite due to unfavorable flying conditions at the German air fields in France. These raids and those of the R.A.F. on German targets proved conclusively that bombers operating at night could not be repelled with the existing military equipment.

The nightly German raids on London did not break the morale of Londoners. After two months of bombing the vast city was still carrying on, although its port facilities had been seriously damaged. The very size of London made the damage seem less. Prime Minister Churchill asserted that it would require 10 years to destroy London at the rate of destruction in September.

On November 15, after concentrating its main attack on London for two months, the Luftwaffe suddenly changed its program of attack on Britain. Beginning with Coventry, it concentrated the main force of its bombers on one midland industrial city after another. An eight-hour attack was carried out on Coventry on November 15 by at least 400 bombers. Whole city blocks were destroyed in the systematic rolling attack and 242 civilians were killed. Immense property damage was caused, but the military damage was minimized in British reports.

During the next week the Luftwaffe concentrated its attack on Manchester, Birmingham, Bristol, Southampton, Portsmouth, and Liverpool. Though the extent of damage was hidden by the British censors, it was officially admitted that the expansion of British war industry was retarded by the raids. On December 17 Lord Beaverbrook announced that British plane production had steadily increased throughout the period of heaviest bombing. The average British civilian casualty list for each German raid in November and December amounted to 200 killed and wounded. Only a few hundred British military casualties resulted from the bombing raids from September to the end of the year. Though London enjoyed a respite from attack while the midland cities were suffering, the German bombers came back to the capital city frequently enough to prevent the dispersion of anti-aircraft batteries to other areas.

As the German bombing attacks continued in November, the President of the United States announced that half of the American production of war planes would be diverted to Britain. In De-

cember all the production of Curtiss P-40 fighters (seven a day) went directly to Britain. On November 20 an exchange of 20 new Consolidated (B-24) four-engine bombers and 26 Boeing (B-17C's) four-engine bombers (flying fortresses) for British aircraft engines was announced. These bombers were to be equipped with the Sperry bombsight held to be slightly inferior to the standard American (Norden) bombsight. American officers were to observe the performance of this equipment under war conditions. A trend toward standardization of British and American war planes became apparent when Air Marshal Sir Hugh Dowding (former chief of the Fighter Command, R.A.F.) was appointed on November 17 to head a mission of standardization to the United States.

A shakeup in the command of the R.A.F. resulted from the German raids of September and October. Air Marshal Sir Charles Portal replaced Sir Cyril Newall as commander-in-chief on October 4. Air Marshal Sir William Sholto Douglas replaced Sir Hugh Dowding as chief of the Fighter Command on November 17. At the same time a new command, the Army Co-operation Force, was created under Air Marshal Sir Arthur Sheridan Barratt.

British raids against German and Italian industrial areas and against the invasion bases were carried out whenever weather conditions permitted. Though the bomb load of British planes was reduced by the distance traveled before reaching their objectives, the methodical character of their attacks was counted upon to increase the damage wrought. Certain industrial targets in the Ruhr were bombed more than 200 times. Hamburg came in for repeated heavy attacks. Berlin was raided for the 37th time on December 21, but William L. Shirer, representative of the Columbia Broadcasting Company, reporting in the United States on December 23 after two years in the German capital, stated that damage throughout Berlin was scattered but relatively unimportant. Civilian morale was not shaken in Berlin, but the evacuation of children from Hamburg and Berlin began as early as November.

**British Land Defenses.** Spectacular and damaging as the air raids were, it was apparent that neither Germany nor Britain could be defeated by the air arm alone. With the continent of Europe from the arctic capes of Norway to the Pyrenees in the possession of an all-victorious German army, Britain could not hope to intervene on the continent in a military way before 1942. Her first concern was to prepare for a possible German invasion.

Feverish defense efforts followed the evacuation of Dunkirk and the fall of France. The divisions withdrawn from Flanders were rapidly re-armed and reconstituted. On July 19 the command of the Home Forces was given to Gen. Sir Alan Brooke who had distinguished himself in the fighting in Flanders. A defense zone 20 miles deep was constructed along the coasts of Britain with pill boxes, artillery emplacements, land mines, tank traps, and barbed wire entanglements. Roads, bridges, beaches, and other strategic points were prepared for defense. Air ports and open fields were protected against surprise landings of enemy aircraft. A vast Home Guard force of volunteers which rose to over a million men by mid-summer was available for the defense of local areas. These civilian soldiers were trained in the rough-and-ready technique of killing by British non-professional sol-

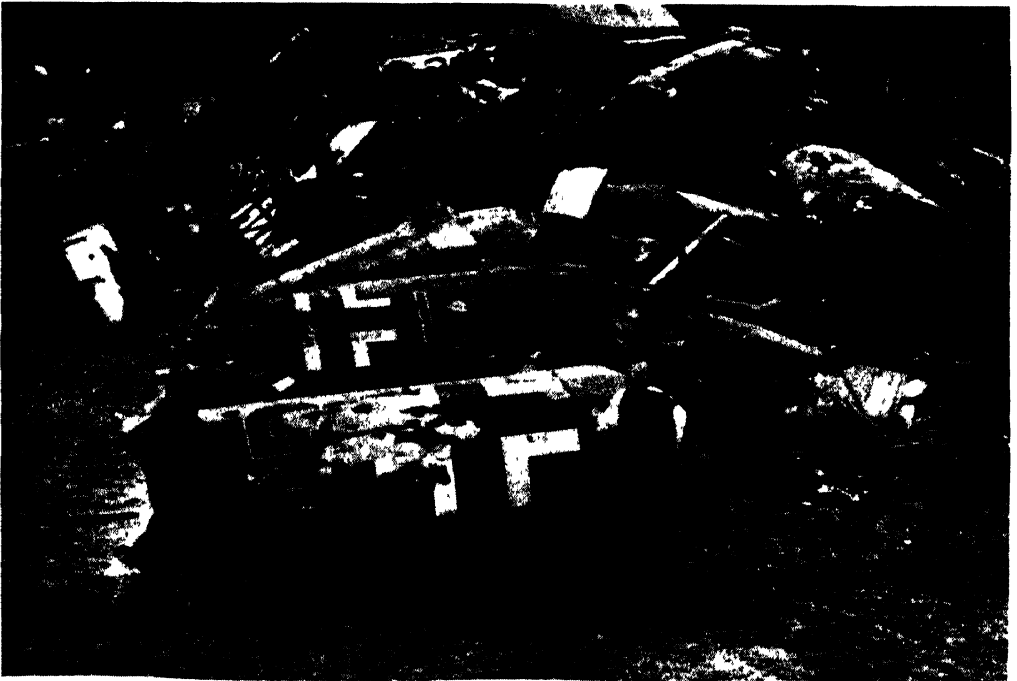




*Wide World*

#### DIRECT HIT UPON A GERMAN BOMBER

Fragments of the doomed plane are shown flying through the air in this picture taken from the attacking R A F fighter



*Wide World*

#### GRAVEYARD OF GERMAN BOMBERS

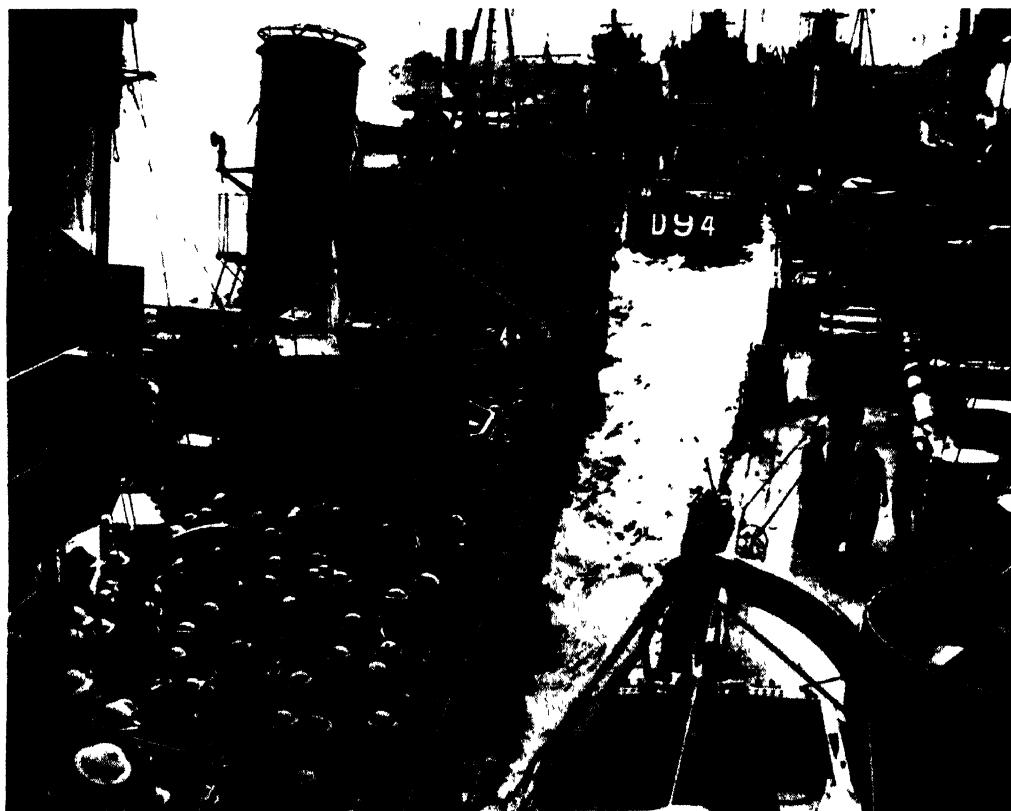
One of the dumps in Southeast England where, after all useful parts had been salvaged, the wrecked machines were stored



*International*

#### A BRITISH CONVOY UNDER A NAZI AERIAL ATTACK

The bomb at the left has exploded harmlessly, another at the right has narrowly missed the British destroyer



*Wide World*

#### TROOPS FROM DUNKIRK REACH A BRITISH PORT

Rescue ships ready to discharge part of the 350,000 men bottled in Flanders by the collapse of France

diers such as Capt. Thomas H. Wintringham and others.

By the end of September the British army rose to over 1,500,000 men. As mechanized equipment became available, these troops were trained in the German style of *blitzkrieg* warfare. In November large scale maneuvers were held with mechanized, motorized, and infantry divisions participating with aircraft units operating under war conditions. With the morale of its armed forces at a high peak, Britain waited for the German invasion.

As summer passed to fall and winter without evidences of a German invasion effort, Britain continued her bombing raids against possible invasion bases in the Low Countries and occupied France. German diplomatic efforts in the fall and winter, which brought new members into the Axis (Japan, Hungary, Rumania, and Slovakia), seemed to indicate an effort to line up the continent of Europe against Britain and prevent American aid through threats of Japanese involvement in a war against the United States. Many critics felt that if German diplomatic efforts were successful in consolidating the new order in Europe, Britain might be convinced of the futility of attempting to conquer Germany. The Axis diplomatic offensive was accompanied by a vigorous attack on British shipping and port facilities by submarines and aircraft. British shipping losses soon mounted to new highs for the war.

**Merchant Shipping Losses.** The occupation of Norwegian, Dutch, Belgian, and French ports by the Germans added immensely to the work of the British navy. As long as German submarines had to operate from German bases, they could be checked, but when the Germans began to use Boulogne, Cherbourg, Brest, Lorient, and St. Nazaire as bases for U-boat raids against Atlantic convoys, it became difficult to protect British shipping. German long range bombers operating from the peninsula of Brittany were able to spot for German submarines.

During the First World War Britain not only had the aid of American, French, and Italian patrol craft in combatting the submarine, but was also able to use Irish bases. The Irish Government declined to permit the use of her ports and British patrol craft had to use British west coast bases. When Italy joined the Axis 90 modern submarines were made available for the war against British

shipping. From June to November, British and Allied shipping losses averaged 60,000 tons a week. The shipping losses when added to the destruction caused by bombing raids gave cause for concern whether Britain would be able to carry on the war without ships from the United States. During the last week in November the rate of sinking rose to 87,000 tons. For the week ending December 8 losses stood at 101,000 tons. They fell to 40,000 tons for the week ending December 15, and they remained at approximately that figure for the remainder of the month.

Taking advantage of the long winter nights German surface raiders broke into the Atlantic and made attacks on British convoys in November and December. The British armed merchantman *Servis Bay* sacrificed itself on November 5 to protect its convoy from the attack of what was thought to be the German pocket battleship *Lützow*. On December 5 the armed merchantman *Carnarvon Castle* fought an indecisive engagement with a German surface raider in the South Atlantic. The combined air, surface, and submarine attack on British shipping was regarded as more dangerous than the bombing attacks since it menaced Britain's Atlantic life line.

#### CAMPAIGNS IN AFRICA

The Franco-Italian armistice allowed Italy to concentrate her major forces against the British colonies in Africa and against the outposts of her imperial life line, Gibraltar and Suez. British plans for war in the Mediterranean area were made upon the assumption that the French army in Syria could be counted on to safeguard Allied interests in the Middle East. The British Middle Eastern Command (Gen. Sir Archibald Wavell) maintained a force of 150,000 troops in Palestine and Egypt.

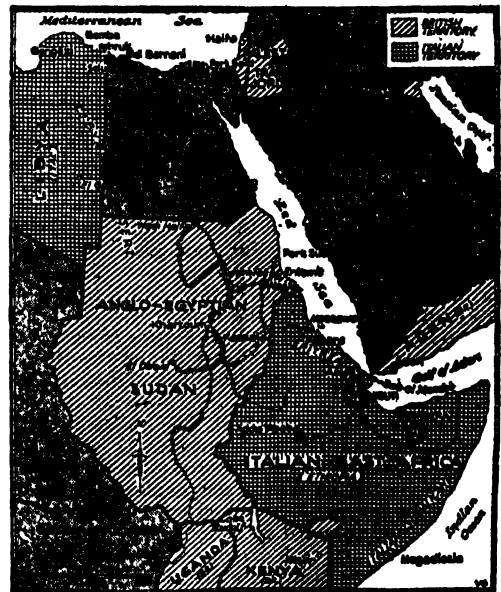
TOTAL SHIPPING LOSSES, SEPT. 3, 1939,  
TO JAN. 3, 1940\*

	Number of vessels	Gross tonnage
British . . . . .	128	465,811
French . . . . .	11	48,038
German . . . . .	22	125,095
Neutral . . . . .	92	274,449

BRITISH AND NEUTRAL SHIPPING LOSSES, 1940 \*

Month	Number of vessels	Gross tonnage
January . . . . .	81	231,000
February . . . . .	73	242,500
March . . . . .	53	150,500
April . . . . .	22	56,000
May . . . . .	44	165,000
June . . . . .	91	397,000
July . . . . .	97	356,500
August . . . . .	82	354,000
September . . . . .	80	356,000
October . . . . .	86	310,000
November . . . . .	93	364,000
December . . . . .	71	213,128

\* These figures are based upon the best available information but must be regarded as approximations.



Courtesy of New York Times

#### ITALO-BRITISH FRONTS IN AFRICA

Showing French Somaliland (1), used by the Italians after France's collapse as a base for their conquest of British Somaliland (2); the key positions in Kenya and the Anglo-Egyptian Sudan adjoining Italian East Africa, and the main positions in the northern zone of hostilities along the Egyptian-Libyan border

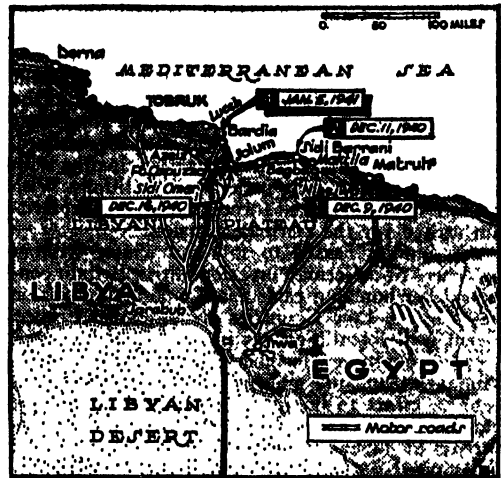
Reinforcements were received in the course of the war from Australia and New Zealand. British communications depended upon the Gibraltar fleet (Vice Admiral Sir James Somerville) and the Eastern Mediterranean fleet based on Alexandria (Admiral Sir Andrew Cunningham). The combined capital ships in both British fleets equalled Italy's total of capital ships, but the more lightly armored Italian ships of the line were held by experts to be inferior in fighting power and resistance to the slower but more heavily armored British ships. Italian air superiority in the Mediterranean was roughly two to one in numbers, but she possessed no aircraft carriers. British superiority in this weapon soon became apparent.

The colonies of Libya and Italian East Africa provided bases for Italian operations against Egypt, Anglo-Egyptian Sudan, Kenya, and British Somaliland, but their communications depended upon the ability of the Italian fleet to control the sea route to Italy. Marshal Rodolfo Graziani commanded the army in Libya estimated at 250,000 white and native troops. The Duke of Aosta (Prince Amadeo of Savoy, Viceroy of Ethiopia) commanded the East African Italian forces consisting of one white division (The Savoy Grenadiers—21,391 men) and 50,000 native troops.

**Sudan-Kenya Fronts.** Indecisive fighting broke out on the frontiers of Kenya (q.v.) and the Anglo-Egyptian Sudan (q.v.) in July. Kassala and Gallabat in the Sudan were captured by the Italians on July 5, but changed hands many times in the months following. An Italian advance from Ethiopia and Italian Somaliland into Kenya penetrated as far as Moyale in July, but British reinforcements from South Africa later drove the invaders out. Neither side had sufficient forces to gain a decision in these areas where distances were great and strategic points limited. The Italian East African forces were obviously being concentrated for the invasion of British Somaliland.

**Italians Occupy British Somaliland.** In August the Duke of Aosta at the head of 70,000 white and native troops invaded British Somaliland from three sides. British pre-war plans for the security of British Somaliland had been based on the joint resources of French and British Somaliland. The fall of France rendered British Somaliland untenable. Defense forces in this isolated colony consisted of the Somaliland Camel Corps (Lieut. Col. Arthur R. Chater) of 560 men plus 500 native police. On August 5 the Italian forces advanced in three columns against Berbera. In the face of overwhelming numbers the British had no choice but to evacuate the colony. All British troops were withdrawn to Aden on August 19 and the Italian occupation became complete. See SOMALILAND, BRITISH.

**Offensive Against Egypt.** The Italian advance against Egypt came on September 12 when the army of Marshal Graziani moved from the Libyan bases of Bardia and Fort Capuzzo along the coastal road to Solum. Mechanized units protected by planes swept forward 55 miles in five days capturing Solum and Sidi Barrani. The main British forces retired to Matruh, which enjoyed rail communications with Alexandria. After the quick rush to Sidi Barrani the Italian force spent nearly three months improving the base facilities and water supply at that town. The invading force, whose ultimate objective was Alexandria, operated under the disadvantage of having to advance along the coast within range of British naval guns. The Italian



*Courtesy of New York Times*

#### THE EGYPTIAN BATTLEFIELD

The Italians advanced beyond Sidi Barrani in September and were driven out of Egypt by the British counteroffensive in December. The key positions and the dates of their capture by the British are shown on the map.

delay at Sidi Barrani allowed Marshal Graziani's engineers to begin the construction of a second road to Libya thirty miles inland beyond the range of British naval guns.

From September, 1939, to December, 1940, the main British forces in Egypt engaged in no important military operations. General Wavell was therefore able to give his troops long months of training in desert warfare. Reinforcements of Australian and New Zealand troops brought General Wavell's forces to about 200,000 troops by December. Increased output of fighting planes enabled Britain to send a number of first-class fighting and bombing squadrons to the Middle East. After Admiral Cunningham's fleet had struck the Italian navy a crippling blow at Taranto on November 11-12, and when unexpected Greek successes turned the Albanian campaign into an Italian defeat, General Wavell's forces were prepared to take advantage of the isolation of Marshal Graziani's forces.

#### NAVAL ACTIONS IN THE MEDITERRANEAN

Since the victory of the British army of the Nile in December depended to a great extent on the question of the control of the sea, it is necessary to provide an account of the struggle between the British and Italian fleets. The Italian navy was composed largely of lightly armored fast modern warships. Her naval history in modern times had not included a battle against enemy ships of the line. Her most successful naval operations in the First World War consisted of surprise attacks by light torpedo-carrying motor boats. Of her six battleships, two were new ships of the *Littorio* class (35,000 tons) and four were older ships of the *Cavour* class (26,000 tons) which had recently been modernized. Her submarine fleet (90 modern vessels) was one of the largest in the world. Admiral Domenico Cavagnari was chief of staff of the navy.

Despite her central position in the Mediterranean and the possibilities of throwing all her forces against the widely separated British fleets, the Ital-

ian battle fleet did not seek out a decisive engagement. British naval units steamed thousands of miles in an effort to draw out the enemy, but no fleet action ensued. A short engagement between light forces took place off the coast of Crete on July 19 when the Australian cruiser *Sydney* sank the fast Italian cruiser *Bartolomeo Colleoni*. On October 13 the British cruisers *Ajax* and *York* sank the Italian destroyer leader *Arighiere*. Damage was inflicted on two other Italian destroyers in this engagement. The British destroyer *Kimberley* sank the Italian destroyer *Francesco Nullo*. Bombing attacks and counter raids on bases and oil depots characterized this indecisive stage of the naval war.

In November the British fleet undertook a vigorous offensive program in the Mediterranean. With the Italian army bogged down in Albania, the Eastern Mediterranean fleet made a raid in force against Italian communications in the Straits of Otranto. On November 11 three Italian supply ships were sunk and a destroyer badly damaged. Since the main Italian fleet at Taranto made no effort to repel this invasion of Italian waters, the British fleet appeared off the naval base of Taranto on the night of November 11-12, and subjected the Italian fleet to a heavy attack. Admiral Cunningham's confidence in the British fleet was so great that he carried newspaper observers with him.

The harbor installations at Taranto lent themselves to the British plan of attack. The harbor is practically land-locked and the fire of British heavy ships would have made the escape of Italian ships difficult if not impossible. Thus pinned down to the crowded harbor, the Italian ships were excellent targets for the attack of flights of torpedo planes from the aircraft carriers *Eagle* and *Illustrious*. Throughout the night repeated attacks were carried out against the anchored ships in the harbor. One Italian battleship of the *Littorio* class was hit and severely damaged. Two Italian battleships of the *Cavour* class were beached in order to prevent sinking. Other light war craft were hit and damaged and the bridge over the inner harbor was wrecked. At dawn the British fleet maintained its position off Taranto but the battered Italian fleet made no effort to leave its harbor. British bombing attacks on the following day added to the destruction. Italian communiqués issued the following day admitted severe damage to one battleship, but afterward the British Admiralty published aerial photographs showing damage to three capital ships. Mussolini admitted in his speech of November 18 that three battleships had been severely damaged in the Taranto raid.

This brilliant fleet action demonstrated the effectiveness of carrier-based aircraft and reduced the Italian capital ships to three. Since no security against British attack could be found at Taranto, the Italian fleet was forced to seek shelter on the western coast of Italy. This left Marshal Graziani's army in Libya cut off from its Italian bases and endangered the supply routes of the army in Albania.

The movement of the Italian fleet to western bases was detected by the British Gibraltar fleet. An indecisive engagement took place west of Sardinia on November 27 when an Italian force consisting of capital ships and cruisers fled to the protection of coastal batteries. Both sides claimed hits on enemy heavy units. The British admitted slight damage to the cruiser *Berwick*, and the Italians

admitted heavy damage to the cruiser *Fiume* and the destroyer *Lanciere*. These actions seemed to confine the Italian fleet to a strictly defensive role. As if to emphasize the naval failures, Admiral Cavagnari was replaced on December 8 by Adm. Arturo Riccardi. On December 14 the Italian fleet, then anchored at Naples, was subjected to a heavy bombing attack by British planes which claimed hits on five ships. Italian communiqués admitted severe damage to one cruiser and 59 naval casualties.

Control of the eastern Mediterranean passed into British hands as a consequence of these engagements. The British fleet was able to support General Wavell's push into Libya by action against Italian roads and bases. On December 18 British naval units swept into the Adriatic Sea and bombarded Valona and Durazzo without encountering enemy naval resistance.

#### BRITISH VICTORIES IN AFRICA: DECEMBER 7-31

Taking advantage of Italian defeats in Albania and the isolation of Marshal Graziani's army through naval action, General Wavell struck the Italian advance forces at Sidi Barrani and Maktila on December 7. The brilliant action which followed made full use of British naval, land, and air power. A striking force of British and Imperial troops numbering about 40,000 had been admirably trained in desert fighting. They were well equipped with tanks, tractors, and armored cars. The R.A.F. under Air Marshal Sir Arthur Longmore had received reinforcements of new Spitfire and Hurricane fighters. They led the attack on Italian airfields and bases in *blitzkrieg* style and paralyzed the Italian air force. Gen. Sir Henry Maitland Wilson commanded the British striking force. A daring plan for encircling the Italian advance forces was drawn up by General Wavell. It called for a carefully co-ordinated surprise move by all arms beginning at dawn on December 7.

Operating from their base at Matruh, British troops faked a frontal attack on Maktila and Sidi Barrani, while tanks and armored cars moved through the desert to cut the Libyan communications of Sidi Barrani and attack it from three sides. Surprise was complete. Italian units were over-run by tanks and armored cars while at breakfast. Where Italian resistance was heavy so were Italian losses; British advance forces were soon embarrassed by the number of prisoners taken. A British armored column reached the sea at Bagbag on December 7 and isolated the garrison at Sidi Barrani. Nearly 30,000 white and native troops, the greater part of three divisions, fell prisoner. The Italian troops, retreating along the coastal road into the Solum bottle-neck, were pounded by naval guns and bombs. Vast quantities of equipment were abandoned. Within 10 days Egypt had been evacuated and on December 16 the British forces captured Solum and Fort Capuzzo. So great was the confusion of the Italian forces that planes were captured on the ground at Fort Capuzzo. The operations from December 7 to 16 which drove the invader out of Egypt were known as the battle of Marmarica.

With the capture of Fort Capuzzo and the advance on Bardia the battle of Cyrenaica began. British mechanized units led by Gen. Michael O. Creagh swept ahead to cut off Bardia and its garrison. Some 20,000-40,000 Italian troops were soon isolated from their main forces. Favored by the presence of stone houses and caves, the encircled Italian troops in Bardia found some shelter from

British naval shells and bombs. British naval units boldly entered Bardia harbor and sank supply ships. As British reinforcements came up and the steel circle of artillery and infantry drew closer on the city little hope was held out by Italian official circles for the garrison at Bardia although orders were issued to Gen. Francesco Mario Berti for a last-stand defense. British preparations were made for a further advance into Libya as the main Italian forces retreated toward Tobruk some 70 miles from Bardia.

Within three weeks Marshal Graziani's army had lost in killed, wounded, and captives nearly one-third of its forces. Immense quantities of war material fell into British hands. Tanks, trucks, guns, and ammunition captured from the Italians promised to supply the Greek army with much-needed equipment. With very light losses General Wavell's army had captured more Italians than there were Britishers in the striking force. The British victories of December showed that the lessons of Norway and Flanders were at last being applied by the British. They demonstrated that the Italian army in Africa was weaker than widely believed. Italian morale was distinctly lower than British, though the troops at Bardia fought stubbornly. Marshal Graziani in an unusually frank telegram to Mussolini on December 22 attributed the Italian disaster at Sidi Barrani to shortages of modern tanks and planes. With little prospect of receiving reinforcements in these weapons from Italy, the fate of Graziani's main forces in Libya seemed clear. Libyan tribesmen and Ethiopian warriors made ready to exploit the Italian disasters in north Africa. By the end of the year Britain's life line seemed securely anchored in the Middle East.

#### THE ITALO-GREEK WAR

After the collapse of France, Axis diplomacy was active in the Balkans. On September 27 Japan joined the German-Italian military alliance. Nazi diplomatic pressure on Rumania (q.v.) followed the partition of that country by Russia, Hungary, and Bulgaria. On October 8 German troops were "invited" to occupy certain areas in Rumania and "instruct" the Rumanian army. Prime Minister Antonescu brought Rumania into the Axis after a bloody coup d'état by the pro-Nazi Iron Guard. Hungary and Slovakia followed Rumania into the Axis camp. These steps indicated diplomatic preparations for a possible Axis stroke in the middle east. The peaceful penetration of the Balkans seemed in line with Germany's policy of keeping the Balkans at peace in order to exploit its economic resources to the full. The peace which had survived many Balkan crises was broken on October 28 by the Italian invasion of Greece.

**Italian Ultimatum.** Italian-Greek relations had been strained since Aug. 14, 1940, when what was unmistakably an Italian submarine deliberately sank the Greek minelayer *Helle* in a Greek harbor. There were frequent threats in Italian newspapers against the use of Greek bases by the British. Taking advantage of a "frontier incident" alleged to have occurred on October 26, the Italian government issued a three-hour ultimatum to Greece at 3 a.m. on October 28.

The ultimatum was similar in form and content to the German demands on Holland, Belgium, Norway, and Denmark. It accused the Greek government of allowing British use of Greek bases and demanded the surrender of strategic areas as tokens of future good behavior. Before the govern-

ment of Premier John Metaxas had time to reply, Italian troops moved into Greek territory at 5:30 a.m. on the morning of October 28. Although Fascist circles had hoped for an easy victory and the rise of a fifth column within pro-Axis circles in Greece, a united nation and a surprisingly strong army rallied behind Metaxas. See GREECE under *History*.

**The Opposing Forces.** On paper the odds against the Greeks seemed as desperate as those against the Finns just a year before. The Greek army was composed of 13 infantry divisions but only 10 of these were fully equipped. Gen. Alexander Papagos had a reserve of 600,000 troops which had been given 18 months of military training. The army possessed no modern mechanized equipment and very little heavy artillery. Her mountain batteries, however, were well adapted to the terrain. Greek troops had been well trained in mountain warfare and were physically tough and hardy. The air force of some 200 obsolete planes was based on two main army fields and seven auxiliary fields. If German methods had been followed this air force and its landing fields would have been destroyed on the first day of attack.

The Greek navy consisted of 1 old cruiser, 10 destroyers, 13 torpedo boats, and 6 submarines. It could not be expected to defend Greek waters against the large and modern Italian navy. Other factors seemed to be against the Greeks. The strongest part of the Metaxas line faced Bulgaria and not Albania. Her mutual assistance pacts (see BALKAN ENTENTE) did not protect her against an invasion by Italy. The Greek-Turkish pact called for Turkish aid only if Bulgaria invaded Greece. The Greek-Yugoslav pact was operative only if Turkey was also assisting Greece. The only aid available was what hard-pressed Britain could offer.

The Italian army in Albania which undertook the invasion of Greece on October 28 consisted of 10 divisions commanded by Gen. Sebastian Viscconti Prasca. The force was strong in mechanized equipment, but the Fiat light tanks were of the type found wanting in the Spanish Civil War. Labor battalions and engineers brought General Prasca's force to about 200,000 men. These forces received supplies from Italy from three main Albanian ports: Porto Edda, Valona, and Durazzo. From the coast four main supply routes followed the rivers or the coastal plain to the Greek-Albanian frontier. Advanced Italian bases were at Porto Edda, Argyrokastron and Koritsa.

**Italian Invasion Plan.** The Italian invasion was prepared by Italian air attacks on Greek cities and ports, but they lacked German thoroughness. The raids did not destroy the Greek air force nor render her airports useless. British R.A.F. planes soon appeared on the Greek front. Italy failed to gain mastery of the air at the outset and much of her later failure can be traced to this cause.

The actual invasion of Greece was carried out by five Italian columns. One force advanced from Porto Edda toward Philiates; another advanced from the same base toward Ioannina (Janina). A strong column based on Argyrokastron advanced toward Konitsa. Two columns in the north menaced Kastoria and Florina. These operations threatened, if successful, to cut the main railway communications between Athens and Salonika. The northern advance aimed at the vital port of Salonika. For three days the Italian advance continued, but Greek tactics soon brought the offensive to a halt.



*Wide World*

#### ANGLO-GREEK WAR COUNCIL

*Left to right* Major Gen Gambier-Parry, Gen John Metaxas, Greek Premier, King George II, British Air Vice Marshal, J. H. D'Albiac, and Gen Alexander Papagos, Greek Commander-in-Chief



*International*

#### A TORPEDO MISSES ITS QUARRY

The effectiveness of this deadly missile is seen by the explosion of a torpedo from an unknown source, intended for the Greek cruiser *Helle* at the right, which smashed a breakwater at Tenos Island on August 15. A second torpedo sank the cruiser.



*Wide World*

#### ITALIAN AVIATORS MISS THE *ARK ROYAL*

Although reportedly sunk by German aviators early in the War, this British aircraft carrier again escaped an aerial attack from its foes in the Mediterranean



*Wide World*

#### FRENCH WARSHIP ABLAZE AND SINKING IN THE BATTLE OF ORAN BAY



**Invaders Turned Back.** Skillfully utilizing the mountain heights, Greek mountain troops with mule pack artillery allowed the Italian mechanized columns to advance up the valleys. When the columns were strung-out and vulnerable, Greek troops imitated the successful Finnish tactics of pinning them to the ground by artillery fire and closing with bombs and bayonets. There was no opportunity for the Italian mechanized equipment to operate effectively. The time chosen for the campaign and the terrain were utterly unsuited to mechanized warfare. The weather soon brought additional difficulties to the Italian high command. Heavy rains turned to snow. Italian engineer units were not equal to the task of maintaining communications, and the Italian air force, operating at great altitudes, was unable to disrupt Greek communications. General Papagos took advantage of the failure of the first Italian advance to launch a series of counter attacks which soon drove the invaders out of Greek territory.

**The Greek Offensive.** On November 9 the early Italian failures in the attack on Greece resulted in the replacement of General Prasca by Gen. Ubaldo Soddu. The former Fascist War Minister found the army in Albania bogged down on all fronts and suffering from failing morale. Koritsa, the main Italian base in northern Albania, fell into Greek hands on November 22 with many prisoners and considerable military equipment. With the fall of Koritsa the Italian northern front crumbled rapidly. Pogradec on the shores of Lake Ochrida was captured after heavy fighting on November 28. From this point the Greek advance along the Shkumbi and Devol rivers threatened the inland base of Elbasan.

Simultaneously with these operations in the north, the Greek high command launched a three-pronged attack against Porto Edda, Agyrocastron, and Tepeleni. Porto Edda fell on December 6, and Agyrocastron was taken after heavy fighting on December 9. An advance along the coastal road brought Khimara into Greek hands on December 23. The Greek offensive up the Drina and Viosa rivers met with determined resistance, but Tepeleni, the objective of the drive, was under Greek attack on December 27. Slow Greek advances continued until the year ended with more than one-fifth of Albanian territory in Greek hands.

**Italy's Critical Position.** The astonishing military reverses in Albania which came simultaneously with naval losses and with Marshal Graziani's defeat in Egypt had a profound effect on Italian morale. A drastic shakeup in Italian military and naval circles followed. On December 5 Marshal Pietro Badoglio, chief of staff and famed for his conquest of Ethiopia, who had opposed the Albanian venture, was brusquely replaced by Gen. Ugo Cavallero. Gen. Cesare de Vecchi, Governor-General of the Dodecanese Islands, was replaced by Gen. Ettore Bastico. Adm. Domenico Cavagnari was replaced by Adm. Arturo Riccardi. Ettore Mutti, the hard-bitten head of the *desperata* squadron of the Italian air force, and Achille Starace, chief of the Fascist militia, were sent to Albania to build up army morale. Fascist newspapers spoke frankly about Italy's great dangers. Prime Minister Churchill appealed to the Italian people to overthrow their leader and make peace with the British empire.

Italian failures in Albania and north Africa profoundly affected the future of the war in the Mediterranean. Crete was occupied by the British and

provided bases from which British bombers could attack southern Italy. British naval control of the eastern Mediterranean became almost absolute. Unless Axis naval or military action could reverse the situation, the Italian armies in Ethiopia and Libya seemed destined for slow strangulation by British blockade if not destroyed by military action. As the year ended German military aid seemed necessary to save Italy from further reverses even if this aid involved other Balkan countries in the war. See ITALY under *History*.

## SUMMARY FOR 1940

The military events of 1940 saw the end of the stalemate in the West. Nazi Germany over-ran Norway, Holland, Belgium, Denmark, Luxembourg, and France by a series of military operations dis-

## NAVAL LOSSES ADMITTED BY THE BRITISH, 1940

Name	Type	Gross tonnage
<i>Glorious</i> , aircraft carrier		22,500
<i>Curlew</i> , anti-aircraft cruiser		4,290
<i>Calypso</i> , anti-aircraft cruiser		4,180
<i>Effingham</i> , cruiser		6,000
<i>Scotsdown</i> , armed merchantman		17,046
<i>Andonia</i> , armed merchantman		13,950
<i>Vandyck</i> , armed merchantman		11,000
<i>Dunvegan Castle</i> , armed merchantman		15,000
<i>Carinthia</i> , armed merchantman		20,227
<i>Transylvania</i> , armed merchantman		16,923
<i>Laurentic</i> , armed merchantman		19,000
<i>Highland Patriot</i> , armed merchantman		14,000
<i>Jervis Bay</i> , armed merchantman		14,164
<i>Grenville</i> , destroyer		1,485
<i>Esmouth</i> , destroyer		1,475
<i>Daring</i> , destroyer		1,380
<i>Hunter</i> , destroyer		1,340
<i>Hardy</i> , destroyer		1,340
<i>Gloucester</i> , destroyer		1,505
<i>Ghurka</i> , destroyer		1,870
<i>Afridi</i> , destroyer		1,485
<i>Whitley</i> , destroyer		1,340
<i>Acacia</i> , destroyer		1,485
<i>Ardent</i> , destroyer		1,485
<i>Whirlwind</i> , destroyer		1,340
<i>Brasen</i> , destroyer		1,340
<i>Wren</i> , destroyer		1,485
<i>Hostile</i> , destroyer		1,340
<i>Isankoe</i> , destroyer		1,485
<i>Esh</i> , destroyer		1,485
<i>Wessex</i> , destroyer		1,100
<i>Venetta</i> , destroyer		1,340
<i>Acheron</i> , destroyer		1,350
<i>Fraser</i> , destroyer (Canadian)		1,350
12 destroyers (not listed by names)		(?)
<i>Seahorse</i> , submarine		640
<i>Undine</i> , submarine		540
<i>Starfish</i> , submarine		640
<i>Thistle</i> , submarine		1,575
<i>Salmon</i> , submarine		640
<i>Orswald</i> , submarine		1,575
<i>Seal</i> , submarine		2,500
<i>Ozley</i> , submarine		1,354
<i>Tarpon</i> , submarine		640
<i>Sterlet</i> , submarine		640
<i>Orpheus</i> , submarine		1,475
<i>Odin</i> , submarine		1,475
<i>Triad</i> , submarine		640
8 submarines (not listed by names)		(?)

## NAVAL LOSSES ADMITTED BY GERMANY, 1940

Name	Type	Gross tonnage
<i>Bluscher</i> , heavy cruiser		10,000
<i>Emden</i> , light cruiser		5,400
<i>Karlsmueller</i> , light cruiser		6,000
10 destroyers (not listed by names)		(?)
8 submarines (not listed by names)		(?)

## NAVAL LOSSES ADMITTED BY ITALY, 1940

Name	Type	Gross tonnage
<i>Barotommaso Colonna</i> , heavy cruiser		10,000
<i>Artigliere</i> , destroyer leader		1,620
<i>Francesco Nullo</i> , destroyer		1,300

tinguished for their total planning, ruthless execution, and astonishing co-ordination of all air, land, and sea forces. Britain lost four allies by military action during the year and faced the year 1941 with only the active military assistance of the Greeks. The Axis powers gained four new allies (Japan, Rumania, Hungary, and Slovakia) and dominated the continent of Europe from a military standpoint. German economic conditions, menaced by the British blockade in the first year of the war, were relieved by the conquests of 1940. The mines and factories of Europe were at the disposal of the Axis armed forces. The conquered areas of Europe might go hungry, but the Reich could not be starved into submission.

German air and submarine attacks on Britain had curtailed British supplies, but the fleet was still intact and the R.A.F. continued to grow. The ultimate survival of Britain seemed to depend on the maintenance of her great chain of naval bases and on keeping the Atlantic channels open to trade. President Roosevelt took occasion on December 29 to condemn the Axis aggressors in unmeasured terms and promised all-out aid to Britain and other victims of aggression. Herr Hitler's message of the day to his troops on New Year's Eve spoke of the final defeat of the democratic powers in 1941. With most of the world at war and with those nations still at peace frantically arming, it appeared that the war would spread to new theaters in 1941. No mere account of the military operations of the war can include an estimate of the social and political impact of the events described above on the world order. The war was more than a military contest in 1940; it was one stage of a world revolution. For the political, economic, and social repercussions of the conflict, see the separate articles on all of the belligerent and non-belligerent countries and territories of the world, especially the sections under *History*.

See AERONAUTICS, MILITARY PROGRESS; NAVAL PROGRESS; REFUGEES. For developments in treatment of the wounded, see MEDICINE AND SURGERY. For the effect of the war on other activities, see ART; BUSINESS REVIEW under *World Business Trends*; EDUCATION; INSURANCE; INTERNATIONAL BANKING AND FINANCE; LABOR CONDITIONS; LIVING COSTS AND STANDARDS; NEWSPAPERS AND MAGAZINES; PHOTOGRAPHY; articles on literature etc. See also WAR RELIEF.

**Bibliography.** Among the useful books on the war are: *I Saw It Happen in Norway*, by Carl J. Hambro (New York, 1940); *Chronology of Failure: The Last Days of the French Republic*, by Hamilton Fish Armstrong (New York, 1940); *The War: First Year*, by Edgar McInnis (New York, 1940); *I Saw France Fall: Will She Rise Again?*, by René de Chambrun (New York, 1940).

H. A. DEWEERD.

**EVANGELICAL AND REFORMED CHURCH.** The. A denomination formed by the merger in Cleveland, Ohio, on June 26, 1934, of the Evangelical Synod of North America and the Reformed Church in the United States. The former was founded in 1840, by representatives of the Evangelical Churches of Germany and Switzerland. The latter traced its origin chiefly to the German, Swiss, and French Protestants, who settled in America early in the 18th century. Both churches, in doctrine and polity, were akin to the Reformed bodies.

The highest judicatory of the Evangelical and Reformed Church is the General Synod, which meets biennially. A new Constitution was declared

in effect at the meeting of the General Synod, held at Lancaster, Pa., in 1940. The officers of the Evangelical and Reformed Church are: President, Rev. Dr. L. W. Goebel, 77 W. Washington St., Chicago, Ill.; First Vice-President, Rev. Dr. George W. Richards; Second Vice-President, Hon. D. J. Snyder; Secretary, Rev. Dr. William E. Lampe, 1505 Race St., Philadelphia, Pa.; Treasurer, Mr. F. A. Keck.

In its combined statistics for the year 1939, the Evangelical and Reformed Church reports a membership of 658,571 in 2861 congregations. Total expenditures for congregational purposes amounted to \$8,146,129, and total benevolences to \$1,378,019. The Sunday School enrollment is 522,153.

The denomination supports missionary work in six fields: Japan, China, India, Iraq, Honduras, and Africa. In the home field it supports more than 300 home mission churches and six special projects, among foreign-language groups, underprivileged, Japanese in California, and the Indians in Wisconsin. It has 13 educational institutions. The various sections of the Church support 9 hospitals, 10 orphanages, 13 old folks' homes, and 2 homes for epileptics.

The official publications of the denomination are: *The Messenger* of the Evangelical and Reformed Church, a weekly, and the *Year Book and Almanac*. The German constituency is served by *Der Friedensbote* and the *Kirchenzeitung*, both weeklies. *The Outlook of Missions* is a monthly magazine devoted to the home and foreign mission work of the Church.

**EVANGELICAL CHURCH.** A religious body organized along Methodist lines by Jacob Albright (1759-1808) in Pennsylvania. Headquarters, 1900 Superior Avenue, Cleveland, Ohio, and Harrisburg, Pa. See RELIGIOUS ORGANIZATIONS.

**EVER-NORMAL GRANARY.** See AGRICULTURAL ADJUSTMENT ADMINISTRATION.

**EXCESS PROFITS TAX.** See TAXATION.

**EXCHANGE CONTROL.** See CUSTOMS, BUREAU OF; INTERNATIONAL BANKING AND FINANCE; ARGENTINA, BOLIVIA, BRAZIL, CANADA, CHILE, COLOMBIA, IRELAND, MEXICO, NEW ZEALAND, PERU, URUGUAY, VENEZUELA, and other countries under *History*.

**EXPEDITIONS.** See EXPLORATION; POLAR RESEARCH. For expeditionary forces, see EUROPEAN WAR.

**EXPENDITURES.** See PUBLIC FINANCE; articles on all foreign countries under *Finance*. For family expenditures, see LIVING COSTS.

**EXPERIMENT AND EXTENSION WORK.** See AGRICULTURE.

**EXPLORATION.** For the account of exploration of the polar regions in 1940, see POLAR RESEARCH. Anthropological and archaeological explorations are treated in the articles on ETHNOLOGY and ARCHAEOLOGY.

**Australasia.** Dr. and Mrs. Douglas L. Oliver of Harvard's Peabody Museum, after spending nearly two years on the volcanic island of Bougainville in the Solomon Islands, returned to the United States with important geographic and other scientific data concerning that part of the world. The couple lived in a jungle inhabited by the Siwai tribe, an ancient aboriginal people who practiced head-hunting until their island was acquired by the British under mandate in 1920. Making their headquarters 30 miles in the interior, and therefore at a point totally unaffected by white civilization, Dr. and Mrs. Peabody mastered the language

of the inhabitants and acquired valuable information concerning them and their surroundings.

**North America.** The American Museum of Natural History and the National Geographic Society each sent expeditions to collect fossils and make archaeological excavations in the Big Badlands of South Dakota. The former was headed by Dr. Walter Granger, curator of paleontology of the museum. The latter—which was organized in conjunction with the South Dakota School of Mines—was under the direction of Dr. Joseph P. Connolly and James D. Bump. The two parties unearthed many fossil specimens including very rare birds and the three-toed horse and tapir.

Bradford Washburn, who has headed exploring parties in Alaska over a period of some years, returned to that area in 1940 and succeeded in scaling the summit of Mount Bertha in the Fairweather Range. He was accompanied by his wife, Barbara Washburn, also a noted mountain climber; Maynard Miller of Tacoma, Wash.; Michl Feuersinger, Sugar Bowl, Calif.; and Thomas Winship of Boston. Theodore A. McGraw of Grosse Pointe, Mich., explored the Wrangell Mountains of Alaska, in search of specimens of mammals for the American Museum of Natural History.

In north Labrador, the disappearance of two American explorers nine years ago was believed solved with the discovery by Labrador Indians of a human skeleton some 170 miles from the Hudson Bay Company's outpost at Davis Inlet. It was found approximately 20 miles from the site where another unidentified skeleton was discovered eight years ago. The two explorers—Herman J. Koehler, 60, of Orange, N.J., and Fred R. Connell, Jr., of Glen Ridge, N.J.—sailed from Montreal July 14, 1931, and eventually paddled a canoe up the Koksoak River from Fort Chimo on Ungava Bay to explore and chart new territory which until that time had been seen only by Indians.

**Central America.** In southern Honduras, in a jungle region known as the Mosquitia territory, a party of American scientists announced the discovery of the long-rumored "Lost City of the Monkey God" in an almost inaccessible area between the Paulaya and the Plantano Rivers. The expedition, headed by Theodore A. Morde and under the auspices of the Museum of the American Indian, Heye Foundation, spent four months in the territory, living under native conditions, and traveling mostly by pitpans (40-ft. wooden canoes) with the help of Suma guides.

Evidences were found of a once-thriving but now extinct civilization, that of the Chorotegans, which flourished at about the time of the Mayan culture. Many examples of Chorotegan art and industry were found including sculptured religious idols, stone household utensils, a six-tone flute, and primitive razor blades.

**South America.** Discovery of two lost cities of the Incas adjoining the ruins of Machu Picchu in Southern Peru was announced by Paul Fejos, Hungarian scientist and head of an expedition sponsored by the Swedish industrialist, Axel Wenner-Gren. Situated at an altitude of 12,000 ft. and known as fortress towns, the two cities were called Phuyu Pata Marka (City Above the Clouds) and Sayaq Marka (Inaccessible City), and comprised 21,000 and 3600 square yards respectively. Largely an appropriation of natural cave conditions to human use, the cities included great granite towers, signal stations, temples, houses, terraces, baths, water courses, roads, and stairways.

The expedition started westward up the Rio Madre de Dios from Puerto Maldonado, in eastern Peru, on May 18 with 67 men, including 21 soldiers. Its paraphernalia consisted of six outboard motorboats, a Diesel motor barge, three months' food provisions and a Peruvian naval hydroplane.

A group of British mountain climbers led by A. E. Gunther of the Alpine Club made the first ascent of Pico Bonpland and the Columna South Peak in Venezuela. Pico Bonpland, jutting 16,300 ft. into the sky, was the last of the big unscalped peaks of the Andes.

**EXPLOSIVES.** See CHEMISTRY, INDUSTRIAL; MINES, BUREAU OF.

**EXPORT CONTROL, Administrator of.** See NATIONAL DEFENSE ADVISORY COMMISSION.

**EXPORT-IMPORT BANK OF WASHINGTON (EIB).** The Export-Import Bank of Washington, an agency of the United States, was established on Feb. 12, 1934, for the sole purpose of financing and facilitating trade relations between the United States, its territories, insular possessions, and foreign countries. By an act of Congress approved Sept. 26, 1940, the Export-Import Bank continues as an agency of the United States until Jan. 22, 1947, or such earlier date as may be fixed by the President by Executive order. By this act it was also granted specific authority to make loans which will assist in the development of the resources, in the stabilization of the economies, and in the orderly marketing of the products of the countries of the Western Hemisphere.

The Bank has lending authority of \$700,000,000. Its present capital consists of \$1,000,000 of common stock and \$74,000,000 of preferred stock. All common stock except 11 shares standing in the respective names of the trustees is held jointly by the Secretaries of State and Commerce in their official capacities. All of the preferred stock has been purchased by the Reconstruction Finance Corporation. Its governing body is a board of eleven trustees representing the Departments of State, Treasury, Commerce and Agriculture, and the Reconstruction Finance Corporation.

The Bank's activities increased substantially during the calendar year 1940. Commitments authorized totaled \$371,173,006 against \$74,831,827 in 1939. South and Central American authorizations amounted to \$206,245,721 as compared with \$46,102,287 in 1939. Actual disbursements in 1940 amounted to \$95,298,476, and loans outstanding as of Dec. 31, 1940, totaled \$131,031,867. During the calendar year ended Dec. 31, 1940, net earnings amounted to \$3,501,592.

During the year 1940 the continuation of the European war caused serious economic problems for many countries largely dependent upon export markets for means with which to purchase essential goods from abroad. To alleviate this situation, caused by the loss of markets and increased demand for dollar exchange, and at the same time to maintain long established markets for United States exporters, the Export-Import Bank approved substantial credits to many central banks of South and Central America. In order further to assist such economies, loans were approved to finance the purchase of United States commodities and machinery required for the construction of public works projects and vitally needed highways. During the past year the Export-Import Bank extended substantial credit to various European countries and to China in order to maintain

our foreign commerce and to insure the adequate supplies of strategic products needed in our defense program.

WARREN LEE PIERSON.

**EXPORTS.** See **TRADE, FOREIGN**, and articles there referred to.

**EXPORT SUBSIDIES.** See **SURPLUS MARKETING ADMINISTRATION**.

**EXPOSITIONS.** See **FAIRS, EXPOSITIONS, AND CELEBRATIONS**.

**EXPROPRIATIONS.** See **BELGIUM, BOHEMIA AND MORAVIA, BOLIVIA, BRAZIL, ESTONIA, FINLAND, JAPAN, LATVIA, LITHUANIA, MEXICO, NETHERLANDS, NORWAY, RUMANIA, and SLOVAKIA**, under *History*.

**EXTRATERRITORIALITY.** See **INTERNATIONAL LAW**.

**FAA.** See **FEDERAL ALCOHOL ADMINISTRATION**.  
**FAIRS, EXPOSITIONS, AND CELEBRATIONS.** The New York World's Fair was opened to the public for a second season, May 11 to Oct. 27, 1940. The "Forty Fair," as it was called, differed from its predecessor of 1939 (see the 1939 YEAR BOOK) chiefly in the effort made to add to its popular appeal. Admission was lowered from 75 to 50 cents. The amusement area was redesigned as the "Great White Way" with an intensified new lighting system and many totally new exhibits. The elaborate ceremonies of the previous year were greatly reduced, and the Fair was advertised as "just a super-County Fair" with Elmer, a supposedly typical American, as official greeter.

In the exhibit area the most noticeable change was the decrease of foreign exhibitors from 58 to 43 as a result of war conditions abroad. Conspicuously absent was the building of the Soviet Union, which had been torn down and was replaced by the "American Common." The Netherlands, Turkey, Argentina, and Chile were others who failed to reopen their exhibits. The outstanding new attraction was "American Jubilee," an elaborate patriotic spectacle.

"American Jubilee" occasioned the only repetition of the numerous labor troubles which had marred the Fair's 1939 season. A threatened actors' strike was averted, however, before the opening date. The only other serious incident in 1940 was the explosion of a bomb taken from the British pavilion on July 4 and placed at the edge of the grounds. Two detectives were killed and others injured in trying to dismantle the bomb.

The New York Fair ended its two-year existence with all records broken for both cost and attendance. The cost was estimated at \$155,000,000. Attendance reached a grand total of 57,263,334, of which 45,008,385 were paid admissions. The paid attendance was 19,191,120 for 1940 as compared with 25,817,265 for 1939. The daily attendance record was broken on the final day with 537,952 tickets sold, the previous high having been 492,446 on Sept. 3, 1939.

The Fair entered its second season with outstanding bonds amounting to \$24,042,206. It was announced on October 31 that the more than 3000 bondholders would receive 39.2 cents on the dollar. Gross revenues were estimated at \$11,260,000 for 1940 as compared with \$20,177,059 for the 1939 season. Revenue prior to opening was \$10,302,495. Of the money-making attractions, "Aquacade" proved most profitable, reportedly grossing \$4,500,000 from more than 8,000,000 customers in the

2 seasons. "American Jubilee" sold 2,000,000 tickets and "Railroads on Parade" more than 1,000,000 in 1940.

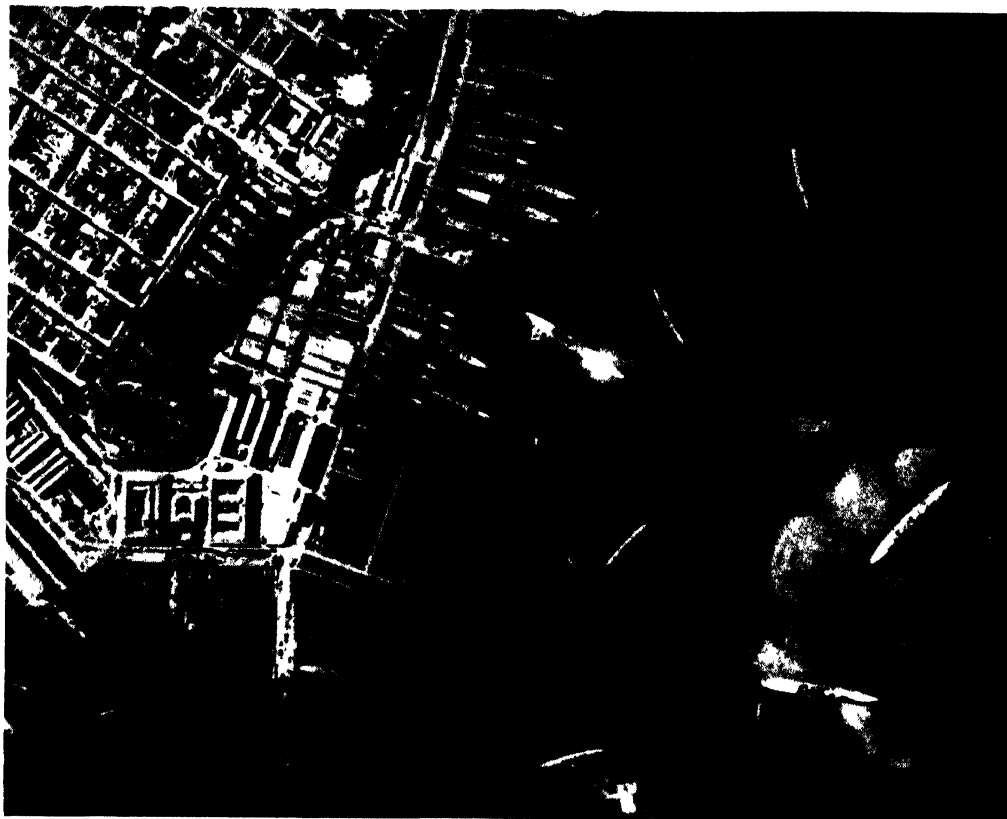
When the Fair closed, demolition was begun at once on some 385 structures to make way for the new Flushing Meadow Park. According to plan, the New York City building, the New York State amphitheater, and Constitution Mall were preserved intact. In addition, the Park received offers of a number of other buildings, and it was announced that the Japanese Pavilion, the Turkish Fountain, the Polish Tower and Statue, the House of Jewels, and the Masterpieces of Art building would be preserved. The Park will have elaborate facilities for sports and recreation, and is scheduled for completion in 1942. See **ART**.

Continuing to parallel the case history of the New York Fair, the San Francisco Golden Gate Exposition reopened for a second season (May 25-September 29) with lowered prices and greater emphasis on entertainment value. The exhibits were more diversified, a greater amount of space was devoted to small shows, and the Gayway was almost entirely new. Color and lighting, which provided a striking feature of the 1939 Exposition, were revised to produce even more beautiful effects. A circular pool with a high fountain was sunk in the Court of Flowers. International Hall was remodelled to accommodate Billy Rose's "Aquacade," which proved to be, with "Water Follies" and "Cavalcade of a Nation," among the most popular entertainments. New or enlarged exhibits were sponsored by the Ford Motor Company, General Motors, and General Electric.

Attendance in 1940 was 6,545,796, bringing the two-year total to 17,041,999. The record gate of 211,020 was recorded, as in New York, on the final day, the previous high having been 187,750 on Oct. 8, 1940. It was estimated that creditors at the close of the 1940 season would receive about 85 per cent, as contrasted with the 15 per cent paid to creditors who withdrew when the Exposition went into bankruptcy in 1939. Conversion of Treasure Island into a municipal airport was immediately undertaken.

Although two "world's fairs" closed in 1940, plans and actual construction were under way for another, the World's Fair scheduled to be held in Rome in 1942. On June 3 the Italian government announced that the exposition had been indefinitely postponed, but in September it was announced that work would shortly be resumed. Political observers sought in these announcements an indication of official optimism or pessimism with regard to the war.

In the United States, the year 1940 marked the 400th anniversary of the first extensive exploration of the Southwest by members of the white race, the Spanish Conquistadores. The event was celebrated as the "Coronado Cuarto-Centennial" in three States—New Mexico, Arizona, and Texas. The program, which was supported by a Congressional fund, centered around a series of pageants and folk festivals presented throughout the three States during the summer and fall. The central pageant, the Coronado Cavalcade, depicted the story of Don Francisco Vasquez de Coronado's two-year expedition from Campostella, Mexico, to the Rio Grande, the Grand Canyon, and north into Kansas. The Casa de Coronado, a museum memorializing the meeting at this point of Spanish, Mexican, and Anglo-Saxon cultures, was dedicated near the camp site of Coronado's army at



*Wide World*

#### THE ROYAL AIR FORCE ATTACKS TARANTO

On the night of November 11-12 British planes bombed the Italian fleet in the inner harbor of Taranto. This aerial photograph, released by the British censor, shows that three battleships were seriously damaged and other light craft injured



*Wide World*

#### ITALIAN PRISONERS CAPTURED AT SIDI BARRANI

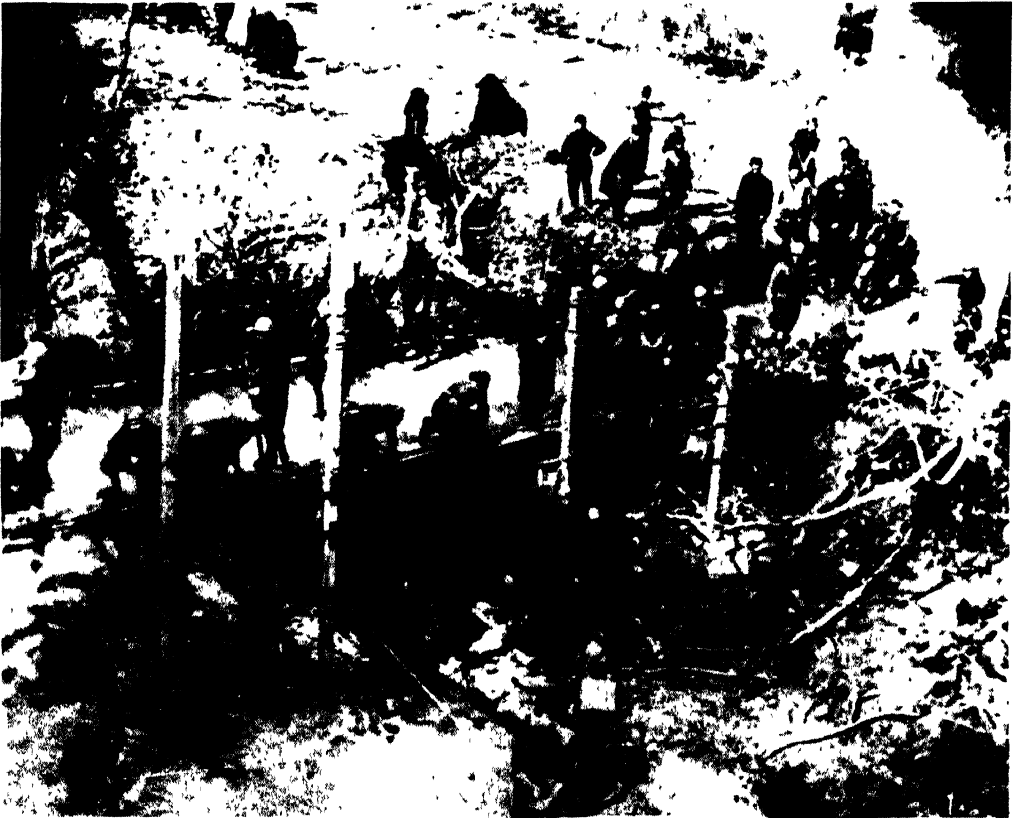
More than 10,000 troops were taken at the fall of the desert city, shown in the background, on December 11



*Wide World*

#### GEN SIR ARCHIBALD WAVELL ARRIVES IN GREECE

British Commander-in-Chief in Middle East (center) lands at Suda Bay, Crete, to inspect newly established naval and air base



*Acme*

ITALIAN ENGINEERS REPAIR A BRIDGE DURING THE ADVANCE INTO GREECE

Bernalillo, N.M. Various localities contributed their own stories in pageant form—that of Kit Carson at Taos and of General de Vargas at Santa Fe, for example. Folk festivals under the general direction of Sarah Gertrude Knott were held in many quaint villages.

The American Negro Exposition, acclaimed as the first real Negro world's fair in history, opened in the Chicago Coliseum on July 4. Supported by appropriations of \$75,000 each from Congress and the Illinois Legislature, the Exposition continued until September 2. Its 120 exhibits set forth the race's achievements in religion, music, sports, theater, art, science, and industry during the 75 years since the Emancipation Proclamation was signed by Abraham Lincoln. James W. Washington was the originator and president of the Exposition.

In Portugal the entire nation observed a six-months' celebration of the 800th anniversary of the founding of the Portuguese State and the 300th anniversary of the restoration of independence. All the former Portuguese dependencies participated. An "Exposition of the Portuguese World" was constructed near Lisbon at Belem, the marine suburb where Vasco da Gama set sail on his voyage to India. The central Pavilion of Exploration and Conquests was flanked by two buildings commemorating the medieval struggle toward nationhood and, on the other hand, the period of the restoration of independence. Modern Portugal was represented by typical village scenes. The stirring events of Portuguese history were recalled in pageant, dance, and patriotic gatherings at the sites where they occurred.

The observance was divided into three cycles. The spring cycle, devoted to the medieval period, was inaugurated with church services at which the Papal Bull recognizing the Portuguese Kingdom in 1140 was recited. Simultaneous sessions were held afterwards in every town hall and in the National Assembly. The flag of the first king was flown from many castles, bullfights were conducted, an exhibition of primitive art, and a naval review were held. The summer cycle commemorated the imperial epoch and featured a pageant of the life of 21 imperial provinces presented in procession through the streets of the capital. The Bragantine epoch, beginning with the restoration of independence in 1640, when Portugal was freed from Spain, was celebrated in the autumn with historical pilgrimages and restoration of a 17th century quarter of Lisbon.

The centenary of the landing of the first white settlers in New Zealand was observed on January 22 when Lord Galway, Governor-General of New Zealand, dedicated the Hall of Memories, built on the spot where the settlers landed (now the foreshore at Wellington). On February 6 there transpired a spectacular re-enactment of the landing of Captain Hobson at the Bay of Islands and the signing of the treaty of Waitangi, an agreement concluded Feb. 6, 1840, between the pioneer British settlers and the representatives of the Maori race.

Other national anniversaries of the year were the 400th anniversary of the founding of Santiago, Chile, and the 50th anniversary of the foundation of Rhodesia. In Rhodesia, on September 12, the ceremony of the hoisting of the British flag was repeated for the fiftieth time. The centenary of the introduction of the adhesive postage stamp was extensively celebrated in Great Britain, where the

event took place, and among philatelists all over the world.

See FREEMASONRY; NEW ZEALAND under *History*; PATENT OFFICE; RHODESIA, SOUTHERN under *History*; STAMP COLLECTING; SUPREME COURT. For college anniversary campaigns see BENEFACTIONS. For festivals, see MUSIC.

**FAIR TRADE MEASURES.** See FEDERAL TRADE COMMISSION; MARKETING. Compare MONOPOLIES.

**FALANGE ESPAÑOLA.** See COLOMBIA, CUBA, MEXICO, and SPAIN under *History*; FASCISM.

**FALK FOUNDATION.** See BENEFACTIONS.

**FALKLAND ISLANDS.** A British crown colony in the South Atlantic Area, 4618 square miles; population (Jan. 1, 1939), 2378. Capital, Stanley. Sheep farming is the chief occupation of the people. Trade (1938): Total imports, £113,522; total exports, £200,706. Finance (1938): Total revenue, £70,553; total expenditure, £70,673. The administration is under a governor, aided by an executive council and a legislative council. Governor and Commander-in-Chief, Sir Herbert Heniker-Heaton (appointed Jan. 3, 1935).

**Dependencies.** These include: South Georgia (1450 sq. mi.; pop., 750 in the summer and 250 in the winter), South Shetlands, South Orkneys, South Sandwich Islands, Graham Land, and various areas of land in the antarctic continent. Whaling is the chief occupation. Reindeer have been introduced and are thriving. Trade (1938): Total imports, £272,908; total exports (including re-exports of £211,361), £462,912. Finance (1938): Revenue and expenditure balanced at £11,547. The administrative authority is vested in the governor and the executive and legislative councils of the Falkland Islands.

**History.** The British Government announced on Mar. 6, 1940, that it would purchase the entire wool clip until one year after the war. A deficit of £8000 was shown in the 1940 budget estimates; about £21,000, equivalent to 30 per cent of the prewar revenue, was set aside for defense purposes; new taxation to provide additional revenue of £14,000 was imposed. The Falkland Islands Defense Force, composed of local volunteers, was organized.

**FAMILY ALLOWANCES.** See LABOR CONDITIONS under *Employment and Unemployment*; LIVING COSTS AND STANDARDS.

**FAMILY PLANNING.** See BIRTH CONTROL.

**FAMILY STUDIES.** See CHILDREN'S BUREAU; LIVING COSTS AND STANDARDS.

**FANTASOUND.** See MOTION PICTURES; PHOTOGRAPHY.

**FARM CREDIT ADMINISTRATION (FCA).** Operating through 12 district offices, the Farm Credit Administration provides a complete and co-ordinated credit service for farmers and their co-operative business associations. Each district office is composed of four units—a Federal land bank, a Federal intermediate credit bank, a production credit corporation, and a bank for co-operatives.

The 12 Federal land banks make amortized long-term first mortgage loans to farmers through 3600 local national farm loan associations. Loans outstanding on Jan. 1, 1941, aggregated \$1,851,218,000 plus \$648,296,000 of Land Bank Commissioner loans made by the land banks as agents. The total capital of the Federal land banks was \$177,940,300 on Dec. 31, 1940. About 62 per cent of this amount

was owned by national farm loan associations and individual farmers borrowing directly from the banks. The remainder was provided and is owned by the United States Government.

The 525 production credit associations, organized, capitalized, and supervised by the 12 production credit corporations, made farm production loans totaling \$349,700,000 in 1940 compared with \$320,900,000 for the previous year. Capital stock owned by farmer members of production credit associations increased from \$15,312,915 to \$16,481,630 from Sept. 30, 1939, to Sept. 30, 1940. On the latter date 18.1 per cent of the total par value of stock outstanding was owned by farmer members and the remainder by the production credit corporations.

The 12 banks for co-operatives and a Central Bank for Co-operatives make facility, operating capital, and commodity loans to farmers' co-operatives. Loans made during the twelve months ended Sept. 30, 1940, aggregated \$93,269,000.

The 12 Federal intermediate credit banks operate as banks of discount. They are authorized to make loans to, and discount paper for production credit associations, banks for co-operatives, state and national banks, agricultural credit corporations, and livestock loan companies. Loans and discounts made during 1940 aggregated \$512,258,000. The capital of the 12 banks—amounting to \$60,000,000 on Dec. 31, 1940,—is owned by the United States Government.

Loan funds of the permanent institutions operating under the supervision of the Farm Credit Administration are obtained primarily from the sale of tax-exempt bonds and debentures to the investing public. These are not guaranteed by the United States Government. Farm loan bonds of the Federal land banks outstanding on Dec. 31, 1940, totaled \$1,755,151,540; Federal intermediate credit bank debentures aggregated \$200,475,000. Land Bank Commissioner loans are financed largely from the sale of Government-guaranteed bonds of the Federal Farm Mortgage Corporation.

The emergency crop and feed loan offices, also operating under the supervision of the Farm Credit Administration, loaned farmers \$19,470,625 in 1940. These loans are made from appropriated funds. The Farm Credit Administration is also responsible for the supervision of the 3782 active Federal credit unions.

Besides its activities which are primarily concerned with financing farmers and farmers' business co-operatives, the Farm Credit Administration carries on research. Headquarters of the 12 districts are located in Springfield, Massachusetts; Baltimore, Maryland; Columbia, South Carolina; Louisville, Kentucky; New Orleans, Louisiana; St. Louis, Missouri; St. Paul, Minnesota; Omaha, Nebraska; Wichita, Kansas; Houston, Texas; Berkeley, California; and Spokane, Washington. See UNITED STATES under *Administration*.

E. B. REID.

**FARM MACHINERY AND EQUIPMENT.** The sale of farm machinery and equipment in 1940, largely due to an increase in farm cash income over 1939 and the growing use of lightweight tractors and small harvesters, was quite satisfactory. Preliminary estimates by the Standard Statistics Co. placed the sale for the year at \$500,000,000, one of the best since 1929. During the latter part of the year the inauguration of the defense program materially changed the outlook

of the farm equipment industry as manufacturers in this field were likely to become, in part at least, producers of armament material and to be subject to the diversion of raw material through the priority claims of defense requirements.

Activities in the development, improvement, and use of farm machinery and equipment were continued by the industry, the U.S. Department of Agriculture, and the agricultural experiment stations. Work by the Department in which the stations co-operated in many instances related to farm structures, farm mechanical equipment, and rural electrification. The work on farm structures was directed largely toward farm-house design and remodeling, erection and arrangement of farm buildings including livestock shelters, construction of silos for grass silage, and the insulation and ventilation of farm storages. The Department reported the development of an anemometer for measuring low-velocity air movements in storage and transportation studies. In co-operation with the agricultural colleges the Department continued to provide farmers with plans for buildings and equipment suited to their purposes and localities.

Studies of farm mechanical equipment resulted in the improvement of a self-aligning disk-jointer and a trash-covering attachment to wheel plows, giving better coverage of corn stalks and trash respectively. Wheelharrow sprayers designed for borer control in sweet corn are already manufactured commercially. Grasshopper poison-bait distributors built according to plans furnished by the Department proved satisfactory. Studies of fertilizer machines and the placement of fertilizers in relation to the seed continued to show their effect on methods of applying fertilizers and on the design of fertilizer distributors. Disk furrow openers on sugar-beet planters proved preferable to shoe openers. The single-row, chain-feed, single-seed sugar-beet planter developed by the Department in 1937 has since been constructed on a multiple-row plan. Trials of an experimental snapping device for mechanical corn-pickers showed a marked reduction in losses of shelled corn, and a newly devised field harvester and chopper gave greater speed in ensiling grasses. Progress was reported also in studies of cotton picking, ginning and baling and flax pulling, retting and scutching equipment, as well as in the development of numerous devices and betterments such as egg coolers for maintaining quality during hot weather, poultry house equipment, and in the mechanical drying of hay.

The new and improved machines and devices placed on the market by the farm implement industry included tractors with wide-base rubber tires, tractor mowers, combined harvesters and threshers, silage crop harvesters and choppers, machine sprayers and dusters, soil conditioning implements, multiple row sugar-beet toppers and beet-field weeders, manure spreaders, and numerous devices and attachments for the better handling and operation of farm machines and implements. The use of the Diesel engine in farm tractors continued on the increase. Trade journals pointed out that while the production of all tractors in 1909 was estimated at 2000 the number manufactured in 1939 was 215,283, surpassed only in 1937. From the same source it was learned that in the number of tractors per 1000 farms, California was in the lead with 1282, followed by Illinois with 814, and Iowa with 714. In the smallest acreage of planted crops per tractor, Arizona



ranked first with 102 acres, California second with 105 acres and Indiana third with 120 acres.

During the last four years domestic business was said to have accounted for 88 per cent of all farm equipment sales, leaving only 12 per cent for export. In 1939 sales of combined harvesters and threshers, as reported, were nearly 20 per cent and sales of tractors about 23 per cent of all sales. Canada ranked first as a foreign buyer and Argentina second.

J. I. SCHULTE.

**FARMS AND FARMING.** See AGRICULTURE and the topics there referred to.

**FARM SECURITY ADMINISTRATION.** The Farm Security Administration was created by the Secretary of Agriculture on Sept. 1, 1937, as successor to the Resettlement Administration. Its purpose is to help farm families on, or near relief to become permanently self-supporting. Since 1935, when this type of assistance was first given under the authority of the Resettlement Administration, financial aid has been extended to more than 1,406,356 farm families. The work is divided into three phases.

**Rehabilitation Program.** Farmers unable to obtain adequate credit from any other source may receive small loans from the Farm Security Administration which will enable them to continue farming. These loans, based on sound farm and home plans, averaged \$325 each during the past fiscal year. They usually are just large enough to enable the farmer to buy seed, tools, livestock, fertilizer, and the other equipment he needs to making a living. The loans drew 5 per cent interest. At the close of the year, the number of active rehabilitation loan cases totaled 430,991.

A survey made at the end of the 1939 crop year showed that standard rehabilitation borrowers had increased their net income by an average of \$163, or 43 per cent, since coming on the program. Between 1935 and the end of the 1940 fiscal year, 127,713 debt-burdened farmers had been able to work out amicable adjustments with their creditors through the help of voluntary committees of local citizens appointed by the Farm Security Administration. Debts were scaled down about 22.9 per cent.

Community service loans often are made to groups of farmers in the same neighborhood to enable them to buy equipment or services no one of them could afford alone. As of June 30, 1940, 16,000 of these services, aiding 270,000 families, had been established.

As of June 30, 1940, county or district plans for group medical care for more than 80,000 needy farm families were in operation in 31 states.

In areas stricken by drought, flood, or hurricane, the Farm Security Administration makes subsistence grants to destitute farm families. These average about \$21 per month per family. During the past year the total cash grant disbursement to individual families amounted to about \$20,000,000.

**Tenant Purchase Program.** The tenant purchase program, authorized by the Bankhead-Jones Farm Tenant Act in 1937, enables a limited number of farm tenants and laborers to obtain loans to buy farms of their own. Congress appropriated \$40,000,000 for this purpose for the 1940 fiscal year, and 6172 loans were approved in approximately 1300 counties. These loans included money for building 3007 new dwellings, costing an average of \$1373. In addition, repairs were made on

3068 tenant-purchase farm dwellings; and barns and outbuildings were constructed or repaired on more than 7600 farms. Repayment of tenant-purchase loans extends over a period of 40 years at 3 per cent interest. An appropriation of \$50,000,000 was made for this program during the fiscal year. It was expected to provide for more than 9000 loans.

**Homestead Projects.** The Farm Security Administration administers 164 homestead projects which were turned over to it by the Resettlement Administration and other predecessor agencies. They are scattered throughout the country and vary in type; some having small individual farms, others having co-operative enterprises, and a few having industrial plants to supplement farm income. These projects provide homes for more than 15,000 families.

**Migrant Camps.** The FSA has established 40 permanent and 16 mobile camps to provide sanitary living conditions for a small part of the army of migratory agricultural workers. At the end of the fiscal year, the Administration had either completed or under construction 11,476 shelters and tent platforms, and 1729 labor homes. When the present program is completed, the camp facilities will serve 13,205 families at one time. See ARCHITECTURE. For subsistence payments, see RELIEF.

C. B. BALDWIN.

**FAROE ISLANDS.** A group of 21 islands (the chief being Bordö, Kalsö, Osterö, Sandö, Strömö, Suderö, Vaagö, and Viderö) north of Scotland, forming a county of Denmark. Total area, 540 square miles; population, 25,744. Capital, Thorshavn (on Stromö), 3200 inhabitants. The chief exports consist of fish, whale oil, woolen goods, lambskins, and feathers. A Danish governor heads the administration. The local parliament (Lagting) of 25 members elects a member to the Danish Landsting (upper house), and the people elect, by vote, a member to the Danish Folketing (lower house).

**History.** On Apr. 12, 1940, officials of the British Government called on the Danish governor and the president of the Lagting and told them that Great Britain would land troops and apply censorship to the radio station. The next day British troops were landed to prevent the islands from falling under the control of Germany. Assurances were given that the troops would be withdrawn at the end of the war, but the Lagting adopted a resolution of protest. See DENMARK under History.

**FASCISM.** Spurred on by the great German military victories in April, May, and June, fascism continued its triumphal march in Europe and many other parts of the world during 1940. Denmark, Norway, the Netherlands, and Belgium were conquered and their small native Nazi minority groups, supported by the German occupationary officials, were given the task of eradicating democratic institutions and converting the pro-democratic masses, by combined force and persuasion, to Nazi principles and Hitler's "new order" in Europe.

Luxemburg and Alsace-Lorraine were brought under direct Nazi rule through annexation to Germany. The democratic French Republic collapsed in defeat and was replaced by a Fascist State under Marshal Pétain. King Carol's quasi-Fascist regime in Rumania was replaced by an outright Fascist and totalitarian system controlled from Berlin. Japan formally adopted the Fascist political system

and Hungary, Slovakia, Rumania, and Japan were brought into the Rome-Berlin military alliance. Increasing internal and external pressure—political, military, and economic—was brought upon Bulgaria and Yugoslavia to accept full-fledged fascism and throw in their lot with Nazi Germany. Similar pressures were brought upon Sweden and Switzerland to abolish democratic liberties and conform to Berlin's economic and political program.

Finland held to its democracy, but like Rumania was forced by the threat of further Russian aggression into closer political and military relations with Hitler's Germany. The Fascist-type dictatorship established by Premier Metaxas in Greece was strengthened by its successful resistance to Italian aggression. But on the other hand the Fascist regime in Italy was badly discredited by the reverses to its arms in Greece, North Africa, and the Mediterranean. Likewise the sturdy, effective resistance offered by democratic Britain to the Nazi-Fascist march of aggression strengthened the morale and prestige of the world's remaining democracies. The rearmament of the United States and its extension of more aid to Britain and China had a similar effect.

**Nazism as an Instrument of Warfare.** Chancellor Hitler's successful use of propaganda and of pro-Nazi native movements in winning his sensational military victories over Norway, the Netherlands, Belgium, and France directed world-wide attention to this new technique of warfare. An analysis of the Nazi methods, prepared by Col. William J. Donovan and Edgar Mowrer, was published by Secretary of the Navy Knox at Washington in August as part of the national defense program. According to this statement, Nazi Germany was spending \$200,000,000 annually on organizational and propaganda activities in foreign countries in pursuit of its objective of world domination.

To pave the way for subsequent military conquest, the statement asserted, Nazi efforts were concentrated first of all upon the organization under Nazi leadership of persons of German birth or descent living in foreign countries. This work was carried on by the Organization Abroad, an agency of the German Nazi party with headquarters at Stuttgart. It was headed by Ernest Wilhelm Bohle, "State secretary" in the German Foreign Office, who was aided by some 800 assistants. This organization was said to have nearly 4,000,000 members, organized in more than 600 local groups or "supporting points" in some 45 countries. Each local group was organized along the same lines, with its Hitler Youth, Storm Troop, Labor Front, Hitler Sport, and other subsidiary organizations. All were directed from Stuttgart in methods of convincing non-Germans of the necessity of German victory and in preparations for supporting the Reich by violent action when the military stage was reached.

The Donovan-Mowrer statement went on to describe seven other agencies, in addition to the Organization Abroad, that were working for Hitler outside of the Reich. These were listed as the German political police or Gestapo, Dr. Joseph Goebbels' Propaganda Ministry, the German Labor Front, the intelligence services of the German army, navy, and air force, and finally the embassies, legations, and consulates of the German Foreign Office all over the world. It was pointed out that the German Government normally had four or five times as many "accredited" diplomatic and con-

sular representatives in each post as any other government.

The press attachés of the German diplomatic and consular posts were said to play a particularly important role in supplying propaganda and other material to some 1700 German-language newspapers outside Germany, checking on the effectiveness of German radio programs, winning over the native press to a pro-Nazi policy, and combating anti-Hitler newspapers and periodicals. Free news, picture, and publicity services, replete with Nazi propaganda, were provided the world over to non-German publications willing to use them. Native pro-Fascist organizations in the United States and elsewhere were plentifully supplied with propaganda leaflets, pamphlets, and films prepared in the languages of the respective countries. A "fifth column" of native traitors and other subversive elements was organized to co-operate with the German Nazi organizations in each foreign country. See FIFTH COLUMN.

"In the United States," the Donovan-Mowrer statement continued, "an organization of Nazis is being trained in arms. As matters now stand, it is conceivable that the United States possesses the finest Nazi-schooled fifth column in the world, one which, in case of war with Germany, could be our undoing."

**Revolutionary Propaganda.** In their efforts to create dissension and confusion in the democratic countries, the Fascist regimes in Germany, Italy, and Japan made increasing use of Communist revolutionary slogans and appeals. The *New York Times* correspondent in Berlin on February 13 reported that the Nazis were expanding their "propagandistic campaign against plutocracies, capitalism, and the rule of gold." He quoted excerpts from a long appeal to the workers of the world by Dr. Robert Ley, head of the German Labor Front. Ley called upon the "workers of all lands, including English and French workers" to unite against "your common enemy . . . English-Jewish-democratic high finance."

This appeal was taken up by the Italian and Japanese press and by pro-Fascist organs in democratic countries. Communist propaganda in the democracies took the same line. In some countries there was open collaboration between Fascists and Communists in their efforts to undermine democracy. The bitter hostility that characterized Communist-Fascist relations previous to the Hitler-Stalin accord of Aug. 24, 1939, was notably absent throughout 1940 except in some Balkan countries where immediate Russian and German interests clashed (see COMMUNISM). French Communists and Fascists joined forces in paving the way for France's collapse through defeatist and anti-war propaganda and through physical sabotage of French military preparations. But once the conquest of France had been achieved, the Communists received short shrift from both the German authorities in occupied France and from Marshal Pétain's Fascist regime in unoccupied France.

In Great Britain, Sir Oswald Mosley's Fascist Union made common cause with the British Communist party in demanding acceptance of Hitler's peace terms. The Churchill Government jailed Mosley and most of his adherents in May and June, when they actively assisted German preparations for an invasion of the British Isles.

**Fascism in United States.** Like the Communists, the various Fascist organizations and movements in the United States during 1940 concen-

trated upon efforts to keep the country neutral in the European War, to prevent further American aid to Britain and her Allies, and to obstruct the Federal Government's rearmament and defense programs. As in other parts of the world, the Fascist groups were spurred into increased activity and boldness by the German military victories in Europe during April, May, and June. However the effectiveness of their propagandist and other activities waned during the latter part of the year as a result of the failure of the Axis offensives in Britain, Greece, and Egypt, and the mobilization of pro-democratic sentiment in America.

**Dies Committee Revelations.** Revelations by the Dies Committee (q.v.) and other agencies and individuals shed more light on the activities of the German Nazi, Italian Fascist, and native Fascist movements in the United States during the year. The Dies Committee's full report to Congress, published Jan. 3, 1940, asserted that the Hitler-Stalin pact had weakened the dominant appeal of Nazi-Fascist groups, organized to fight communism. Evidence concerning the German-American Bund's activities gathered by the committee was recapitulated at length. The report declared the evidence "establishes conclusively" that the Bund received its inspiration, program, and direction from the Nazi Government.

As to the native "Nazi-Fascist" movements, the committee reported that all had two primary aims—a radical change in the American form of government and the collection of dues from misguided citizens. Leaders of these groups were accused of "a form of racketeering." It was charged that "when money ceases to flow into the coffers of one organization, they abandon it and start another one. These groups . . . make their appeal to the basest forms of religious and racial hatred."

On November 16 Chairman Dies announced that evidence accumulated by his committee "confirms that Germany, Italy, Japan, and Russia are working very closely in the United States, are exchanging information and actively co-operating in many ways." He said their immediate objectives were "to prevent this country from quickly preparing its defense and . . . to prevent our extending aid to Britain." The committee had proof, he said, that agents of the four powers were "entrenched in industries vital to national defense." He said there was little doubt that explosions in plants engaged in defense contracts were due to sabotage.

Evidence linking German diplomatic, consular and other agents in the United States with Nazi propaganda and espionage activities and with penetration of the economic structures of the United States and some Latin American countries was published by the Dies Committee in the form of a "White Paper" on November 21. The White Paper stated that Dr. Ferdinand A. Kertess of the Chemical Marketing Co. of New York, a German-born American citizen, had jurisdiction over trade arrangements between Germany and the United States and Germany and South America; that Manfred Zapp, head of the Transocean News Service in New York, was the agent for German propaganda in the United States and helped direct German propaganda efforts in South America; that Dr. Zapp had sought to promote ill feeling between the United States and Japan in order to keep America neutral in the European War; and that the American Fellowship Forum, the German Library of Information and the German Railroads Information Office (all with offices in New York) were

instruments of German propaganda. Correspondence between these agencies and the German Embassy in Washington supporting these charges were among the hundreds of exhibits included in the "White Paper."

Meanwhile Dies Committee agents on November 18 raided offices of "Italian and German organizations" in Chicago, New York, and other cities and seized their files, documents, and ledgers. On the West Coast they took into custody Heinrich Peter Fassbender, of Duesseldorf, Germany, who said he had been employed by the German secret police since 1935. After questioning officials of 10 German and Italian organizations in Chicago, Chairman Dies announced on November 19 that he had obtained sufficient evidence of fifth column activities in Chicago to warrant indictments and prosecutions. Primarily as a result of the Dies Committee investigations, Congress during 1940 passed legislation designed to curb the activities of Fascist, Nazi, and Communist groups under foreign control (see COMMUNISM).

**Activities of the Bund.** The Dies Committee's revelations concerning the German-American Bund were supplemented by inquiries into its activities by other Federal and local agencies. On July 4 the three chief leaders of the Bund were arrested in advance of an Independence Day celebration at Camp Nordland, N.J., recreation center of the Bund's New Jersey unit. They were G. Wilhelm Kunze, acting leader since the imprisonment of Fritz Kuhn in 1939 (see YEAR BOOK, 1939, p. 258); August Klapprott, Eastern leader of the Bund and manager of Camp Nordland, and Mathias Kohler, State treasurer of the Bund. They were charged with violating the State law prohibiting the wearing of uniforms and the display of emblems of a foreign nation and the circulation of literature inciting race or religious hatred. On October 10 a Sussex County grand jury voted indictments against the three men and five other Bund members.

Further attention was attracted to Bund activities in New Jersey on August 18 when 700 of its members joined with several hundred members of the Ku Klux Klan in an "Americanism" rally at Camp Nordland. On December 19 agents of the Federal Bureau of Investigation raided the Chicago office of the Bund and seized membership lists. An investigator of the State's Attorney's office reported that these records indicated that from 1500 to 2000 Bund members were in the U.S. military, naval, and air forces. On December 20 Attorney General Jackson at Washington ordered an investigation to determine whether the Bund membership list had been bolstered by newly naturalized citizens. It was suspected that Nazi agents and sympathizers had secured citizenship papers to shield their true reason for being in the United States and to gain privileges denied to foreigners.

**The Westrick Case.** German efforts to win American business leaders over to the idea of collaboration with Hitler's Reich received publicity in connection with the activities of Dr. Gerhard Alois Westrick, who arrived in New York in March, 1940, to become Trade Counselor of the German Embassy at Washington. Setting up a New York office, with Baroness Irmgard von Wagenheim as receptionist, he established contacts with many prominent business and professional men with the ostensible aim of promoting German-American business.

An investigation of his activities by the *New York Herald Tribune* and other newspapers re-

vealed that he had given false information to obtain an automobile driver's license, registration certificate, and license plates. It was then discovered that the automobile had been purchased for Dr. Westrick with funds of the Texas Corporation at the order of Capt. Torkild Rieber, chairman of the board of directors. Although Captain Rieber insisted that his relations with Dr. Westrick had "no political significance," his resignation as president of the Texas Corporation's board was accepted on August 13. At the same time Dr. Westrick and his family secretly left New York and on August 19 sailed from Los Angeles on a Japanese ship.

**Italian Fascists in America.** Goffredo Pantaleoni, who resigned as head of the Italian Tourist Information Office in New York in protest against Mussolini's co-operation with Hitler, asserted in a statement issued June 8, 1940, that Fascist agents, controlling some 2000 Italian Fascist party workers in the United States, were working to force or persuade five million Americans of Italian origin to do the work of the Rome-Berlin Axis.

On June 13 Police Commissioner Valentine of New York City made public the results of a lengthy investigation into the activities of Italian Fascists in New York and elsewhere. The statement asserted that documentary evidence had been gathered demonstrating that officials of the Italian Consulate General in New York, under cover of diplomatic immunity, were directing the organization of Fascist groups and actively disseminating Fascist propaganda.

The noted anti-Fascist historian, Prof. Gaetano Salvemini, in a study of Italian Fascist activities in the United States issued by the American Council on Public Affairs on October 12, asserted that only 5 per cent of the Italian-American residents of the United States were outright Fascists but that they had influenced about 35 per cent of the Italian-Americans. The mentality of the 35 per cent, he said, "has not yet clearly become Fascist and anti-democratic but . . . might crystallize at the first emergency." He estimated that 10 per cent of Italian-Americans were definitely anti-Fascist, while the other 50 per cent were in no way concerned with politics. He charged that the staffs of the Italian embassy and consulates were busily engaged in Fascist propaganda on the radio, in newspapers, and in schools, churches, and clubs.

**The Christian Front.** Of the numerous American pro-Fascist movements, all of relatively minor importance, the Christian Front received the greatest attention during 1940 as a result of the trial of 14 of its members in a Brooklyn, N.Y., Federal Court on charges of conspiring to overthrow the government and to steal government property (see *New York under New York City*).

**Latin America.** The German military successes in May and June and the collapse of one democratic government after another in Europe were a marked incentive to Fascist movements in Latin America. Anticipating the early defeat of Britain, the pro-Fascist groups in some Latin American republics shed their veil of secrecy and boldly made preparations for bringing South America under Axis domination. Early in June the Uruguayan Government uncovered a plot by the Uruguayan branch of the German Nazi party to seize control of the republic with the aid of Nazi units in Argentina and Brazil and convert it into an agricultural colony of the Reich. Despite the material and moral support given Uruguay by Brazil and the

United States, the fear of future German reprisals led the government to release 12 Germans arrested for subversive activity, while Congress voted down a motion to make the findings of the inquiry into the plot available to the other American governments.

According to John W. White, Buenos Aires correspondent of the *New York Times*, the investigation revealed that "efficient Nazi organizations in several South American countries are plotting to help local 'outs' to overthrow existing governments and set up regimes favorably disposed toward totalitarian ideology." Efforts of this kind were apparent in Argentina, Brazil, Chile, Ecuador, and Mexico, and to a lesser extent in every other Latin American country. At the same time Nazi-Fascist organizations throughout Latin America intensified their efforts to undermine existing pro-democratic institutions and governments by propaganda, spying, terrorism, the boycott, and other forms of economic and financial pressure.

The frank revelation of Axis ambitions aroused the governments and pro-democratic elements throughout Latin America to their danger and spurred them to more active counter-measures. Such measures were taken at the Havana Conference and other Pan American meetings (see *PAN AMERICANISM*), by various governments, and by newly organized private associations for the defense of democracy (see the individual countries under *History*).

During the last months of the year the attention of the Spanish American countries was concentrated upon the activities of the Spanish Falangist (*Falange Española*) movement. In November pro-democratic newspapers, such as *Crítica* in Buenos Aires, charged that Hitler was using the Falange branches throughout Latin America as a more effective instrument of peaceful penetration than the Nazi organizations. Falangist activities similar to those engaged in by the German Nazis and Italian Fascists aroused violent controversy in Argentina, Cuba, Mexico, and Uruguay.

See **COMMUNISM; DIES COMMITTEE; FIFTH COLUMN; NORTH CAROLINA; and ARGENTINA, AUSTRALIA, BOHEMIA AND MORAVIA, BOLIVIA, BRAZIL, BULGARIA, CANADA, CHILE, COLOMBIA, COSTA RICA, CUBA, DENMARK, ECUADOR, FINLAND, FRANCE, GERMANY, GREAT BRITAIN, GREECE, HUNGARY, ITALY, JAPAN, MEXICO, NETHERLANDS, NORWAY, PANAMA, PARAGUAY, PORTUGAL, RUMANIA, SLOVAKIA, SOUTH AFRICA, SPAIN, SWEDEN, SWITZERLAND, URUGUAY and YUGOSLAVIA**, under *History*. See also **FRENCH LITERATURE, GERMAN LITERATURE, ITALIAN LITERATURE, SCANDINAVIAN LITERATURE**, etc.

**FASHION EVENTS.** The year marked the beginning of a new era in American Fashions. On June 14 Paris, the source of creative fashion, was cut off. For the first time the American manufacturer and designer was forced to stand alone. Whether they will march forward or will sink into banal mediocrity is in question. The opportunity is now here.

In fairness, we must state that there were favorable forces working for the creative genius of Paris which do not exist in America today. For centuries that city has had raw materials, low wages, and a wealthy audience constantly coming and going. There existed a close co-operation between artist, designer, and social leader. Skilled help was available, and textile manufacturers and creative craftsmen were not only willing but eager

to back up designers even to the point of weaving materials in experimental quantities and placing them on consignment. Even the government was helpful in financing needy and worthy firms and in punishing style pirates with imprisonment. Such conditions are ideal for creative effort and are the result of centuries of development.

America, however, has not got a couture trade, though it has a flourishing ready-to-wear industry which, with its subsidiary businesses, represents a larger volume in dollars than does the automobile industry. Fashion in America is mechanized; in France it was a handicraft and it is hands and minds that create, not machines. In America the wages paid to workers are approximately eight times that paid to the needle trades in Paris. Employment practices are governed by labor laws which regiment production and thereby put a premium on initiative. Manufacturer and designer are not adequately protected, nor are government loans available on mental and artistic collateral. Textile mills are set up for large scale production and cannot, therefore, afford to carry out experimental ideas—though some progressive firms are establishing this needed service; the Botany Mills and those of S. Stroock are co-operating with designers in an altruistic effort to further creative effort through newly organized experimental departments. And in addition to these, there is evolving in New York a colony where the designer, artist, sculptor, actor, and social leader are mingling and creative genius is being stimulated. It is doubtful, however, that New York can ever become the artist's home as was Paris. Living costs are too high.

Despite these handicaps a résumé of suppliers reveals that American manufacturers are producing goods on a par with, or better, than were made in Europe in cottons, woollens, silks, rayons, and leather, with the exception of hand-loomed and hand-blocked fabrics. Labor charges and living costs will never permit these luxury materials to be produced in America on the low-cost European basis.

Meanwhile the hope for America's fashion future rests primarily in the hands of a few designers and couturiers—Hattie Carnegie, Valentina, Nettie Rosenstein, Sally Victor, Germaine Montiel, Louise Barnes Gallagher, Clarepotter, Anthony Blotta, John Fredericks, Lilli Dache, Florence Riechman—in the East. In the West, with such creative designers as Alice Evans, Joyce, and Adrian. In addition, certain retail outlets, cut off from Paris resources, are building with increased enthusiasm their special order departments. Among them are Bergdorf Goodman and Saks Fifth Avenue in New York, Neiman Marcus in the South, and I. Magnin in California. To them the manufacturers will look for inspiration and their scouts will continue to frequent and to report from the places where smartly dressed women congregate—the Colony, Ritz, Belmont, Meadowbrook.

New retail buying trends are developing. To Seventh Avenue in New York City (known in the trade as "the market") retail stores send their merchandise managers and buyers several times a year. However, fashion manufacturers are spreading through the Middle West and are becoming increasingly successful on the West Coast. It has been estimated that 75 leading stores are now buying 10 per cent of their merchandise in Chicago while buyers in cities of 15,000 and less, finding the trip to New York too expensive, are concen-

trating their buying in five cities, namely Chicago, St. Louis, Dallas, San Francisco, and Los Angeles. Many leading stores throughout the country continue to be guided by the mailed reports of Tobé, a fashion advisor, who covers the New York market and whose keen analyses and predictions have proven their worth since the establishment of her business some 15 years ago.

Fashion Press. Three periodicals that have been important in the promotion of Paris fashions—*Vogue*, edited by Edna Woolman Chase; *Harper's Bazaar*, edited by Carmel Snow, and *Women's Wear*, edited by Winifred Ovitte—have increased their efforts to promote American fashions and have done so in a sensible, eclectic, non-flag-waving manner. Formerly the editors of these magazines attended the showings of the designers' collections in Paris and selected from the several thousand styles shown some 50 or 60 to be featured on their pages. This was a source of inspiration and authority to retailers, manufacturers, and the consumer. Now their attention is limited by the war to the American fashion picture which they are reporting with honesty and imagination.

Fashion information is also disseminated to an important degree by women's magazines of large circulation—*Good Housekeeping*, *McCall's*, *Woman's Home Companion*, *Ladies Home Journal*. An outstanding success in this highly competitive field has recently been achieved by *Mademoiselle*, edited by Mrs. Betsy Blackwell, which features youthful medium priced merchandise.

Important to the fashion trade are the daily articles written for the women's pages of newspapers by syndicate editors living in New York or in leading cities.

Fashion Organizations. The Fashion Group, a non-commercial organization of professional women, organized in New York now has eight regional groups located in principal cities throughout the United States and a total membership of 980. Julia Coburn is its president. Luncheon meetings are held monthly at which various phases of fashion are discussed by prominent speakers. The purpose of the Fashion Group is to "advance the principles of applied art in industry and to foster good taste in fashion; to encourage the co-operation of those engaged in conceiving, designing, and executing fashions; and, through proper education and the dissemination of useful information, to inspire a keener interest in fashions to the end that those engaged in the field of fashion may better serve themselves and the public at large."

Fashion Developments. Fashion progressed on an even keel throughout the year. It was notable for a spirit of frankness and youthfulness, with a lack of absurdities and conceits. This was probably due to the sobering influence of the war abroad. The last Paris collections arrived at mid-season via clipper, and from that time on all inspiration from abroad was ended.

At the beginning of the year New York saw a magnificent exhibition of Persian art owned by American collectors and, just as similar exhibitions in Paris had their effect upon fashion, so this exhibit ushered into the higher style group, Persian colors and designs in costumes and in jewelry.

In the spring new colors came to the fore, Cocoa brown, Elephant gray, with a brighter-than-Navy Blue, and a Soldier Blue in the lead. Skirts were shorter, the natural waistline was accentuated and simple costumes were dramatized by over-size pockets, buttons, bags. Off-the-face hats

were popular for daytime wear and for evening the shawl entered importantly.

During the summer and early spring travellers, who formerly visited the Riviera, cruised to South America and as the year progressed there was a rising interest in South American costumes adapted from the clothes of the natives, and colors such as yellow reds, yellow, brilliant pinks, purple, beige were worn in brilliant combinations. Later a growing spirit of patriotism found everyone wearing jewelry and accessories emblazoned with national emblems, flags, shields, crests, and the wording of national anthems. This led to tri-color costumes, red, white, and blue. To mate with these fashions cosmetics rose to clear, brilliant reds and bore such names as Cockade Red, Flag Red, Military Red, and Navy Red.

College fashions showed an increased inclination toward mannish trends. Preferred fabrics were wools, tweeds, and corduroy. Skirts became a bit longer. Sweaters and skirts held their own with a longer fitted jacket for the formal suit. Jumpers, pinafores, jerkins, "beanie" and stocking caps topped every costume. Obvious innovations for evening wear were the reefer and the Polo coat with enormous golden buttons. Evening dresses were notable for extreme modesty. Fur coats of sheared beaver, mink, and the brown and beige furs became leaders in both the skirt length and the thirty-two inch length Bulky short jackets held the popularity they have enjoyed for several seasons. The outstanding fashion event was a chemical achievement—the introduction of Nylon hosiery. At the end of 1940, demand exceeded supply and the sale of Nylon represented only about 10 per cent of hosiery sales. See GARMENT INDUSTRY; SHOE INDUSTRY.

Without a doubt, 1940 will go down as an important year in American fashion history. The course ahead is replete with natural and economic obstacles. Wisdom, ingenuity, and co-operation can surmount them in time. The unhysterical, thoughtful, but honestly patriotic attitude of fashion leaders of the manufacturing press and retail fields, united with our natural inventiveness, is a hopeful guerdon of a bright future with wider, finer opportunity than there has ever been before.

CATHARINE OGLESBY.

**FBI.** See FEDERAL BUREAU OF INVESTIGATION.

**FCA.** See FARM CREDIT ADMINISTRATION.

**FCC.** See FEDERAL COMMUNICATIONS COMMISSION.

**FEDERAL ALCOHOL ADMINISTRATION (FAA).** Formerly an agency of the U.S. Department of the Treasury, abolished June 30, 1940, when its functions were transferred to the Alcohol Tax Unit of the Bureau of Internal Revenue. See ALCOHOLIC LIQUORS.

**FEDERAL BUREAU OF INVESTIGATION (FBI).** Although confronted with a greater volume of work and more responsibilities than in any other period of its history, from the standpoint of accomplishments, the Federal Bureau of Investigation during the fiscal year 1940 achieved its greatest success.

A changing world required emphasis on matters relating to the internal security of the United States. Shortly before the fiscal year opened, the President of the United States directed the Federal Bureau of Investigation to take charge of investigative work relating to espionage, counter-espionage, sabotage, and related matters. With the

outbreak of war in Europe this type of work increased materially. A total of 16,885 national defense matters were handled during the year which required investigative activity as compared with 1651 in 1939.

On Sept. 6, 1939, the Chief Executive, realizing that investigations of national defense matters must be conducted in a comprehensive and effective manner on a national scale, requested all law enforcement agencies to co-operate with the FBI in this vital work. Through a series of more than 500 conferences with FBI officials, attended by representatives of some 8000 state, county, and municipal law enforcement agencies, the entire law enforcement profession was mobilized to combat subversive activities and meet any emergency which might arise. To further amplify the co-operative procedures of the FBI with law enforcement agencies, regular quarterly conferences with the various local law enforcement representatives were arranged by the Bureau. In addition arrangements were perfected whereby the Special Agents in Charge of the 53 field divisions of the FBI can forward to the heads of local law enforcement organizations general intelligence matters for appropriate attention.

As an integral part of its national defense work, the FBI inaugurated in September, 1939, in accordance with the request of the War and Navy Departments, a program to survey the protective facilities of manufacturing establishments having large contracts to provide the Government with defense materials. A priority list of over 1500 factories for survey was furnished the FBI by the armed services. Over 1200 of these were surveyed during 1940. The sole purpose of the surveys is to submit recommendations to bolster the physical protective facilities of the manufacturing plants for the prevention of sabotage and espionage activities. Supplementing these surveys the FBI has prepared and issued a manual of suggestions for the protection of industrial facilities which is distributed to executive officials of industrial plants producing national defense materials.

To prevent hysteria and improperly supervised activity in the field relating to internal security, the FBI cautioned well-meaning citizens and patriotic groups against investigative activity on their part, and requested that they turn over all information relating to national defense to the nearest office of the FBI. The citizens' part in the FBI's defense program is one of observation.

The increase in work as a result of the emergency conditions necessitated the addition of Agents to the investigative force and the establishment of new field offices at Albany, New York; Baltimore, Maryland; Grand Rapids, Michigan; Houston, Texas; New Haven, Connecticut; Phoenix, Arizona; San Diego, California; Savannah, Georgia; Honolulu, Hawaii; Juneau, Alaska; and San Juan, Puerto Rico.

Newly appointed Special Agents, who are required to be between the ages of 23 and 35, graduates of accredited law schools or graduates of recognized accounting schools with three years' experience in commercial accounting or auditing, must successfully complete an intensive training course prior to their entry into the field to do investigative work.

During the past year, 2393 Federal fugitives from justice were located and apprehended by the FBI. In addition, 7809 fugitives were located for State, county, and municipal law enforcement agen-

cies through the Fingerprint Division of the FBI, making a total of 10,198 fugitives from justice located during 1940.

Convictions secured in Federal Courts in cases investigated by Special Agents of the FBI numbered 5605, as compared with 5162 convictions secured in the fiscal year 1939; 158 convictions were also secured during the year in cases under the national defense classification. Convictions were secured in more than 96 per cent of the cases investigated by the FBI and prosecuted in Court. During the year, sentences imposed in cases investigated totaled 10 life, 17,833 years, 4 months, and 28 days, while during the fiscal year 1939 sentences imposed totaled 12 life, 16,948 years, 6 months, and 5 days.

The total savings, fines imposed, and recoveries effected in the miscellaneous types of cases investigated by the FBI during the year amounted to \$58,390,180.64. The regular appropriation of the FBI for the period totaled \$7,300,000. For every dollar spent in connection with the regular operations of the Bureau for the year, \$8 were saved or returned to the Government or individual citizens in stolen property recovered, fines imposed and savings effected.

Since the passage of the Federal Kidnaping Act on June 22, 1932, 191 cases of kidnaping and conspiracy to kidnap have been investigated by the FBI, and all but two have been solved. These two cases are currently under investigation and in one case alone more than 22,000 suspects have been checked and eliminated. In the 189 solved cases, there were 376 convictions in Federal and State Courts with the imposition of sentences totaling 12 death, 42 life, 4363 years, 7 months, and 13 days. Eight kidnapers committed suicide, 8 were killed resisting arrest, 7 died by murder at the hands of their gang members, and 2 were lynched. During the past fiscal year, only 14 kidnaping cases occurred, all of which were solved.

The Federal Bank Robbery Statute was originally approved by the President on May 18, 1934. As a result of investigative activities of Special Agents of the FBI into this type of crime in co-operation with State and local police agencies, bank robbery has declined approximately 80 per cent since its peak year of 1932. During the past year, a total of 178 convictions were secured, with the imposition of two life sentences and other sentences totaling 2189 years and 28 days, with fines totaling \$52,601.

Investigations of violations of the White Slave Traffic Act during 1940 resulted in 476 Federal convictions with sentences totaling 1242 years, 8 months, and 28 days.

On Dec. 1, 1940, there was a total of 14,701,647 sets of fingerprint records on file in the Identification Division of the Federal Bureau of Investigation. Sets received during the year totaled 2,572,812, and identifications were effected in 60.4 per cent of the criminal fingerprints received.

In the crime laboratory, a total of 7097 examinations were made by FBI scientists in 1940, as compared with 5559 such examinations during the fiscal year 1939. Of the 7097 examinations made in the laboratory, assistance was rendered to other Federal agencies in 369 instances and to State, county, and municipal law enforcement agencies in 2065 instances. These scientific examinations involved 39,500 different specimens of evidence.

Throughout the year concentrated research work was carried on in the laboratory to devise ways

and means to meet the many problems that have arisen in connection with the widespread activities of the FBI in coping with sabotage, espionage, counterespionage, and other matters related to national defense. See FASCISM; FIRE PROTECTION.  
J. EDGAR HOOVER.

**FEDERAL COMMUNICATIONS COMMISSION.** The past year, besides commemorating the 20th anniversary of broadcasting is recorded by the Federal Communications Commission as making notable contributions to the development of radio in general.

Particularly outstanding was inauguration of a new type of broadcast popularly known as "FM." Regular use of frequency modulation will offer public demonstration of its claimed clarity and staticless qualities. Also, by using a different part of the radio spectrum (the high frequencies), FM promises to relieve the situation in the long congested standard broadcast band. The new service requires new equipment, sets, and servicing and should likewise have a stimulating effect on programming. By early February, 1941, the Commission had authorized 32 FM stations to go on a full commercial basis.

Television development received considerable impetus during the year. The Commission enabled about half a hundred stations in many sections of the country to experiment with various types of transmission with a view to reaching early accord on uniform standards which will enable television to move forward on a full commercial basis. Interested persons had budgeted a total of \$8,000,000 for this experimental work. The Commission's purpose was aided by exhaustive study of the situation by a National Television Systems Committee, representing the best minds in the industry, which was initiated by the joint efforts of the Radio Manufacturers Association and the Commission. The rapid evolution of television was attested during the year by developments in color reproduction, large-screen projection, and practical service demonstrations.

In the field of standard broadcasting, the coming year should see a marked improvement in service by reason of the North American Regional Broadcasting Agreement, which becomes effective Mar. 29, 1941. This compact between Canada, Cuba, the Dominican Republic, Haiti, Mexico, and the United States will tend to eliminate or minimize many interference problems in North America.

At the close of the last fiscal year, 846 standard broadcast stations were operating or under construction. Seventy-six new stations were authorized during the year and 10 deleted. For the 1939 calendar year, 705 standard broadcast stations (including networks), reported time sales approaching \$130,000,000, and expenses of slightly more than \$100,000,000. These stations employed 24,605 persons with a payroll of \$51,620,000.

Broadcast service to South America was improved by reason of the Commission requiring a minimum power of 50 kilowatts for international program service. A dozen international broadcast stations were in operation during 1940.

Increased use of radio for miscellaneous services was noted. Police licenses increased to 6300, the aviation service to over 2000, and more than 1000 stations were employed for forest conservation purposes. During the year the Commission clarified its rules with respect to the 452 special emergency stations, which are particularly useful in establish-



ing radio communication in time of flood, earthquake, hurricane, and other disaster when wire facilities are disrupted. The Commission rendered its final report on a special study of radio requirements to further insure safety to shipping on the Great Lakes and inland waters of the United States, and gathered information with respect to communications needs on the Mississippi River System.

A two-year investigation of chain broadcasting resulted in a special committee of the Commission, in June, recommending regulation of network practices to eliminate certain features while retaining the advantages of this type of service. This 1300-page report, together with briefs subsequently submitted by interested parties, was the subject of oral argument early in December in connection with consideration of the subject by the full Commission.

Commission regulation of interstate and foreign communication facilities brought added duties during the year as a result of national defense precautions. It was necessary for the Commission to augment its field force and monitoring facilities for more effective surveillance. In June it imposed a ban on amateur communication with foreign countries, supplementing this with an absolute prohibition on the use of portable long-distance transmitters. At the same time it warned ship radio operators to refrain from unnecessary conversation on the air. Subsequently, it ordered about 100,000 radio operators—commercial as well as amateur—to furnish proof of citizenship. The private wire and cable companies co-operated in compiling similar identification data with respect to employees engaged in handling international messages.

The year's record reveals 56,300 amateur stations in operation, as well as nearly 200 standard broadcast stations offering part-time programs in 30 foreign languages. Some 40,000 commercial operator licenses were issued during the year. As a convenience to those operators drafted or otherwise called to military service, certain renewal routine was waived temporarily. Due to war conditions, many disruptions of foreign cable and radiotelephone and radiotelegraph circuits were reported.

The role of all branches of communications in the preparedness program is to be co-ordinated by a Defense Communications Board, created by Executive Order in September. This Board comprises officials of the State, Treasury, War, and Navy departments and the Commission, with the various industries and other governmental departments concerned represented on advisory committees. It is a planning agency without operating or procurement functions. The Chairman of the Commission is also Board Chairman.

As a remedy for many ills in the highly competitive telegraph industry, the Commission early last year recommended merger of the domestic telegraph companies. It further urged consolidation of American international communication carriers serving the United States in the interests of defense and other national needs.

The Commission reported aggregate savings of \$10,000,000 to telephone users by reason of tariff revisions during the year, affecting all sections of the country. Common carriers filed a total of 23,330 tariff schedules affecting telephone and telegraph. In October the Commission approved a revised uniform system of accounts for telegraph and cable carriers, to become operative in 1942. The new system conforms to Government accounting

principles and will supplant one in use since 1914.

The present members of the Commission are James Lawrence Fly, Chairman; Paul A. Walker, Norman S. Case, T. A. M. Craven, George Henry Payne, and Frederick I. Thompson.

See RADIO; TELEVISION; UNITED STATES under Administration.

#### FEDERAL COUNCIL OF THE CHURCHES OF CHRIST IN AMERICA.

An organization established in 1908 by 28 Protestant denominations to act for them in matters of common interest. At the end of 1940 it included most of the major Protestant denominations of the United States.

The total number of communicant members included in the Council's constituency in 1940 was slightly in excess of 22,000,000, counting only those 13 years of age and over.

Of the Council's eight departments, the following made a significant contribution during 1940. The department of social service conducted a series of conferences on preparation for marriage and family life; the department of evangelism directed the National Christian Mission in eleven major centers of population in the interest of a spiritual awakening. The department of international justice and good will held an interdenominational conference, February 27-29, in Philadelphia on the relation of the churches to the international crisis; it also carried on relief appeals in the churches for war sufferers in China and for German refugees. The radio department sponsored 10 religious programs on the air each week. The department of relations with churches abroad gave further leadership in the development of plans for a World Council of Churches. The department of research and education issued reports on "The Status of Women in Protestant Churches," "The Churches and the Social Security Act," "The Church and Cooperatives," "Civil Liberties in Industrial Disputes," "The War, the United States, and the Christian Churches," and "Sharecroppers and Migrant Workers." A commission for the study of Christian unity continued a plan for the unification of American interdenominational agencies and completed a study of unity in foreign missionary work. The department of race relations inaugurated a plan for improving the service of Negro rural churches in the South. The commission on army and navy chaplains enlarged its work to include a supervision of religious ministrations for the men called to training camps under the Selective Service Act. The *Federal Council Bulletin*, a monthly, continued to be issued as the official organ.

Officers during 1940 were: President, the Rev. George A. Buttrick; vice-president, Dr. John R. Mott; treasurer, Frank H. Mann; and general secretary, the Rev. Samuel McCrea Cavert. National offices are at 297 Fourth Avenue, New York City. An office is also maintained in the Woodward Building, Washington, D.C.

#### FEDERAL CROP INSURANCE CORPORATION (FCIC).

The Federal Crop Insurance Corporation, established as an agency of and within the U.S. Department of Agriculture under the Federal Crop Insurance Act, which was Title V of the Agricultural Adjustment Act of 1938, as approved Feb. 16, 1938, was authorized to insure growing wheat against all unavoidable hazards commencing with the crop planted for harvest in 1939. Almost 166,000 wheat growers in 31 States paid premiums for "all-risk" insurance on their 1939 crop; indemnities had been paid to 55,-



912 of these growers amounting to 10,163,127 bu. of wheat. In 1940, 379,420 wheat growers insured their crop paying 13,846,115 bu. of wheat or the cash equivalent for this protection. At the end of the year about 112,000 claims for indemnities had been paid with about 22,500,000 bu. of wheat or the cash equivalent. Acreage abandonment, which, in two of the largest wheat producing States in the nation, reached approximately 40 per cent, accounted for a big part of these indemnities. The fact such large acreages were abandoned in all-wheat country is evidence that a crop insurance program is vital to the wheat growing industry if its farmers are to have economic stability.

Recognition of this is found in the number of contracts written on the crop seeded in 1940 for harvest in 1941. On Nov. 30, 1940, about 380,000 contracts had been written on the 1941 crop, for which growers paid 12,721,511 bu. in premiums. These include winter wheat almost entirely. When all spring wheat contracts were tabulated after the final day of acceptance, Feb. 28, 1941, close to half a million contracts were written.

Crop insurance premiums and indemnities are computed entirely in terms of wheat, not dollars. For the sake of convenience, wheat growers may pay their premium with a warehouse receipt or cash equivalent representing the number of bu. as computed for the premium payment for the farm. Or the grower may charge the amount of the premium against future payments to be earned under the agricultural conservation program. Premiums paid in by growers are maintained by the Corporation in the form of actual wheat in storage. Indemnities are paid in wheat in the form of a warehouse receipt or in the cash equivalent thereof. The insured may indicate in his claim for indemnity whether he wishes the indemnity to be paid in wheat or in cash, but the Corporation reserves the right to make payment in a form other than that indicated by the insured.

Growers may insure 50 or 75 per cent of the past average yield for their farms. Premium rates and insurable yields are based on the actual or appraised loss and yield data for each individual farm over an established base period, adjusted to the average loss and yield data for the county in which the farm is located. Each year the yield and rate data of the second preceding year is worked into the rate structure so that yields and rates reflect actual productivity of the individual farms. Thus individual premiums and yields vary from year to year depending on production.

The crop insurance program is administered within States and counties by farmer committees, which permits direct contact with the wheat producer. Because the program contributes materially to the general welfare of the nation, the costs of administration, including costs of wheat-reserve storage and of research with a view to applying "all-risk" insurance to other crops, are paid from an annual Federal appropriation. For the crop year 1939 these costs amounted to \$4,800,000. The Corporation has an authorized capital stock of \$100,000,000 of which \$40,000,000 has been appropriated by the U.S. Government to operate as a revolving fund to meet losses in years of sub-normal wheat production when indemnities paid out may exceed premiums collected. It is expected that the amount drawn from its revolving fund during poor crop years will be recovered by the Corporation during years of good crops.

LEROY K. SMITH.

**FEDERAL FARM MORTGAGE CORPORATION.** See FARM CREDIT ADMINISTRATION.

**FEDERAL HOME LOAN BANK BOARD (FHLBB).** The Federal Home Loan Bank Board administers the following three agencies: (1) The Federal Home Loan Bank System, (2) The Federal Savings and Loan Insurance Corporation, (3) The Home Owners' Loan Corporation.

The Federal Home Loan Bank System, created in 1932, is composed of 12 regional Banks constituting a central reserve credit system for their member institutions. While the major portion of the membership in the System consists of institutions of the savings and loan type, a number of insurance companies and mutual savings banks are also members.

The Banks have obtained their funds, which may be advanced to member institutions on a long and short-term basis, from investments in their stock by their members and the U.S. Government, by deposits of member institutions, and through the sale of consolidated debentures. During the calendar year 1940, members increased their paid-in capital stock holdings in the Federal Home Loan Banks by \$3,562,700 to a total of \$44,540,650, which, with \$124,741,000 subscribed and paid-in by the U.S. Government prior to 1938, resulted in a total paid-in capital stock of \$169,281,650 on Dec. 31, 1940. There were \$90,500,000 of consolidated Federal Home Loan Bank debentures outstanding on Dec. 31, 1940, a 5- and a 17-month issue having been marketed in November, 1940, in amounts of \$15,000,000 and \$52,000,000 respectively, and \$25,000,000 retired at maturity on Dec. 1, 1940. Members' deposits declined \$2,695,293 during the year to a total of \$26,921,392.

Advances outstanding increased \$20,178,974 during 1940 to an all-time high of \$201,491,964 as of Dec. 31, 1940. Total advances made since the beginning of operations aggregated \$716,134,626. The Federal Home Loan Bank Board is authorized by law to charter Federal Savings and Loan Associations, of which the Banks' membership reflects a net increase of 39 during the year. As of Dec. 31, 1940, there were 1437 Federal associations and 2427 State-chartered institutions for a total membership of 3864 institutions, having estimated assets in excess of five billion dollars.

The Federal Savings and Loan Insurance Corporation, established in 1934 as an instrumentality of the United States, was, on Dec. 31, 1940, insuring the safety of investment to a maximum of \$5000 for each of 2,772,400 investors in 1438 Federal savings and loan associations with assets of \$1,872,691,000, and in 838 State-chartered institutions with assets of \$1,059,090,000. Each insured institution is required to pay an annual premium of one-eighth of 1 per cent of the total amount of all accounts of its insured members, plus its creditor obligations. On December 31 Corporation assets, consisting primarily of cash and obligations of, or guaranteed by, the United States, totaled \$128,014,722.54; surplus and reserves of \$26,449,196.18 had been added to the paid-in capital of \$100,000,000 provided for by the Congress.

The Corporation has authority to prevent the default of an insured institution and to restore an insured institution in default to normal operation by means of a loan or contribution to, or purchase of assets of, the association in difficulty. Since the beginning of the insurance program, the Corporation has found it expedient to assist 14 associations,

and in addition three associations have been placed in liquidation.

The Home Owners' Loan Corporation (HOLC), is a Government agency, created by Congress in 1933 to cope with the crisis in the home-financing field by refinancing the mortgages of distressed home owners. With a capital stock of \$200,000,000, fully paid for by the Secretary of the Treasury, it was authorized to issue bonds in an aggregate amount not exceeding \$4,750,000,000. As of Dec. 31, 1940, excluding those bonds called for retirement, the HOLC had a total of \$2,609,758,750 in bonds outstanding, all guaranteed by the U.S. Government as to both principal and interest.

The Corporation's lending authority lasted three years, until June, 1936. During this period, it loaned \$3,093,000,000 to 1,018,000 home owners threatened with foreclosure and unable to obtain private credit. The HOLC now is principally engaged in the collection of its loans and the liquidation of the properties it has been forced to acquire. As of Dec. 31, 1940, some 90,782 loans, amounting to \$216,449,558, had been paid in full. Of the remaining active original loans, 658,996, or 89.4 per cent, were current or less than three months in arrears; 28,727 others were in a liquidating class, meaning that such borrowers were meeting current bills and making regular monthly payments on their arrearages; some 49,752 others were still active, but in various stages of delinquency. In all, HOLC borrowers had repaid \$863,716,531 on their principal indebtedness. The Corporation had acquired and sold 125,529 properties; 51,722 others still remained on its books, the great majority rented pending sale.

The average HOLC borrower, at the time of refinancing, was delinquent two years in principal and interest and between two and three years in arrears on taxes. Borrowers' loans were reduced approximately \$200,000,000 in the refinancing transactions and they since have saved an estimated \$400,000,000 on interest charges alone. Excluding accounts paid in full, the average HOLC borrower's debt had been reduced 27.4 per cent at the end of 1940. The Corporation's personnel has been reduced 59.0 per cent since its peak; annual expenditures have been curtailed 38.5 per cent.

JOHN H. FAHEY.

**FEDERAL HOUSING ADMINISTRATION (FHA).** The Federal Housing Administration, established in June, 1934, pursuant to the terms of the National Housing Act, insures qualified lending institutions against loss on home mortgage or property improvement loans which conform to FHA requirements. The purpose of the FHA program, as defined by Congress, is "to encourage improvement in housing standards and conditions" and "to provide a system of mutual mortgage insurance."

During 1940, the activities of the FHA in the housing field attained the largest volume in its history. Loan insurance of all types written during the year totaled \$1,025,500,000 as compared with \$953,824,000 in 1939, the previous record year. By Dec. 31, 1940, the total amount of insurance written by the FHA since its formation was \$4,076,265,000. All of these funds were advanced by private lending institutions since the FHA itself lends no money.

About two-thirds of the FHA's operations involve the insurance of long-term mortgage loans on small homes. In 1940, applications for FHA in-

surance on home mortgages aggregated \$1,271,983,776 as compared with \$1,123,792,380 in 1939. Insurance was issued during the year on 168,300 small-home mortgages amounting to \$736,500,000, as compared with 153,747 mortgages aggregating \$660,416,000 in 1939. By Dec. 31, 1940, the FHA had insured 634,023 home mortgages totaling \$2,706,350,000.

In 1940, 78 per cent of the small-home mortgages selected for appraisal by the FHA involved new homes to be built under its inspection, as against 70 per cent in 1939 and 58 per cent in 1938. Construction was started or completed during 1940 under FHA inspection on slightly more than 164,000 new small homes. In 1939, 131,000 new homes were started under the FHA program. About 40 per cent of the new single-family homes built in 1940 were constructed under FHA inspection. The FHA program thus played an important role in the expansion in total residential construction to the highest levels since 1928.

Under Title I of the National Housing Act, the FHA insures short-term modernization and repair loans. A total of 662,948 loans of this type were insured during 1940 compared with 513,091 in 1939. In amount, last year's loans totaled \$276,500,000 compared with \$233,067,349 in 1939. Since the start of the FHA program, a total of 3,009,000 loans aggregating \$1,243,000,000 have been insured under Title I. Included in last year's total were about 9000 loans, not exceeding \$2500 each, to finance construction of new small homes in the lowest price brackets.

The FHA also insures mortgages on large-scale rental housing projects which conform to FHA requirements. In 1940, 48 such mortgages totaling \$12,481,000 were insured. Since the start of its program, the FHA has insured 317 rental housing mortgages in the amount of \$126,952,675.

The Federal Housing Administration's activities are carried on without cost to the Federal government. Its income, derived from insurance premiums, inspection fees, and other sources, substantially exceeds its operating expenses and insurance losses under Title II and results in large additions each year to its reserves against possible future losses. In 1940-41, the FHA's income will exceed its operating expenses and realized losses by about \$9,000,000. Charges against the FHA's insurance funds for losses realized on foreclosed homes turned over to the FHA have amounted thus far to only one-thirtieth of 1 per cent of the total mortgage insurance written. See ARCHITECTURE.

ABNER H. FERGUSON.

**FEDERAL LAND BANKS.** See FARM CREDIT ADMINISTRATION.

**FEDERAL LOAN AGENCY.** An agency of the United States government under which are grouped those agencies established for the purpose of stimulating and stabilizing the financial, commercial, and industrial enterprises of the nation. The component agencies are: Disaster Loan Corporation (q.v.); Electric Home and Farm Authority (see ELECTRIC LIGHT AND POWER); Export-Import Bank of Washington (q.v.); Federal Home Loan Bank Board (q.v.); Federal Housing Administration (q.v.); Federal National Mortgage Association; Reconstruction Finance Corporation (q.v.). Administrator in 1940: Jesse H. Jones.

**FEDERAL PRISON INDUSTRIES, INC.** See PRISONS, PAROLE, AND CRIME.

**FEDERAL RESERVE SYSTEM.** See **BANKS AND BANKING.**

**FEDERAL SAVINGS AND LOAN INSURANCE CORPORATION.** See **FEDERAL HOME LOAN BANK BOARD.**

**FEDERAL SECURITY AGENCY.** An agency of the United States government under which are grouped those agencies whose major purposes are to promote social and economic security, educational opportunity, and the health of the citizens. The component agencies are discussed in the following separate articles: **CIVILIAN CONSERVATION CORPS; EDUCATION, OFFICE OF; FOOD AND DRUG ADMINISTRATION; NATIONAL YOUTH ADMINISTRATION; PUBLIC HEALTH SERVICE; SOCIAL SECURITY BOARD.** Administrator in 1940: Paul V. McNutt.

**FEDERAL SURPLUS COMMODITIES CORPORATION (FSCC).** See **SURPLUS MARKETING ADMINISTRATION;** also, **DISASTER LOAN CORPORATION.**

**FEDERAL TRADE COMMISSION (FTC).** The Federal Trade Commission was created in 1914 by an Act of Congress, as a result of general public demand for legislation to curb monopolistic and other unfair trade practices. In promoting the basic public policies of the laws which it administers, the functions of the Commission can be divided into two general classes. One is remedial or corrective, and the other may be described as fact-finding and advisory in character. In connection with its corrective or remedial functions, the Commission is invested with quasi-judicial powers to prohibit parties from using unfair methods of competition and unfair and deceptive acts and practices in interstate commerce, and also, under carefully specified conditions, from using certain other practices, including price discrimination, exclusive dealing arrangements, and acquisition of stock in competing corporations.

Corrective proceedings by the Commission may be either initiated by the Commission on its own motion or by a complaint by a member of the public. The identity of complainants is kept confidential by the Commission. Radio and periodical advertising is subject to constant review by members of the Commission's staff. For illustration, during the calendar year of 1940 the Commission's Radio and Periodical Division examined 759,218 commercial radio continuities and 367,041 advertisements in newspapers, magazines, etc. In order that corrective proceedings by the Commission may be conducted efficiently, the Commission's investigatory powers are implemented by the power of subpoena. The formal procedure of the Commission embodies the general principles of adversary litigation and also of appellate court review. The Supreme Court has accepted the Commission procedure as being fully in accord with the constitutional functioning of administrative agencies.

The formal corrective action by the Commission consists in the issuance of a complaint after an investigation has been made and the Commission has found that a proceeding in the matter would be in the public interest. If the evidence taken in the case sustains the allegations of the complaint, the Commission issues its findings as to the facts and order to cease and desist. The respondent may, within sixty days after service of the order, appeal therefrom to a United States Circuit Court of Appeals. If a respondent violates an order issued under the Federal Trade Commission Act, after such order has become final, he is subject to a civil pen-

alty of not more than \$5000 for each violation. The Commission may also obtain temporary court injunctions, pending completion of formal proceedings by the Commission, against sellers who falsely advertise foods, drugs, cosmetics, or devices. The Commission during the calendar year of 1940 issued 460 complaints and 292 orders to cease and desist. As an illustration of the constantly expanding case work of the Commission, 300 complaints were issued during the calendar year of 1939.

In addition to its formal remedial procedure, the Commission has two important informal methods of promoting its statutory remedial objectives. Certain types of cases, mainly involving false and misleading advertising, may be disposed of by stipulation. Under this procedure, if the advertiser admits that certain representations are incorrect, he is given the opportunity to sign a stipulation in which he agrees to discontinue using such misrepresentations. The privilege of stipulation is not extended in cases involving fraud, dangerous drugs, or other unusual conditions. During the calendar year of 1940 the Commission accepted 594 stipulations to cease and desist as compared to 470 accepted during the calendar year of 1939.

Another informal method used by the Commission in furtherance of its statutory remedial objectives is the trade practice conference. Under the supervision of the Commission and after notice of public hearing, and subject to final approval or acceptance by the Commission, members of industry may voluntarily adopt trade practice rules condemning unfair practices and promoting ethical practices.

The Commission is authorized and directed under the Wool Products Labeling Act of 1939 to issue rules and regulations for the information and guidance of members of industry, consumers, and the general public as to the minimum requirements for labeling wool products.

The functions of the Commission which are fact finding and advisory are designed to place at the service of Congress, the President, the courts, and the general public the expert knowledge and skill acquired by the Commission and its staff in ascertaining and analyzing the facts regarding industry and in recommending remedies for evils disclosed. During the calendar year of 1940 reports were released as to the corporations producing and selling the following articles: cigarettes and tobacco, aircraft, bread and bakery products, biscuits and crackers, food specialties, beet and cane sugar, corn products, agricultural machinery and tractors, automobile parts and accessories, glass and glassware, rubber products, motor vehicles, railroad equipment, lead and zinc products, coke-oven products, steel castings, machine tools, clay products, heating and cooking apparatus, domestic laundry equipment, and rayon and allied products. These reports covered 159 different corporations, the total annual sales of which amounted to approximately 8½ billion dollars.

The Commission is represented on the Temporary National Economic Committee, which was created by Congressional resolution. The Commission was originally assigned the basic tasks of studying monopolistic practices in American industry. Among the data submitted to the Committee by the Commission in connection with its studies are reports on the following subjects: Relative Efficiency of Large, Medium-sized and Small Business, History of the Pennsylvania-Dixie Cement Merger, History of the Bethlehem Steel

**Merger, Natural Gas and Natural Gas Pipe Lines in the United States, Operation of the Export Trade Act 1918-40 (Webb-Pomerene Law), Rates of Return on Invested Capital in the Rayon, Tobacco, Iron and Steel, Cement, and Farm Machinery Industries, Trade Practice Conference work of the Commission, Practices in the Agricultural Implement and Farm Machinery Industries, Monopolistic Practices in Industries, Monopoly and Competition in Steel, Concentration of Control Over Sales and Distribution of Milk and Dairy Products, and A Survey of Controversial Marketing Practices in the Petroleum Products Industry.** See BIRTH CONTROL.

EWIN L. DAVIS.

**FEDERAL WORKS AGENCY.** An agency of the United States government under which are grouped those agencies dealing with public works and administering Federal grants and loans for the purposes of construction. The component agencies are: Federal Fire Council; Public Buildings Administration (q.v.); Federal Real Estate Board; Public Roads Administration; Public Works Administration (q.v.); Housing Authority, U.S. (q.v.); and Work Projects Administration (q.v.). Administrator in 1940: John M. Carmody.

**FEDERATED CHURCHES.** A name given to churches made up of two or more denominational organizations united for local purposes only. See RELIGIOUS ORGANIZATIONS.

**FEDERATED MALAY STATES.** See BRITISH MALAYA.

**FEEDS.** See DAIRYING; LIVESTOCK; POULTRY; VETERINARY MEDICINE under *Toxicology*.

**FENCING.** The art of sticking your fellow human being with the point of a sword was refined by some degrees during 1940, and though there were frequent eliminations of adversaries, none of them were permanently dispatched. The veterans had the field more or less to themselves, with Fred Seibert of the Lake Shore A. C. in Chicago comprising the lone successful newcomer in the ranks of the champions. He grabbed the national épée title by defeating Alfred Skrobisch of the Fencers Club, 3 to 1, in a fence-off after each had won six of eight tests in the regular round-robin.

The national foil tourney saw Dernel Every of the New York A. C. regain the laurels he had won in 1938. He found it comparatively easy to dethrone Norman Lewis, the Salle Santelli youngster who surprised the fencing world in 1939 by winning the crown. But Lewis did not yield without a desperate fight.

The national saber title continued in the hands of Norman Armitage of the Fencers Club. It was the sixth time since 1930 that Armitage won the crown.

In the national three-weapon tournament, John C. Huffman of the New York A. C. took first honors.

The champion team in both the national épée and foil events was the Salle Santelli, with José de Capriles, Diaz Cetrulo, Lewis, and Albert Axelrod, a substitute, capturing the foil title for the club for the third straight time. José de Capriles, his brother Miguel, and Lewis made up the victorious épée combination.

In the realm of swordswomen, Miss Helena Mroczkowska, former intercollegiate foil queen, succeeded to the national championship in the absence of Miss Helene Mayer, the winner in 1939. The Salle Santelli put an end to the 10-year reign

of the Salle d'Armes Vince as foil team titleholder.

With one of the strongest squads in its history, New York University carried off five of the seven titles at the major men's tourney. Silvio Giolito was supreme in foil, Frank Scharfstein in saber and Arthur Tauber in épée. Army won the saber and Princeton the épée crowns.

Hunter College dominated the women's intercollegiates, with Miss Maria Cerra taking the individual honor.

**FERNANDO PO.** See SPAIN under *Colonial Empire*.

**FERTILIZERS.** The Bureau of Plant Industry of the U.S. Department of Agriculture has as its principal functions the investigations of soils, fertilizers, and plants. In its reports for the year 1939-40 the Bureau summarized the outstanding results of fertilizer research in part as follows.

**Source of Magnesium.** Magnesium is required by plants for their normal development, in quantities only slightly less than the requirements for nitrogen, phosphorus, and potassium. Heretofore calcined kieserite has been imported from Germany and incorporated in mixed fertilizers to supply them with water-soluble magnesium. At the outbreak of the present war in Europe importations ceased and the finding of a substitute became highly desirable. Investigation showed that some domestically produced magnesium oxide, although water-insoluble, was largely converted in mixed fertilizers into water-soluble forms and, with simple precautions, undesirable reactions that diminished the plant food content of nitrogen and phosphorus could be avoided. The use of magnesium oxide in mixed fertilizers also improved the physical condition of the fertilizers.

**Granulation of Superphosphate.** Though the advantages obtained by granulating a fertilizer material are fewer than those accruing from similar treatment of a mixed fertilizer, the decrease in tendency to cake, the improvement of the drilling qualities, and the prevention of losses as dust during application to the soil on windy days make the production of granulated superphosphate desirable. Experiments under conditions similar to those in the factory showed that fresh superphosphate as taken from the dens used in its manufacture can be granulated by regulation of the temperature of the material in the granulator rather than by the addition of water during granulation. By this procedure the troublesome tendency of the superphosphate to adhere to the granulator walls is greatly reduced, the expense of removal of added water is eliminated, and a uniform product of any desired size, density, and hardness of granules is obtained.

**The Caking Tendency.** An annoyance often experienced by manufacturers and consumers of fertilizers is that of finding that the material in a pile or bag has consolidated into a large, compact, hard mass or cake, which, before it can be used, must be crushed or ground. The formation of these cakes is most frequent and most pronounced with certain fertilizer materials, such as urea, ammonium nitrate, and calcium nitrate, that are prone to absorb moisture from the air. Studies have shown that treatment of these materials with ammonia under moderate pressure in the presence of a small quantity of inert mineral matter or organic powder renders them highly resistant to caking even when stored under conditions of high atmospheric humidity.

**Soil Fertility Investigations.** In experiments on strawberry soils, standard analysis fertilizer

(5-8-6) compounded with inorganic and insoluble organic nitrogen gave no better plant growth or yield of strawberries than when equivalent amounts of plant food per acre were applied in a higher analysis fertilizer (7.5-12-9) containing the same nitrogen materials. The higher analysis fertilizer is advantageous to handle on the farm, and less labor is required for its application to crops. Equivalent amounts of plant food in the higher analysis fertilizer cost about 12 per cent less than in the standard analysis fertilizer. Application of fertilizer to strawberries in the fall and early winter results in better plant growth and more abundant fruiting than late winter.

The practice of neutralizing fertilizers with dolomitic limestone for crops in the southeastern truck-crop belt has proved advantageous. The inclusion of dolomitic limestone assures adequate amounts of nutrient calcium and magnesium and prevents soil deterioration by increased acidity. It also increases efficiency of low-cost ammonia sources of nitrogen and has made possible their substitution for the more expensive organic materials. In recent years cotton fertilizers have been formulated neutral by including substantial quantities of dolomitic limestone in the mixture. In experiments begun in 1937 in the Southeastern States, data on many soil types indicate that neutralizing the fertilizer with dolomitic limestone does not affect the response of the crop or the soil requirement for potash fertilization. Neutralizing the fertilizer in this way produced essentially the same increase in yield regardless of the potash content of the fertilizer.

Chemical analyses of the leaves and root bark of cotton plants showed highly significant differences in composition due to fertilizer application to the soil. The higher the nitrogen content of the root bark of the cotton plants grown under conditions of high-nitrogen fertilizers, the less cotton was killed from root rot, indicating that some organic-nitrogen compound in the root bark is inhibitive to the development of the root rot fungus.

Studies of a prolific variety of pecan trees over a four-year period showed that most soils used for pecan growing in the Southeastern States and in many of the South Central States respond to fertilizer application in pecan production. Experiments with sugar beets in the Platte River valley of Nebraska have shown an increase of as much as 5 tons of beets per acre from the use of 40 lb. of nitrogen as sulfate of ammonia, while 12 tons of manure gave only about 3.5 tons per acre increase over the unfertilized sugar beets. Domestic muriate of potash was found to be as satisfactory as the higher-priced sulfate shipped in from abroad. Such findings should tend to allay any apprehension concerning the use of potash produced in the United States.

See CO-OPERATIVE MOVEMENT; FARM MACHINERY AND EQUIPMENT; MAGNESIUM; POTASH; TENNESSEE VALLEY AUTHORITY.

**FESTIVALS.** See MUSIC.

**FHA.** See FEDERAL HOUSING ADMINISTRATION.

**FHLBB.** See FEDERAL HOME LOAN BANK BOARD.

**FIFTH COLUMN.** A term for elements within a nation or group who sympathize with and aid an enemy nation or group. The term originated during the Spanish civil war when Gen. Emilio Mola, marching with four Nationalist columns against the Loyalist Government in Madrid in 1936, was asked which column would capture

the city. He replied "the fifth column," meaning the Nationalist sympathizers in the capital.

The designation gained wide currency during 1940 as a result of the effective aid rendered German armed forces by pro-Nazi elements in Denmark, Norway, the Netherlands, Belgium, Luxembourg, and France when Hitler invaded each of those countries. Pro-German "fifth columns" were active also in supporting the German Fuehrer diplomatically, economically, and otherwise and in demoralizing his opponents in most of the other countries of the world, especially Sweden, Hungary, Rumania, Yugoslavia, Switzerland, Great Britain, the United States, and many of the Latin American countries. See each of these countries under *History*.

The British Labor party, in an official pamphlet published in 1940, referred to the Communist Party in Great Britain as the "sixth column operating abroad on behalf of the Soviet imperialism and power politics." In the United States, the term "sixth column" was frequently used to designate an organization or group formed to fight "fifth column" elements.

Along with "fifth column" activities, Hitler employed a modern variety of the Trojan horse stratagem described in Homer's poems, particularly in the surprise attack upon Norway. German soldiers with full military equipment were hidden in the holds of ore vessels and other merchant ships and sent into the chief Norwegian ports to await the signal for the attack.

See BELGIUM, CANADA, DENMARK, FRANCE, ICELAND, IRELAND, LUXEMBURG, NETHERLANDS, NORWAY, RUMANIA, SOUTH AFRICA, SWITZERLAND, URUGUAY, and YUGOSLAVIA, under *History*; EUROPEAN WAR under *The Norwegian Campaign*.

**FIJI.** A British crown colony in the southwestern Pacific, comprising some 250 islands (80 inhabited) and its dependency—the islands of Rotuma. Total area, 7083 square miles; total population (Jan. 1, 1939), 210,518. Capital, Suva. Sugar, copra, bananas, pineapples, native food-stuffs, and gold constitute the chief products. Various timbers are produced from the forests. Trade (1939): imports, £1,625,054; exports, £2,746,207 (sugar, £1,425,704; gold, £928,128). Finance (1938): revenue, £889,514; expenditure, £966,957; public debt (December 31), £1,574,692. The governor is assisted by an executive council. There is a legislative council consisting of 32 members including the governor as president. Governor of Fiji and High Commissioner for the Western Pacific, Sir Harry Charles Luke (appointed June 26, 1938).

**History.** The Native Lands Trust Bill was passed by the legislative council during the first half of 1940. This measure underlines the position of the government as trustees of the land for the Fijian people; improves the position of the native owners and ensures the equal development of all the land and not merely of favored sections; and makes proper provision for permanent native reserves. Compulsory military training for all men of European descent between the ages of 18 and 36 was introduced during the year. The Defense Force had Fijian and Indian units in which volunteers were enrolled.

**FILMS.** See MOTION PICTURES; PHOTOGRAPHY.

**FINANCIAL REVIEW.** Finance, both within the United States and abroad, was profoundly influenced by the spectacular military events in Europe during the spring of 1940, the outcome of

which was the establishment of the hegemony of Germany over most of the continent of Europe. International financial dealings were greatly contracted as a result of this development, while the consequent intensive armament program in the United States and the establishment of a virtual military alliance between the United States and the British Empire had important financial repercussions within this country.

Several of the major financial developments of the year constituted merely an intensification of trends that had been fully apparent previously. Imports of gold into the United States reached a new high level, as continental European countries sought to shift their hoards of yellow metal across the Atlantic before the arrival of the invader and British Empire countries sold gold freely to pay for their large wartime purchases of goods from the United States. Ever mounting gold reserves produced a further expansion of bank deposits, and a decline in interest rates in the United States to new low record levels. Activity on American financial markets contracted, in view of the new profound uncertainties created by the European situation. The turnover on the New York Stock Exchange during 1940 was the lowest for any year since 1921.

At the same time, a number of new financial problems came to the fore. The occupation of a number of countries in western Europe by Germany led to the issuance of Treasury orders freezing assets owned by nationals of occupied countries, in order to assure that such resources would not be taken over by force for the benefit of the invader. Cash and other assets covered by these freezing orders could be obtained by their owners only through application to the Treasury and the issue of licenses. Serious thought was being given toward the end of the year to a more inclusive freezing order that would tie up German and Italian balances also, as part of the program of co-operating with Great Britain. In fact, imposition of a fully developed foreign exchange control system to implement the aid to Britain program was discussed in official circles.

The gradual exhaustion of Great Britain's dollar resources created a far more serious financial problem, but its solution was deferred for the new Congress which convened Jan. 3, 1941.

**Security Markets.** Stock prices fluctuated within a narrow range during the first four months of the year, when business activity was declining in this country from the high level of the early war months and the conflict on the western front appeared to be a complete stalemate. Germany's successful invasion of Norway made for nervousness in the markets, but the sweep across the Low Countries and the collapse of France caused a very sharp decline during May and June, which carried share prices down to the lowest level since the depression of 1938. The imminent end of the war with a British defeat was widely awaited in the early summer. The end of the war in itself was expected to usher in a period of reduced business activity and lower commodity prices, but a victory for Germany promised to produce a number of new problems, economic and financial, that held out serious threats to American export trade and even the military safety of the western hemisphere. When it became apparent that the British Empire was going to carry on the war alone with some chance of success, however, and that the United States was going to embark forthwith upon a huge

armament program of its own, security prices recovered and by the end of August approximately one-half of the losses in the decline of May and June had been regained. Apart from a flurry of strength in public utility stocks, followed by a subsequent severe decline, the Presidential elections in November did not affect the markets materially. The re-election of President Roosevelt was not followed by any such extended advance as occurred after the 1936 election, since inflation fears because of heavy Treasury spending had failed to materialize on earlier occasions. Stock prices during the final four months of the year again remained within a narrow range, about midway between that of the beginning of the year and the June lows.

The rapid rise in industrial activity during the final months of the year was not reflected to any material extent in the movement of stock prices. One reason for this was the gravity of the European situation, and the caution among investors about bidding prices up at a time when military developments might precipitate a repetition of what happened in May and June, 1940. The enactment of two major revenue acts raising taxes on corporate incomes and establishing an excess profits tax was another influence which neutralized the very favorable business reports. Furthermore, Government resistance to commodity price increases promised to narrow profit margins for many concerns, since taxes and to a lesser extent wages were tending upward.

The highs and lows of the *New York Times* stock price averages during each month of 1940 were as follows:

NEW YORK TIMES STOCK MARKET AVERAGE, 1940  
[50 Stocks—25 Rails and 25 Industrials]

Month	High	Low	Last
January	111 78	104 69	106 44
February	109 22	105 40	107 24
March	109 01	106 22	108 46
April	111 18	107 19	108 59
May	108 60	82 87	86 59
June	92 11	82 32	90 20
July	93 26	88 99	92 69
August	94 65	89 23	94 40
September	98 93	93 43	97 53
October	100 19	94 95	98 02
November	99 69	92 48	93 66
December	95 22	91 68	93 82

While the general level of stock prices did not fluctuate widely during the final months of the year, there were substantial price movements in diverse directions among major groups of issues. Aircraft, steel, and other groups that directly reflected the armament boom were firm to strong. On the other hand, issues of consumer-goods manufacturing concerns were adversely affected by the fact that, while the volume of their business was not greatly influenced by national defense, their taxes rose sharply. Food and tobacco manufacturing concerns and the public utilities were examples of issues that were regarded as being adversely affected on balance by national defense. Railroad securities were among the strongest groups because, while enjoying an increase in traffic due to national defense, the railway companies fared better than others from the tax viewpoint owing to their heavy fixed charges and their extensive capital investment, which gave a high base from which excess profits could be figured.

The high, low, and closing prices of the more active stocks listed on the New York Exchange, during 1940, were as follows:

## PRICES OF THE MOST ACTIVE STOCKS, 1940

Stock	High	Low	Close
U.S. Steel....	76½ Nov. 9	42 May 21	69½
Loft.....	39¼ Apr. 8	15½ May 21	17½
Curtiss-Wright	11¼ Mar. 8	6½ July 25	9½
General Motors	56½ Apr. 8	37½ May 28	48
Republic Steel	24½ Nov. 9	14 May 21	22½
International Paper			
& Power	21¼ May 3	10½ May 21	14½
N.Y. Central	18¼ Jan. 3	9½ May 21	13½
Anaconda	32 Apr. 9	18 May 21	26½
Bethlehem Steel	93¼ Nov. 9	63½ May 23	86½
Lockheed	41¼ Apr. 15	22½ July 3	27½
General Electric	41 Jan. 2	26½ May 21	33½
United Air Lines	23½ Apr. 4	12 May 21	16

The turnover on the New York Stock Exchange during 1940 aggregated 207,599,749 shares, which compared with 262,029,599 shares in 1939. Sales of bonds on the Exchange also declined to the lowest level in more than twenty years, aggregating \$1,669,438,000 which compared with \$2,046,083,000 in 1939. The total value of all listed stocks on Dec. 30, 1940, was \$41,890,646,959, which compared with \$46,467,613,372 the year before.

High grade bond prices were reactionary in May and June, when stocks declined sharply, but the recession in bond quotations was relatively mild. In the closing months of the year, with excess reserves at new high levels and the supply of new bonds quite limited, a brisk advance occurred which brought yields of gilt-edge obligations down to the lowest recorded level. Government and other tax-exempt bonds were especially strong because of the proposal of Secretary of the Treasury Morgenthau that Congress enact legislation to make future issues of such obligations taxable. The Treasury Department reported that the average yield of all Federal obligations with maturity or call dates twelve years or more away was 1.89 per cent in December, 1940, as compared with 2.35 per cent in December, 1939. The yield on five high grade corporate bonds fell within this period from 2.86 per cent to 2.59 per cent. The greatly widened spread between yields of Treasury and corporate obligations reflected the prospective diminution of the supply of tax-exempts through legislation.

Middle grade and speculative bonds fluctuated with stock prices, but showed greater strength later in the year than stocks. The reason for this was chiefly the more favorable position of lower grade bonds under the tax laws, since earnings used to pay bond interest are not subject to income and excess profits taxation.

The course of corporate bond prices, as measured by indices of the Standard Statistics Company, was as follows:

## AVERAGES OF BOND PRICES

	Total	Corporate	Railroad	Utility
Number of issues	60	20	20	20
1940—January	82.4	87.3	58.2	101.8
February	82.2	87.3	57.8	101.6
March	82.1	87.3	57.2	101.8
April	82.5	87.5	58.2	101.7
May	79.4	85.3	53.5	99.3
June	78.5	84.7	52.0	98.7
July	81.2	86.3	57.1	100.2
August	81.5	86.8	57.5	100.2
September	82.7	87.8	59.7	100.6
October	81.6	89.2	61.0	100.6
November	83.9	90.3	60.9	100.5
December	84.0	90.2	61.1	100.7

**Financial Regulation.** The Securities and Exchange Commission pursued without remission its

policy of extending and tightening Federal regulation of finance. The most important new legislation in this field during the year was the Investment Company Act of 1940 requiring investment trusts of most types to register with the Securities and Exchange Commission, which thus acquired broad regulatory control over such concerns. Registration of investment trusts was effected by the end of the year, and the SEC issued a number of regulations under its new powers. Title II of the Investment Company Act, known as the Investment Advisers Act of 1940, gave the SEC authority to supervise investment counsel and investment management organizations. Registration of concerns and individuals engaged in this field was also effected.

The SEC proceeded more vigorously to enforce the integration and simplification provisions of the Public Utility Holding Company Act of 1935. A number of hearings were held in the course of the year on orders issued by the Commission designed to compel many of the public utility holding companies to dispose of non-integrated properties and to simplify their capital and corporate structures. The staff of the SEC proposed late in the year that registered public utility holding companies and their subsidiaries be required to sell new bond issues through competitive bidding, rather than by negotiation with regular investment banker connections. This was proposed in order to carry out the injunction contained in the law that "arms-length bargaining" be enforced as between the issuer and the underwriter, where registered public utilities undertook new financing. The SEC itself, however, did not adopt this proposal immediately, but called for hearings to begin in 1941.

Another indication of the expansion of the scope of financial regulation was the action of the SEC in calling upon the New York Stock Exchange not to enforce its rule barring "multiple trading," or the making of markets on other stock exchanges for securities listed on the New York Stock Exchange by member firms of the latter. Where New York Stock Exchange members acted as odd-lot dealers or specialists on exchanges in other cities, it was felt that business was being diverted from New York at a time when the turnover had already shrunk to alarmingly small proportions.

In one respect, however, financial regulation was relaxed. Congress amended the Securities Act of 1933 to permit the SEC to waive the 20-day compulsory waiting period before registration statements for new security issues could become effective. As a result, a number of high grade issues were sold within a few days after registration statements for them had been filed with the SEC. Conferences were held between members of the SEC staff and representatives of the stock exchanges, the Investment Bankers' Association and the National Association of Securities Dealers, with a view to the improvement of regulatory legislation and methods. These conferences had failed to produce any results, however, by the end of the year, and there were evidences of wide divergences of opinion as to desirable changes in the securities laws and regulatory policies.

**New Financing.** The bulk of new financing during 1940 was once again for refunding purposes, the decline in interest rates causing many corporations to replace outstanding bond issues with new lower-coupon obligations. Public financing to raise new capital was still relatively small in amount, as may be seen from the following table:



## NEW PUBLIC FINANCING, 1940

[Thousands of dollars]

Month	Total	New Capital	Refunding
January .....	173,465	35,470	137,995
February .....	257,346	46,004	211,342
March .....	134,327	30,527	103,799
April .....	246,279	53,925	192,353
May .....	173,097	89,287	83,810
June .....	111,248	9,771	101,476
July .....	271,856	46,233	225,623
August .....	179,432	67,938	111,494
September .....	130,471	68,006	62,465
October .....	392,625	47,278	345,347
November .....	261,186	168,699	92,487
December .....	389,343	61,132	328,212

Source: *The Commercial and Financial Chronicle*.

The Federal Government in 1940 raised \$1,212,000,000 through the sale of bond and note issues, and sold \$1,722,000,000 of its obligations for refunding purposes. Of the securities sold to raise new money, \$531,000,000 issued on December 18 represented the initial sale of notes for national defense, authorized by special legislation, which may have a maturity up to five years. These notes

As in the previous year, a large proportion of new securities sales consisted of private placements with one or a few insurance companies or banks. Investment bankers charged that the ability of the issuer to escape the registration requirements was the chief reason for the sustained popularity of these private sales, which tended to eliminate the investment banking profession from its basic role of raising capital for industry. SEC spokesmen ascribed the favor for private placements to the great surplus of capital seeking investment in institutional hands. A number of banks made term loans to corporations which used such funds to pay for bond issues held by the public. Owing to the thin markets on the New York Stock Exchange, there were also a number of public offerings by groups of dealers of blocks of already outstanding stocks at fixed prices, constituting so-called "secondary distributions." Many of these were for British account, representing holdings of British investors taken over and liquidated by the Government there to realize foreign exchange. Others were for the account of large domestic holders.

## SUMMARY OF NEW FINANCING

[In millions of dollars]

Year	Total (New and refunding)	Total new capital	Total domestic	New Capital State and municipal	Federal agencies	Corporate Bonds & notes	Stocks	Foreign*	Total refunding
1928 .....	9,992	8,114	6,789	1,379	64	2,385	2,961	1,325	1,877
1929 .....	11,592	10,183	9,420	1,418	0	2,078	5,924	763	1,409
1930 .....	7,677	7,023	6,004	2,980	87	2,980	1,503	1,019	654
1931 .....	4,023	3,116	2,860	1,235	75	1,239	311	256	907
1932 .....	1,730	1,192	1,165	762	77	305	20	27	538
1933 .....	1,054	710	708	483	64	40	120	2	344
1934 .....	2,212	1,386	1,386	803	405	144	35	0	826
1935 .....	4,752	1,412	1,409	855	150	334	69	3	3,340
1936 .....	6,254	1,973	1,972	735	22	839	352	25	4,281
1937 .....	4,001	2,101	2,098	712	157	817	408	3	1,901
1938 .....	4,459	2,355	2,329	971	481	807	65	25	2,104
1939 .....	5,853	2,298	2,238	931	924	287	97	60	3,555
1940 .....	4,765	1,944	1,942	757	461	589	135	2	2,821

\* Includes issues of noncontiguous U.S. Territories and Possessions. \* Includes publicly offered issues of Federal land banks, Federal intermediate credit banks, Federal Farm Mortgage Corporation, and Home Owners' Loan Corporation; excludes direct obligations of U.S. Treasury. \* Figures do not include funds obtained by States and municipalities from any agency of the Federal government.

bore a coupon of  $\frac{3}{4}$  of 1 per cent. The Federal Government also raised \$985,000,000 during the calendar year through the sale of United States savings bonds. Government credit agencies did little financing during the year, the Commodity Credit Corporation (q.v.) selling \$289,000,000 of short term notes for cash to finance the increasing volume of crop loans which it made for the Government, while the United States Housing Authority (q.v.) sold \$112,000,000 of one-year notes with a coupon of  $\frac{3}{4}$  of 1 per cent, to finance the construction of slum clearance projects, the cost of which was to be financed later through the sale of long term bonds on the completion of these developments.

**International Capital Movements.** The war in Europe accelerated the flow of funds from other countries to the United States, and gold imports for the year amounted to \$4,745,000,000, the highest figure ever attained. This total is larger than the entire monetary gold stock of the United States before 1933. Enormous shipments of gold during the spring and summer, in part via Canada, largely exhausted European monetary gold stocks, and by the close of the year such shipments tapered off, and henceforth will have to conform more closely to the amount of new gold production. The chief sources of gold imported by the United States during 1940, and comparisons with preceding years, were as follows:

## GOLD MOVEMENT TO AND FROM THE UNITED STATES

[In million dollars at \$35 per ounce]

Calendar year	Total net imports or net exports (—)	United Kingdom	France	Netherlands	Switzerland	Canada	Japan	Belgium	British India	Australia	All Other
1934 .....	1,132.0	499.9	260.2	94.3	12.4	86.8	.....	8.9	76.8	1.0	91.7
1935 .....	1,739.0	315.7	934.2	227.2	1.0	95.2	.....	.....	75.3	3.5	86.9
1936 .....	1,116.6	174.1	573.7	71.0	7.5	72.6	.....	3.4	77.9	23.3	113.1
1937 .....	1,585.5	891.5	—13.7	6.5	54.5	111.5	246.5	90.9	50.8	34.7	112.3
1938 .....	1,973.6	1,208.7	81.1	163.0	1.4	76.3	168.7	15.5	16.2	39.2	203.5
1939 .....	3,574.2	1,826.4	3.8	341.6	87.0	613.0	165.6	165.2	53.3	74.3	244.0
1940 .....	4,744.6	633.0	241.6	63.3	90.2	2,622.4	111.7	1.0	49.9	103.8	827.7

Source: U.S. Department of Commerce.



NET CAPITAL MOVEMENT BETWEEN THE UNITED STATES AND FOREIGN COUNTRIES,  
1935 THROUGH OCTOBER, 1940

[In millions of dollars. Capital inflow or capital outflow (—)]

	Grand Total	United Kingdom	France	Ger- many	Italy	Nether- lands	Swit- zerland	Other Europe	Total Europe	Canada	Latin America	Asia	All Other
Jan. 2, 1935-Jan. 1, 1936	1,412.5	554.9	210.2	36.6	24.0	114.5	130.4	123.0	1,200.6	•	70.9	128.3	12.7
Jan. 1, 1936-Dec. 30, 1936	1,195.9	274.4	89.3	46.5	21.6	115.2	205.2	98.5	850.7	150.5	130.3	55.7	8.7
Dec. 30, 1936-Dec. 29, 1937	801.9	164.4	-17.8	40.8	-23.5	82.2	271.9	83.8	601.7	-44.2	209.4	40.5	-5.5
Dec. 29, 1937-Dec. 28, 1938	415.3	192.3	57.8	16.8	10.9	12.7	-53.5	151.6	388.7	50.9	-21.1	-21.4	18.2
Dec. 28, 1938-Jan. 3, 1940	1,195.6	-84.8	129.2	25.2	25.0	145.7	219.0	289.1	748.4	72.3	93.9	227.8	53.3
Jan. 3, 1940-Oct. 30, 1940	772.9	-106.9	211.2	8.0	17.8	-13.4	123.8	177.0	417.5	155.0	117.6	84.4	-1.7
Total . . . . .	5,794.1	994.4	679.9	173.9	75.9	456.9	896.7	930.0	4,207.6	384.4	601.0	515.4	85.6

• Inflow less than \$50,000.

A substantial portion of the gold imported during the year was held here earmarked for foreign account, particularly for France, Holland, Belgium, and other countries occupied by Germany, the metal being frozen under the Treasury's orders and subject to release only under license. Earmarked

## DRAIN ON GOLD AND DOLLAR RESOURCES OF BRITISH EMPIRE, EXCLUDING CANADA AND NEWFOUNDLAND

[From Sept. 1, 1939, to Dec. 31, 1940]

Gold and Dollar Expenditures (In Millions of U.S. Dollars)			
A. Payments to the United States by United Kingdom.			
1 On British Government orders in the United States		\$1,380	
Goods delivered . . . . .	\$660		
Advanced payments . . . . .	570		
Capital assistance . . . . .	150		
2 For other merchandise imports from the United States		705	
3 For shipping, interest, etc . . . . .		197	\$2,282
B Payments to the United States by Empire countries, excluding U.K. and Canada			
1 For commodity imports . . . . .		435	
2 For shipping, interest, etc. . . . .		48	483
C Payments by Empire countries, excluding Canada, to areas outside the U.S. requiring gold or dollars			
1 Payments by Empire countries (chiefly U.K.) to areas outside the U.S. and Canada requiring gold or dollars . . . . .		550	
2 Gold payments by Empire countries to Canada and Newfoundland (net) . . . . .		225	775
D. Withdrawal of Capital			
1 By American and others, through sale of free sterling to American importers . . . . .		300	
2 By repayment of outstanding export credits as required by our Neutrality Act . . . . .		200	
3 By liquidation of forward exchange position in dollars . . . . .		235	735
E. Residual—Miscellaneous items and errors of estimation . . . . .			
			71
Total gold and dollar requirements for all transactions . . . . .		\$4,346	

Gold and Dollar Receipts			
A. Receipts from United States by United Kingdom.			
1 From merchandise exports . . . . .	\$ 205		
2 From interest, shipping, etc. . . . .	140	345	
B. Receipts from United States by Empire countries, excluding U.K. and Canada			
1 From merchandise exports . . . . .	640		
2 From tourist travel, remittances, etc. (net) . . . . .	30	670	
C. Dollar receipts by Empire countries, excluding Canada, from areas outside the U.S. . . . .			
			50
D. Receipts from sale of Empire gold (new production and disbanding) . . . . .			
			965
Total gold and dollar receipts by Empire countries, excluding Canada . . . . .		\$2,030	
Total drain on gold and dollar resources of British Empire, excluding Canada and Newfoundland, Sept. 1, 1939 to Dec. 31, 1940 . . . . .		\$2,316	

gold in this country at the end of 1940 aggregated some \$1,800,000,000. These stocks of the yellow metal are not included with the monetary gold stock of the country, which aggregated \$21,994,500,000 at the end of 1940. See MONEY.

The Treasury's statistics of capital movements into the United States reflected the gradual liquidation of British holdings of American securities during the year, but showed increases in the resources held here for the account of nationals of France and a number of other European countries, due to the last-minute transfer of funds to the United States before these nations were occupied. Capital movements during the first ten months of 1940, and comparable statistics for the preceding five years, are tabulated at the top of this page.

These Treasury statistics, however, failed to reflect fully the extent to which Great Britain liquidated her dollar resources in order to pay for imports from the United States and to make advance payments to American manufacturers on contracts calling for the production and delivery of huge amounts of aircraft and other war materials. More precise data on the extent of British liquidation of gold and dollar resources were disclosed shortly after the turn of the year by Secretary of the Treasury Morgenthau, who made public data (see column 1) received from the British Treasury.

These figures indicate the extent to which the dollar resources built up in this country by the persistent transfer of capital to the United States by European nationals before and after the outbreak of the present war is being used up to pay for wartime purchases of armaments. As during the World War, the United States in wartime finds it easy to redeem large investments made in this country by Europeans under peacetime conditions. On balance, therefore, this country will be a creditor nation to a much larger extent after the war than before, wholly apart from loans and leases of war materials to Great Britain and her allies. See also BANKS AND BANKING; BUSINESS REVIEW; INTERNATIONAL BANKING AND FINANCE; MONEY; PUBLIC FINANCE; RECONSTRUCTION FINANCE CORPORATION.

JULES I. BOGEN.

**FINE ARTS.** See ART; DRAMA; LITERATURE; MUSIC; PAINTING; PRINTS; SCULPTURE.

**FINGERPRINTS.** See COURTS under *Admissibility*; FEDERAL BUREAU OF INVESTIGATION; IMMIGRATION, EMIGRATION, AND NATURALIZATION.

**FINLAND.** A republic of Northern Europe. Capital, Helsinki (Helsingfors).

**Area and Population.** Finland had an area of 147,811 square miles at the beginning of 1940, which was reduced to 134,253 square miles by the cession of 13,558 square miles to the Soviet Union under the Treaty of Moscow of Mar. 12, 1940. The population on Jan. 1, 1939, was estimated at

3,659,000. The cession of land to Soviet Russia did not involve a concomitant decrease in the population of Finland, for the great bulk of the inhabitants in the disputed territory were evacuated to Finland before the Russian occupation. About 90 per cent of the people speak Finnish, and most of the remainder speak Swedish. Living births in 1938 numbered 76,695 (21.0 per 1000); deaths, 47,901 (13.1 per 1000). Estimated populations of the chief cities in 1937 were: Helsinki (Helsingfors), 293,237; Viipuri (Viborg), ceded to Russia, 73,917; Turku (Åbo), 72,918; Tampere (Tammerfors), 74,736; Vaasa (Vasa), 32,108. Swedish place names are given above in parentheses.

**Education and Religion.** School attendance in 1938-39 was: Elementary, 403,403; secondary, 50,580; university and schools for higher education, 8752; vocational and technical, 20,583. Less than 1 per cent of the adult population was illiterate in 1930. War damage to educational institutions in 1939-40 was estimated at 333,000,000 marks. The Technical University of Helsinki, where damage totaled 20,000,000 marks, was repaired and reopened by Oct. 1, 1940. The population on Jan. 1, 1938, included 3,680,237 Lutherans, 70,887 Greek Catholics, 9840 Baptists and other Evangelical church members, 1551 Roman Catholics, 1755 Jews, and 360 Moslems.

**Production.** About 6,368,000 acres (7.5 per cent of the total area) were under cultivation in 1939. (Agriculture engaged 60 per cent and industry 16.8 per cent of the working population at the 1930 census.) Chief products in 1939 in metric tons were: Wheat, 227,000; barley, 192,000; rye, 331,000; oats, 798,000; potatoes, 1,556,000; beet sugar, 11,700; fish, 22,400 (1938); butter, 33,200 (1938); wool, 1100 (1938); wood pulp, 2,100,000 (1938); pyrites, 352,000 (1938); pig iron and ferroalloys, 36,000 (1938); steel, 77,000 (1938); silver, 1800 (1938); and copper, 13,400 (1938). Livestock losses during the Russo-Finnish war were estimated at 169,950 cattle (9.2 per cent of the total), 153,000 sheep (14.9 per cent), 75,500 swine (15.7 per cent), and 13,000 reindeer (6 per cent). The number of chickens declined from 2,700,000 in 1939 to 1,500,000 in October, 1940.

Forests are a source of great wealth. Growing stock timber in 1939 was estimated at 57,214,000,000 cu. ft.; merchantable timber, 1,557,000,000 trees (60.7 per cent pine, 28.1 per cent spruce; remainder deciduous, mostly birch); annual increment, about 1,568,000,000 board ft.; annual felling, about 1,413,000,000 board ft.

**Foreign Trade.** General imports in 1939 totaled 7,566,300,000 Finnish marks (8,612,300,000 in 1938) and general exports were 7,696,200,000 marks (8,431,000,000 in 1938). The decrease was attributed to the Russo-Finnish war. For distribution of trade see YEAR BOOK, 1939, p. 273.

**Finance.** The budget estimates for 1941 placed revenue and expenditures at 18,000,000,000 marks, more than three times the 1940 budget and the largest in the history of the country. The 1940 ordinary and supplementary budgets provided for total receipts of 5,845,000,000 marks and expenditures of 7,052,000,000. The 1941 budget allocated 8,000,000,000 marks for compensation under the War-Damage Compensation Law and 2,000,000,000 for national defense. The Finnish mark averaged \$0.0216 in 1938, \$0.0199 in 1939, \$0.0187 in 1940.

**Transportation.** The railway mileage in 1939 was 5107 (mostly operated by the State). A new 60-mile railway from Varkaus to Veinayvi was

opened officially on Oct. 23, 1940. Net earnings of the Finnish State Railways in 1939 totaled 210,600,000 marks. For details of the railway agreement with the U.S.S.R., see *History* below. Highways and roads aggregated 39,631 miles in 1939. Construction of a motor road from Rovaniemi to Petsamo was begun in 1940, with 2000 men engaged in the work. In 1939 there were three civil air services covering 741 route miles. A thrice-weekly service between Helsinki and Petsamo was inaugurated July 16, 1940. On Jan. 1, 1940, the Finnish merchant marine consisted of 492 vessels of 635,165 tons.

**Government.** The Constitution of July 17, 1919, vested executive power in a President elected for six years by 300 electors, chosen in the same manner as members of the Diet. Legislative power rests with the unicameral Diet and the President. The 200 members of the Diet are elected by direct vote of all citizens, male and female, 24 years or more of age. The cabinet is appointed by the President but is responsible to the Diet. President, Risto Ryti (National Progressive), who succeeded Kyösti Kallio (Agrarian) as Acting President on Nov. 28, 1940, and was elected President December 19. For the standing of the parties in the Diet, see YEAR BOOK, 1939, p. 276.

## HISTORY

**Russo-Finnish War Ends.** After three and a half months of severe fighting to check the Soviet invasion launched Nov. 30, 1939 (see YEAR BOOK, 1939, p. 273 f.), the Finnish army and government was forced to sue for peace. Finnish cities were in ruins from repeated Soviet bombing raids. Despite conspicuous successes won on other fronts, the army defending the Mannerheim Line was exhausted by continuous attacks from the numerically superior invaders. Its munitions supply was low. Volunteers and supplies reaching Finland from abroad were insufficient to offset the war's drain upon Finnish manpower and munitions. For a full description of the fighting, see EUROPEAN WAR under *Russo-Finnish War*.

Consequently the Helsinki Government accepted the Soviet offer to resume peace negotiations which had been transmitted through the Swedish Government on January 29. (The British Government on January 22 had refused to transmit a similar Soviet offer.) While fighting continued with the greatest intensity, a Finnish delegation proceeded to Moscow. Negotiations were opened on March 7 and on March 12 a peace treaty was concluded under which fighting ended at noon of the following day. The treaty was ratified by the Finnish Diet on March 15 by a vote of 145 to 3.

**Peace Terms.** The peace terms imposed upon the Finns were considerably more severe than the Soviet demands made in October, 1939 (see 1939 YEAR BOOK, p. 274). The text of the principal articles of the treaty follows:

II. The national boundary between the Union of Soviet Socialist Republics and the Finnish Republic shall be established along a new line in accordance with which the entire Karelian isthmus with the city of Viborg (Viipuri) and Viborg bay with its islands; the western and northern shores of Lake Ladoga with the cities of Kexholm, Sortavala, and Suojärvi; a number of islands in the Gulf of Finland; territory to the east of Merikjärvi with the city of Kuolajärvi; and part of the Rybachii and Sredny peninsulas—in accordance with the map attached to the present Treaty—shall be included within the territory of the Union of Soviet Socialist Republics.

A more detailed delineation of the boundary line shall be established by a mixed commission of representatives of the Contracting Parties, and such a commission must

be appointed within ten days from the date of signature of the present Treaty.

III. The two Contracting Parties undertake to refrain mutually from any attack upon each other, and not to conclude any alliance or participate in coalitions directed against one of the Contracting Parties.

IV. The Finnish Republic agrees to rent to the Soviet Union for a period of 30 years, with the annual payment of eight million finmarks by the Soviet Union, Hangö peninsula and its surrounding waters within a radius of 5 miles to the south and east and of 3 miles to the west and north of the peninsula, as well as a number of islands adjacent to the peninsula (indicated upon an attached map) for the establishment of a naval base there capable of defending the entrance to the Gulf of Finland from aggression, and the Soviet Union shall be granted the right to maintain the requisite number of land and air armed forces there at its own expense for the purpose of defending the naval base.

Within 10 days from the moment that the present Treaty shall enter into effect, the Finnish Government shall withdraw all of its troops from Hangö peninsula, and Hangö peninsula with the adjacent islands shall be transferred to the administration of the Union of Soviet Socialist Republics, in accordance with the present article of the Treaty.

V. The Union of Soviet Socialist Republics undertakes to withdraw its troops from Petsamo province, which the Soviet State voluntarily ceded to Finland according to the Peace Treaty of 1920.

Finland undertakes—as was provided in the Treaty of 1920—not to maintain warships and other armed ships in the waters along the Finnish coast of the Arctic Ocean, with the exception of armed ships of less than 100 tons displacement, of which Finland shall have the right to maintain an unlimited number, as well as to maintain not more than 15 warships and other armed ships the tonnage of which may not exceed 400 tons each.

Finland undertakes—as was provided by the same Treaty—not to maintain submarines and armed aircraft in the said waters.

Likewise Finland undertakes—as was provided by the same Treaty—not to construct naval ports, bases for a naval fleet or naval repair shops on this coast on a larger scale than is required for the above-mentioned ships and their armaments.

VI. The Soviet Union and its citizens—as was provided by the Treaty of 1920—shall be granted the right of unrestricted transit through Petsamo province to Norway and return, and the Soviet Union shall be granted the right to establish a consulate in Petsamo province.

Freight, which is transported through Petsamo province from the Union of Soviet Socialist Republics to Norway, as well as freight which is transported from Norway to the Union of Soviet Socialist Republics through the same province, shall not be subject to inspection and control, with the exception of that control which is necessary for regulation of transit communication, and shall be exempt from customs duties, transit, and other fees.

The above-mentioned control of freight in transit shall be permitted only in the manner observed in such cases by the established practices of international communication.

Citizens of the Union of Soviet Socialist Republics traveling to Norway or returning from Norway to the Union of Soviet Socialist Republics through Petsamo province, shall have the right of unrestricted travel on the basis of passports issued by the appropriate Soviet organs.

Upon observation of the general regulations in effect, Soviet unarmed aircraft shall have the right to aerial communication between the Union of Soviet Socialist Republics and Norway across Petsamo province.

VII. The Finnish Government shall grant to the Soviet Union the right of transit for freight between the Union of Soviet Socialist Republics and Sweden, and for the purpose of the development of this transit along the shortest railway route the Union of Soviet Socialist Republics and Finland consider it necessary for each Party to construct, if possible during 1940, on its own territory a railway uniting the city of Kandalaksha with the city of Kemijärvi.

VIII. Upon the entry of the present treaty into force, trade relations between the Contracting Parties shall be restored and for this purpose the Contracting Parties shall enter into negotiations for conclusion of a trade agreement.

A protocol to the peace treaty provided for the withdrawal of Finnish troops from the ceded areas, by stages, between March 15–26, while withdrawal of Soviet troops from the Petsamo region was to be completed by April 10. It called for the exchange of military prisoners on the basis of a special agreement and stipulated that all "towns, villages, military and economic structures" in the evacuated areas "shall be safeguarded against damage and destruction." These provisions were carried

out as stipulated, though not without some friction between Finnish and Soviet representatives.

The treaty gave the Soviet Union all of the Mannerheim Line fortifications in the Karelian isthmus, the Finnish shores of Lake Ladoga with the admirable system of railway and road communications radiating from Viborg, a substantial slice of territory in east central Finland bisected by the Arctic Circle, and small sections of the Finnish Arctic Coast giving the Russians strategic control of the Finnish warm-water port of Petsamo. Truncated Finland was more than ever vulnerable to Soviet invasion, even though its army remained intact. It was shorn of important agricultural and industrial resources as well as of its fortifications in the southeast. Its sea approaches were dominated by Soviet naval, land, and air forces installed at Hangö. The projected railway connecting the Finnish city of Kemijärvi with the Murmansk Railway at Kandalaksha on the White Sea afforded an easy route for a future Soviet drive across Finland's "waistline" to the head of the Gulf of Bothnia. There Finland's vital rail communications with Sweden, Norway, and the outside world could be cut.

However the peace treaty left Finland free and independent for the time being. According to Foreign Minister Tanner's speech of March 13, the Kremlin made no political demands upon the Finns during the negotiations. It also agreed to "thrust aside" the Terijoki "People's Government" led by the Finnish Communist, Otto Kuusinen, which Moscow had recognized on Dec 1, 1939, as the legal government of Finland (see 1939 YEAR BOOK, p. 275).

**Foreign Aid.** Substantial supplies reached Finland from abroad before the peace treaty was concluded. The British and French Governments announced the shipment of 285 planes, 590 cannon of all types, 100 anti-tank guns, 5000 machine guns, 200,000 hand grenades, 60,000,000 rounds of rifle ammunition, and other equipment. Apparently not all of this reached the Finnish front lines in time. Sweden sent several thousand volunteers as well as funds and large quantities of arms and supplies, valued at \$120,000,000 as of April, 1940. Food, clothing, and other non-military supplies came in quantity from Norway, Denmark, the United States, and other friendly countries. The United States Government on February 29 loaned Finland \$20,000,000 for the purchase of non-military supplies additional to the \$10,000,000 advanced on Dec. 10, 1939. Private relief funds reaching Finland from abroad up to Mar. 22, 1940, were reported at nearly 200,000,000 Finnish marks (roughly \$4,000,000), of which 84,000,000 marks were forwarded by the Hoover relief committee in the United States.

Foreign Minister Tanner's speech of March 13 attributed the Finnish capitulation to the lack of sufficient troop reinforcement from abroad to relieve the battle-weary Finnish soldiers. On March 12 Premier Daladier of France announced that as early as February 5 the Allied Governments had decided to aid the Finns and had assembled 50,000 troops for embarkation the moment the Finns officially requested help. After vainly requesting the Swedish and Norwegian Governments to send troops to their aid, the Finns asked Stockholm and Oslo to permit the transit of the Allied expeditionary force across their territories. Under pressure of German threats to intervene, the Swedish

and Norwegian Governments rejected both the Finnish plea and a similar Allied request of March 5. In view of this stand, the Finns made no formal request for Allied military aid, fearing that Germany's reaction might involve Finland in the major European War. Convinced that there was no hope of effective foreign aid or of winning better terms by continuing the war, the Finnish Government decided to accept the onerous Soviet peace terms.

The Soviet Government on March 18 formally assured Sweden that it had no further territorial demands to make in Northern Europe. Immediately after peace was concluded the Finns sounded out Sweden and Norway on a Scandinavian defensive military alliance. These discussions were abandoned in Stockholm late in March when the U.S.S.R. announced that it would regard such a pact as a violation of Article III of the Russo-Finnish treaty.

**Cost of the War.** According to a Finnish communiqué issued in June, 1940, the short 16-weeks' struggle cost them 19,263 killed and 43,500 wounded. Official Soviet estimates placed Finnish losses at over 70,000 killed in action, 15,000 mortally wounded, and 250,000 other wounded. The Finnish Government was burdened with the care of nearly 10,000 widows, 20,000 to 30,000 orphans, and 600,000 homeless persons, of whom about 470,000 were evacuees from the territory ceded to the U.S.S.R.

The ceded territory represented one-tenth of Finland's land area and one-twelfth of its tangible national wealth in the form of farms, factories and forests. It accounted for 11 per cent of the republic's forest resources, 16 per cent of the railway lines, and 10 per cent of the industrial output. Factories in the ceded Karelian isthmus and Lake Ladoga areas had accounted for 86 per cent of all Finnish exports. Viborg and Hangö had handled about one-third of the foreign trade. In addition to the territorial losses, 32 of Finland's 38 towns were wholly or partially destroyed by Russian air raids. Some 9000 buildings housing around 40,000 persons were demolished. Altogether the cost of the war was estimated about 30,000,000,000 Finnish marks (approximately \$600,000,000), or about one-fourth of Finland's total national wealth.

**Reconstruction Measures.** Finland had scarcely begun to face the huge task of reconstruction when the spread of the European War to Norway in April cut off a large part of the imports and relief funds reaching Finland from abroad. This multiplied the government's difficulties. Foreign trade during the first half of 1940 was about one-fourth that of the first six months of 1939. The production index for export industries (Base: 1935 = 100) was 42 for the second quarter of 1940 as compared with 102 for the same period of 1939. At the beginning of September there were 5100 unemployed registered in addition to 183,467 evacuees on relief.

The government adopted drastic measures to deal with this economic emergency. During the session of the Diet that ended August 3, an emergency settlement law was passed for placing the 470,000 evacuees from ceded territory on new land. A capital levy estimated to yield 4,000,000,000 marks over a four-year period was imposed upon all property subject to income and property taxes and upon scientific and philosophic institutions, private railways and savings banks. The rate of the levy ranged from 2½ per cent on property valued at 40,000 marks to 20 per cent on that

valued at 41,000,000 marks or more. Surtaxes ranged from 4½ to 20 per cent. This income was set aside to compensate individuals and corporations for war losses on a sliding scale from 100 per cent for property valued at less than 10,000 marks down to 5 per cent on property valued at 41,000,000 marks or more.

Refugees from the ceded territories were resettled on farms carved out of the larger private estates and government and church land holdings. Agricultural societies and banks subscribed 50,000,000 marks for a corporation (the Land Clearing Co.) to undertake large-scale land-clearing operations with modern machinery. At the same time a comprehensive program for the intensification of agricultural, mineral, and industrial production was inaugurated. A government committee drafted legislation for the replacement of essential industries lost to the Soviet Union.

To combat the rising cost of living, the Diet on June 7 fixed rents for houses, apartments, and other buildings at the level existing June 1, 1939. Another law established maximum prices for domestic cereals and authorized purchase of all domestic wheat, rye, and barley by the government grain store. Other powers conferred by the Diet enabled the government to regulate the distribution, consumption, and price of firewood. Rationing and price fixing for essential food supplies became more rigorous during the winter. A licensing board was established to regulate and encourage foreign trade. By agreement between workers and employers, wages were adjusted to the rising cost of living. Trade agreements were negotiated with Denmark, Germany, Hungary, Sweden, and the Soviet Union. Together with relief supplies brought in from the United States through Petsamo, the foodstuffs and other materials obtained through barter agreements enabled the Finns to emerge from the winter of 1940-41 without actual famine, although hardships were severe.

**Political Changes.** Premier Risto Ryti's government, representing a coalition of the five largest political parties (Social Democrats, Agrarians, National Coalition, Swedish People's party, and National Progressives), was reorganized on March 27, 1940, to carry out the reconstruction program. Dr. Ryti, a National Progressive, remained at the head of the cabinet, but replaced seven of the 14 Ministers.

The government's task was lightened by the unity of the moderate Left, Right, and Center political groups that had been cemented in the crucible of war. A formal declaration issued February 20 had healed the long antagonism between the Rightist Civic Guard and the powerful Social Democratic party. The Civic Guard announced that henceforth it would admit Social Democrats to its ranks, while the Social Democrats agreed to participate in this elite corps that played a leading part in winning Finnish independence from Soviet Russia in 1917-18. A radical faction of Social Democrats, critical of the party's moderate policies, was expelled on September 27 and formed a new party, called the Socialist Dissenters.

After the peace treaty was signed, some Finnish citizens and newspapers urged Field Marshal Baron Carl Gustav Mannerheim, commander of the Finnish armies, to assume "direction of the national fate." Majority sentiment strongly opposed a dictatorship and the democratic governmental system remained unimpaired. However a bill postponing parliamentary elections until 1942 went in-

to effect October 25. This move was attributed to the tense international situation (see below) and to the difficulty of fixing new electoral districts as a result of boundary changes.

President Kallio resigned on November 28 because of ill health and Premier Ryti succeeded him as Acting President until formally elected to the Presidency by the electoral college on December 19. The vote was 288 to 2. On the same day the retiring President collapsed and died at the conclusion of a great farewell demonstration by the people of Helsinki (see *NECROLOGY*). Sworn in before Parliament on December 21, President Ryti described the country's policy as one of remaining outside all wars, maintaining its existence and independence at all costs, developing "the best relations with our neighbors, especially the Soviet Union," and the strengthening of Finland's connections with Germany.

On the night of December 19, President Ryti appointed Minister of Defense Gen. Karl Rudolf Walden as Acting Premier. After vain efforts to form a party government, the national union government was continued under a new Premier, Johan Wilhelm Rangell, appointed Jan. 4, 1941. A non-party man and former head of the Bank of Finland, Rangell made only two changes in the former Cabinet line-up.

**Post-war Relations with U.S.S.R.** Diplomatic relations between Finland and the Soviet Union were resumed on April 7, with the appointment of Ministers to Moscow and Helsinki respectively. On April 12 the Petsamo district was returned to Finland in accordance with the peace treaty. A Finnish-Soviet trade and clearing agreement was concluded June 28. On September 6 another accord was signed in Moscow providing for direct passenger and freight traffic between the U.S.S.R. and Finland, transit traffic between the Soviet Union and Sweden across Finland, and between the U.S.S.R. and the leased base at Hangö. Construction of the Kemijärvi-Kandalaksha railway proceeded. At the demand of the Soviet Union, the Finns early in July were reported to have blown up the fortifications and gun emplacements they erected on the Aland Islands at the beginning of the Russo-Finnish war.

New Soviet demands were made upon Finland at frequent intervals, arousing Finnish fears that Moscow planned to establish complete domination by a step-by-step policy without resort to war. In late July the Soviet Government was reported to have insisted upon Finnish demobilization. At the same time the Moscow press became increasingly critical of the Finnish Government's internal policies. It attacked the legalization of the Fascist movement in Finland under Gen. Kurt Wallenius and bitterly assailed the police measures taken to curb pro-Russian demonstrations in Helsinki and other cities early in August. The Soviet Premier, Molotov, on August 1 assumed a protectorate over the outlawed Communist movement in Finland by asserting that "Russo-Finnish relations may suffer unless coercion of those classes that are striving to strengthen good relations between Finland and the Soviet Union is stopped."

The Finnish Government on August 9 issued a lengthy statement in response to persistent Russian demands for the release of ringleaders of the pro-Soviet demonstrations. It asserted that Finland had striven to establish good relations with the Soviet Union but that since a few trouble-makers were disturbing public order, further demonstrations

had been forbidden. Neutral sources in Helsinki reported that the demonstrators were almost without exception paid Russian agents, numbering about 200 in the capital and smaller groups in other cities. Nevertheless formidable Soviet pressure upon the Finns continued. It was held responsible for the resignation of Minister of Social Welfare Tanner from the cabinet in August, for the Soviet-Finnish railway accord in September, and for the Soviet-Finnish agreement of October 11 for permanent demilitarization of the Aland Islands. Finland agreed to maintain the demilitarization and not to place the islands at the disposal of any other power. Despite these concessions, the Soviet press campaign against "bourgeois democracy" in Finland continued throughout the year.

**Finnish-German Relations.** Russia's threatening attitude forced the Finns to seek closer relations with Germany in the hope of winning Hitler's military support if the Red Army again invaded Finland. A mission that visited Berlin for this purpose during the summer reportedly was advised to seek a reconciliation with Moscow. However an important Finnish-German trade accord was signed in Berlin June 29, under which Finland supplied the Reich with large quantities of cellulose, used in munitions-making.

On September 24 the Finnish Government announced that, following German demands upon Finland, it had agreed to permit the transport of German troops and supplies across northern Finland to Norway. German troops landed at Vasa the same night and a small number, estimated at less than 5000, remained quartered at transit points leading to northern Norway. After Foreign Commissar Molotov's visit to Berlin, it was reported in mid-November that the German troops were being withdrawn from Finland.

Speaking in Helsinki on November 19, Premier Ryti said that Finland would co-operate with German plans for the economic reconstruction of Europe, provided no violation or impairment of its political independence was involved. These developments were believed to indicate that Finland was prepared to throw in its lot with Germany if it had to choose between German and Soviet domination.

**Other Foreign Relations.** The British Government registered a vigorous protest against the Finnish decision to permit the transit of German troops. It threatened to bar passage of supplies to Finland through the blockade if the Helsinki Government committed "any further unneutral act."

Despite their own pressing needs and problems, the Finns sent Norway more than \$500,000 in cash and supplies in less than a month after the German invasion of Norway in April. This was to repay Norway for aid received by Finland during the Soviet-Finnish War. Swedish-Finnish diplomatic and economic collaboration remained close, and in June an agreement was concluded for joint use of the port of Petsamo.

The Finnish Government again paid its semi-annual installment due June 15, 1940, on its debt to the U.S. Government, but the December 15 installment was postponed in accordance with the joint resolution of the U.S. Senate and House of Representatives, approved by President Roosevelt June 15 (see *REPARATIONS AND WAR DEBTS*). The \$30,000,000 in relief loans advanced to Finland in 1939-40 by the Export-Import Bank of Washington was virtually exhausted by the end of 1940.

See COMMUNISM; LABOR CONDITIONS; LEAGUE OF NATIONS; REPARATIONS AND WAR DEBTS; and FRANCE, GERMANY, GREAT BRITAIN, NORWAY, SWEDEN and UNION OF SOVIET SOCIALIST REPUBLICS, under *History*. Also see MUSIC; WAR RELIEF.

**FINNISH CAMPAIGN.** See EUROPEAN WAR.  
**FIRE PROTECTION.** Estimates of the National Board of Fire Underwriters place the national fire loss during 1940 at \$306,469,520. This is a decrease of approximately \$7,000,000 from the corresponding estimate of the fire loss for 1939. This reduction is a reversal of the trend which has manifested itself during the past four or five years.

COMPARATIVE MONTHLY LOSS ESTIMATES

Month	1938	1939	1940
January . . .	\$27,676,337	\$27,615,116	\$36,260,650
February . . .	26,472,626	29,303,520	34,410,250
March . . .	29,050,968	30,682,168	29,788,800
April . . .	25,616,112	27,061,522	26,657,190
May . . .	22,917,577	27,031,700	23,446,590
June . . .	19,473,617	24,190,700	19,506,000
July . . .	20,434,688	22,468,304	20,322,800
August . . .	20,821,184	22,800,500	20,722,100
September . . .	23,372,528	22,837,250	21,198,000
October . . .	24,797,624	24,300,500	22,095,140
November . . .	28,638,695	27,248,160	23,449,000
December . . .	32,758,044	27,959,200	28,617,000
Total	\$302,050,000	\$313,498,840	\$306,469,520

The year got off to a bad start when the Marlborough apartment hotel in Minneapolis was destroyed by fire on the morning of January 3, causing 19 deaths. Poor construction and inadequate exit facilities were largely responsible. The largest loss of life by fire occurred on April 23 at Natchez, Miss., when 207 Negroes were burned to death and 200 others injured in a fire which swept through a dance hall. Nearly every well-known principle of ordinary fire protection was violated in this instance.

According to the National Fire Protection Association, 38 fires occurred in the United States and Canada during 1940, each of which resulted in a loss estimated at not less than \$250,000. Of these, four occurred in Canada. This represents an increase of 11 fires over the number reported for 1939 and is 3 greater than the average for the past five years. A total of 71 lives were lost in these fires, 60 more than were lost in the corresponding fires of 1939 but only 10 more than in 1938.

The largest loss of the year was the conflagration of July 30 at Camden, N.J., which involved a plant engaged in manufacturing waxes, polishes, greases, and other flammable compounds. The fire destroyed a block of factory buildings and numerous nearby dwellings with a loss estimated close to \$2,000,000. Ten other fires caused losses exceeding \$500,000.

An analysis by the National Fire Protection Association classifying the national fire record by occupancies and causes attracted considerable attention. It showed that during 1939, the last year for which figures were available, there were an estimated 685,000 fires in the United States, of which 340,000 occurred in dwellings and 53,000 in hotels and apartment houses. The principal causes were shown to be smoking, sparks on roofs, defective or overheated chimneys and flues, and electrical fires.

Without question, the most important development in the fire field during 1940 was the utilization of fire as a deadly weapon by the warring countries by means of the incendiary bomb. To

meet this new situation, England alone increased its fire-fighting forces tenfold. Daily, the fire brigades, auxiliary fire forces, and the air-raid-precaution units in England have been making history.

This development has aroused widespread interest among the fire fighters of the United States and Canada. By the end of 1940 for the most part, specific plans for fire defense of American cities had not been crystallized. The indications were clear, however, that during 1941 a considerable movement to organize auxiliary fire forces and to develop civilian defense plans for fire emergencies would be undertaken. New York made an elaborate survey of its situation and of its facilities from the point of view of possible fire attack by air. In Boston, an auxiliary fire service was initiated and hundreds of civilian volunteers were trained in the elements of fire fighting. In the various Canadian cities, comprehensive plans for air-raid defense, including elaborate fire-protection procedures, were developed and were just getting under way at the close of the year.

The Federal Bureau of Investigation assumed responsibility for the protection of industries producing defense supplies from sabotage and fire. Many fire organizations throughout the country took special steps to investigate conditions in essential industries and to prepare for anticipated sabotage.

Already many steps are being taken by a wide variety of organizations and individuals to cope with the problems of fire defense. The War Department, Navy Department, FBI, National Defense Advisory Commission, State and local defense committees, State fire marshals, municipal fire chiefs, fire-insurance boards and bureaus, and safety and fire-protection engineers of industry are all concerned with various phases of this problem. It is probable that in 1941 more adequate co-ordination of these efforts will be developed so that mistakes, confusion, and overlapping may be avoided. The whole program of fire defense, as it develops, may have a lasting effect toward reduction of loss of life and property by fire under war-time or peace-time conditions.

The great strides in firemen's training which have been made in recent years continued during 1940. Seven States, Alabama, Florida, Indiana, Iowa, Nebraska, New Hampshire, and Vermont, offered firemen definite measured courses of instruction for the first time. This brings to 23 the number of States where comprehensive training is available. Nearly 13,000 firemen completed one or more units in such courses during the year. Annual short courses were held in 25 States and regional courses in 11 States. Field instructors gave training in 12 States. It is estimated that 80,000 firemen received some benefits from these training programs during the year. There are now only seven States which do not have some sort of State-wide training program, and three of them have programs to be initiated during the coming year.

An interesting development is the plan adopted in Cleveland, Ohio, for a board of strategy for the fire department under the supervision of the Director of Public Safety. The board is made up of the fire-department division and battalion chiefs and meets regularly. The board sponsors a contest between the various battalions of the fire department creating great interest in fire-prevention work. Cleveland won the award for excellence in Fire Prevention Week activity, competing with over 1000 other communities in the contest con-

ducted by the National Fire Protection Association. Cincinnati, Ohio, took first place in the Inter-Chamber Fire Waste Contest conducted by the National Fire Waste Council for excellence in all-around fire-prevention activity during the previous year.

The most significant technical developments in the field of fire protection during 1940 were the publication of a new edition of the National Electrical Code, perhaps the most widely adopted technical standard in the country, and the issuance of completely new standards for the installation of automatic sprinkler systems. Both of these were developed by technical committees of the National Fire Protection Association.

Few legislative items are gaining such widespread popularity as adequate State-wide control of fireworks. The State of New York adopted a fireworks law in 1940 prohibiting the promiscuous distribution of fireworks to the public, thus making a total of nine States which now restrict the use of fireworks to supervised public display. Bills of this character are scheduled for introduction in the legislatures of many States during the coming year.

See CIVILIAN CONSERVATION CORPS; FORESTRY; GENERAL LAND OFFICE, INSURANCE.

CHARLES S. MORGAN.

**FISCAL SERVICE.** The Fiscal Service of the Treasury Department was created by the President's Reorganization Plan No. III, dated Apr. 2, 1940, under the provisions of the Reorganization Act of 1939. This plan was made effective June 30, 1940, by joint resolution approved June 4, 1940. The Fiscal Service consists of the following bureaus and offices.

**Office of the Fiscal Assistant Secretary.** The Fiscal Assistant Secretary is a permanent career officer and shall be appointed by the Secretary of the Treasury in accordance with the Civil Service laws. The Fiscal Assistant Secretary, under the direction of the Secretary, performs all functions pertaining to (1) the administration of financing operations, (2) the supervision of the administration of the functions and activities of the units grouped under the Fiscal Service; (3) supervision of the administration of accounting functions and activities in the Treasury Department and all its bureaus and offices, through the Commissioner of Accounts.

**The Bureau of Accounts.** The Bureau of Accounts consists of the Office of the Commissioner of Accounts, the Division of Bookkeeping and Warrants, the Division of Disbursement, the Division of Deposits, the Section of Surety Bonds, the Section of Investments, and the Emergency Relief Accounting Organization.

Government Reorganization Plan No. III transferred to the Fiscal Assistant Secretary, to be exercised under the direction of the Secretary of the Treasury and through the Commissioner of Accounts, all functions vested in the Under Secretary and any Assistant Secretary of the Treasury pertaining to supervision of the administration of the accounting functions and activities in the Treasury Department and in all its bureaus, divisions, and offices, and all functions vested in any other officer or employee of the Treasury Department (except the Coast Guard) of authorizing the installation, maintenance, revision, and elimination of accounting records, reports, and procedure.

**The Bureau of the Public Debt.** The Bureau of the Public Debt, under the Commissioner of the

Public Debt, is charged with the conduct of transactions in public debt and paper currency issues of the United States. It also is charged with the procurement of distinctive paper required for printing currency and public debt securities of the United States. The Bureau also conducts transactions in the interest-bearing issues of the Philippine and Puerto Rican Governments, for which the Treasury Department acts as agent, and of the Home Owners' Loan Corporation, the Federal Farm Mortgage Corporation, the Federal Housing Administration, the Reconstruction Finance Corporation, the Commodity Credit Corporation, the United States Housing Authority; and in the consolidated issues of the Federal farm-loan banks. The Bureau organization consists of the Office of the Commissioner, the Division of Loans and Currency, the Office of the Register of the Treasury, the Division of Public Debt Accounts and Audit, the Division of Savings Bonds, and the Division of Paper Custody.

**Office of the Treasurer of the United States.** The Treasurer of the United States is charged with the receipt and disbursement of public moneys that may be deposited in the Treasury at Washington and in the other depositories authorized by the Secretary of the Treasury to receive deposits of Government funds for credit in the account of the Treasurer of the United States. There are in the Office of the Treasurer six divisions: Accounting Division, Cash Division, Currency Redemption Division, Division of Chief Clerk, Division of General Accounts, and Division of Securities.

D. W. BELL.

**FISH AND FISHERIES.** See ALASKA; FISH AND WILDLIFE SERVICE; ZOOLOGY.

**FISH AND WILDLIFE SERVICE.** The Federal Government's work in 1940 in connection with the country's resource of wild creatures was distinguished largely by improvements in organization and by attention to the relationship of wildlife conservation to the needs of national defense. Most of the year's activities were a continuation of programs already under way.

A year of organizational changes began on July 1, 1939, with the transfer of the Bureau of Biological Survey and the Bureau of Fisheries to the Department of the Interior, from the Departments of Agriculture and Commerce, respectively. Later the wildlife division of the National Park Service was transferred to the Bureau of Biological Survey, and the field work of that Bureau was reorganized into five regions, with headquarters at Portland, Ore.; Albuquerque, N.M.; Minneapolis, Minn.; Atlanta, Ga.; and Boston, Mass. On June 30, 1940, the Biological Survey and the Bureau of Fisheries were consolidated to form the Fish and Wildlife Service. Under the direction of Dr. Ira N. Gabrielson, former Chief of the Biological Survey, the new Service carries on its work through 13 divisions, as follows: Administration, Wildlife Research, Fishery Biology, Fishery Industries, Federal Aid in Wildlife Restoration, Land Acquisition, Wildlife Refuges, Construction and Civilian Conservation Corps Operations, Fish Culture, Game Management, Alaska Fisheries, Predator and Rodent Control, and Public Relations. W. C. Henderson, formerly Associate Chief of the Biological Survey, and Charles E. Jackson, last Deputy and Acting Commissioner of Fisheries, are Assistant Directors.



Wildlife conservation which helps to make a "country worth living in" plays an important part in national defense preparations by helping to build up individual and national morale. More tangible emergency contributions have also been pointed out. The value of the food resources in fishes, for example, has been emphasized in many ways, including the recent establishment of radio outlets in Boston, Chicago, Jacksonville, and New Orleans for the daily broadcast of market news reports to encourage the economic and profitable use of fishes as food. Fisheries personnel and material have been of assistance to the Navy, and the fishing fleet is regarded as a valuable reserve. The Service is prepared to meet emergency needs for controlling the numbers of birds and mammals that destroy crops and livestock and to co-operate in other ways in the defense program. The importance of maintaining conservation policies during the stress of emergencies, as well as at other times, and avoiding unwise exploitation has been emphasized.

Six new laboratories for fishery research were established, bringing the total to eleven, including a new floating laboratory for studies on the fisheries grounds. Research on birds and mammals continued in the field and in laboratories, including two new ones at the Patuxent Research Refuge, in Maryland.

Statistics compiled indicated that in 1938, the latest year for which complete data are available, the landings of United States fishing craft totaled more than 4,250,000,000 lb. The wholesale value of fishery products exceeded \$251,000,000. About 250,000 persons were employed in capturing, processing, and wholesaling the catch. Estimates compiled indicated that the big game population of the United States in 1939 was more than 5,800,000. The annual waterfowl inventory in January, 1940, resulted in an estimate of more than 65 million ducks and geese, representing the fifth consecutive annual increase as a result of the restoration program. Compilations of State reports indicated that in the 1938-39 seasons more than 7,858,275 persons paid a total of \$10,837,168 for fishing licenses and more than 7½ million paid a total of \$12,600,000 for hunting licenses. Sales of the Federal stamp required of all over 16 who hunt migratory waterfowl continued to increase, a total of 1,111,561 stamps having been sold in the 1939-40 year.

The Federal wildlife refuge system increased to a total of 263 refuges, with an acreage of 13,595,812. Output of fish and eggs at the 110 Federal hatcheries during the year ended June 30, 1940, approximated 7,400,000,000, a drop from the previous year's 8,042,000,000 attributed mainly to curtailment of cod, haddock, and flounder production; 24 out of the 45 species handled were distributed in increased numbers.

Regulations governing migratory-bird hunting in 1940 provided a 60-day hunting season in each of 3 zones, an increase over the previous 45-day season, but shortened seasons on woodcocks and reduced bag limits on geese, mourning doves, and white-winged doves.

The program for aiding the States in wildlife restoration became more extensive and more effective. In all, 237 projects were begun by the States with Federal aid during the year ended June 30, involving \$2,082,735, a great increase over the preceding year, first under the program, when 58 projects were begun at a cost of \$343,932. An increased Federal appropriation of \$2,300,000 became available on July 1 for this program, which

provides for Federal payment of 75 per cent of the cost of projects carried on by the States with Federal approval.

**Publications (1940):** Wildlife Research Bulletin 1, *Food Habits of a Group of Shorebirds: Woodcock, Snipe, Knot, and Dowitcher*; Technical Bulletin 711, *Economic Status of the English Sparrow in the United States*; Investigational Report 34, *Home Canning of Fishery Products*, Bulletins 31 and 32, *Natural History and Method of Controlling the Starfish, and The History and Development of the Fisheries of the Columbia River*; Miscellaneous Publication 355, *Hart Mountain Antelope Refuge*; Conservation Bulletin 1, *Attracting Birds*; and *The Birds of Oregon*, published by the Oregon State College, as a co-operative project.

IRA N. GABRIELSON.

**FISHERIES, Bureau of.** Formerly bureau of the U.S. Department of the Interior, consolidated with the Bureau of Biological Survey on June 30, 1940, to form the Fish and Wildlife Service (q.v.).

**FLANDERS, Battle of.** See EUROPEAN WAR under *The Battle of Flanders*.

**FLAX.** Flaxseed production in the United States in 1940 was estimated by the U.S. Department of Agriculture to total 31,127,000 bu. from 3,228,000 acres as compared with 20,152,000 bu. from 2,250,000 acres in 1939 and almost three times as large as the 1929-38 average production of 10,846,000 bu. Increased production in 1940 was attributed to a greatly expanded acreage in response to AAA regulations favoring flax production and favorable prices for the 1938 and 1939 crops, and above average acre yields, 9.6 bu. versus 9.0 in 1939. Leading flax States were: Minnesota with 16,695,000 bu., North Dakota 3,888,000, California 2,814,000, Iowa 2,520,000, and South Dakota 1,904,000 bu. Flaxseed made a large yield on an increased acreage in the main producing states and production was increased in the new winter flax areas in the Southwest. The season average price per bu. (preliminary) received by farmers was \$1.341 and the value of production was estimated at \$41,746,000 in 1940 compared to \$1.463 and \$29,492,000 in 1939.

The 1940-41 crop of flaxseed in other countries reporting was for Canada 3,189,000 bu., Lithuania 1,294,000, India 18,680,000, and Hungary 266,000 bu.; and the 1939-40 crop of Argentina was 39,935,000 bu. and of Uruguay 4,693,000 bu. Flax fiber production reported in 1940 was in Hungary 7,180,000 lb., Rumania 12,163,000, Estonia 17,527,000, Lithuania 63,709,000, and Egypt 8,419,000 lb. The 1939 crop of Belgium was estimated at 130,053,000 lb. and of U.S.S.R. 1,388,917,000 lb.

**FLOOD CONTROL.** Works for flood control and the regulation and utilization of flood waters, together with the protection of land and property from damage and destruction by flood overflows, are in progress in nearly every part of the United States, even in semi-arid areas. Such works become of increasing necessity and importance with the development of the country and the phenomenon of increase in flood heights and flood volumes. Many projects of this kind, however, will be affected adversely by the momentous decision of the Supreme Court, in December, giving to the Federal government authority over practically all streams, instead of only over navigable streams. The tendency will be to leave such work to be planned by and paid for by the Federal government, with consequent delays. (See also ELECTRIC LIGHT AND POWER, under *Government*; SUPREME COURT.)

Dams form reservoirs to detain or store flood



waters that would otherwise pursue a devastating course. Levees confine flood flows within restricted channels and protect vast areas of adjacent low lands. Short cuts across long serpentine bends in the streams hasten the passage of flood waters. Few dams are for flood control exclusively, the stored water being utilized for power or irrigation, or discharged under regulation in order to maintain a uniform minimum flow in the stream. However, such dual use presents a problem in that such a reservoir should have ample capacity to receive and hold a sudden heavy flood flow, while for power purposes it needs to have a constant and uniform supply and discharge. A bill appropriating \$191,000,000 for flood control works passed the House of Representatives in May.

One of the greatest problems in flood control is the control of the Mississippi River, which involves reservoirs at the headwaters and along the courses of the main river and its tributaries as well as levees to confine the flood to definite channels through low-lying lands. An item in this work, to be begun in 1941, is the \$25,000,000 Norfolk dam in Arkansas, on a tributary of the White River.

The great Shasta dam, now being built on the Sacramento River, has its main purpose in flood protection for the lower part of the valley. The greatest flood on record for this river occurred in February, 1940, causing property loss estimated at \$10,000,000, which included the wrecking of the contractor's construction plant on the unfinished dam. A series of four dams on the Colorado River will provide much-needed protection for a stretch of 300 miles above its mouth. The reservoirs thus formed will serve for irrigation, power development and regulation of the flow in the river channel. Three of the dams (Buchanan, Inks, and Austin) are completed, and the Marshall Ford dam is under construction. Flood control along the Tennessee River and its tributaries is one of the many purposes of the Tennessee Valley Authority.

On the Ohio River, a series of locks and dams regulates the flow and maintains a uniform level, but many cities along the river need to provide protection for low-lying areas. At Cincinnati, a court decision has removed opposition to the issue of bonds for such protection for the Mill Creek industrial district. At Louisville, Ky., a bond issue has been authorized for a flood wall along the river front, but nothing can be done until the Federal government makes money available for its share of the work. In view of the present activities for "defense" projects, Federal funds normally available for such projects have been withdrawn, so that many such projects are halted indefinitely.

The city of Huntington, W. Va., has a flood protection wall and levees along the Ohio, and when the Ohio rose  $6\frac{1}{2}$  ft. above previous flood levels in April, 1940, the normal openings for traffic were closed by gates. Extensive flood works in the city and along the rivers has been needed at Pittsburgh, Pa., and as part of these works the State Water Power and Resources Board has approved the construction of a \$23,000,000 dam on the Conemaugh River, near Salzburg, about 30 miles above Pittsburgh. An unusual stipulation is that the stored water must not be used for power purposes. Thus the dam will be of the retention type, normally empty, and having openings allowing a restricted flow of the flood water. Of ten dams proposed to reduce flood flows in the Ohio and thus protect Pittsburgh, and to be built by the Federal govern-

ment, the sixth is to be started in 1941 on the Youghiogheny River, at Confluence, Pa.

A \$30,000,000 flood-control project for Harris County, Texas, and the city of Houston, approved in 1940, includes a dam and retention reservoir on Buffalo Bayou, 15 miles west of the city, and canals around both sides of the city to take care of possible excessive flood flows. At the opposite side of the country is Hartford, Conn., whose protection against such a flood as that of 1936 in the Connecticut River is being completed by the U.S. Engineers in the form of long levees.

One curious phase of flood-protection projects is that of towns removed from their original sites in order to escape from recurring floods. This is practicable only for small communities. Probably the largest is Shawneetown, Ill., on the Ohio River, which had a population of 2000, while the new town, on high ground three miles distant, is laid out for about 2500. River-front levees, periodically raised or rebuilt, were periodically overtopped or breached as successive floods rose to higher levels. Besides new dwellings and other facilities, a new water supply system and sewerage system, with treatment plants, had to be provided. Three small towns which have removed from sites subject to periodical flooding are Leavenworth, Ind. (450 population); Hill, N.H. (400); and Greenville, Mo.

See COAST GUARD, U.S.; CONNECTICUT under *History*; ENGINEERS, CORPS OF; FLOODS; SOIL CONSERVATION SERVICE; WATERWAYS, INLAND.

E. E. RUSSELL TRATMAN.

**FLOODS.** In general the floods which occur when natural streams of inland regions overflow their banks may be grouped into two classes. One is the local type over the land bordering a small stream; if the small stream flows through land which is not densely populated little damage is done but if the land is thickly settled great damage may be caused by a local flood. The other is the flood over land bordering a large stream. Both classes of floods are caused by heavy rains (occasionally supplemented by melting snow). While there is no sharp line of demarcation between the two types of floods, it may be said that: (1) the average intensity of the rainfall over the drainage area which causes a local flood must be considerably greater than that causing a flood in a large stream before much outside public interest is attracted to the local flood; (2) local floods are of short duration while floods in large streams may last weeks or months; (3) in the present state of meteorological and hydrological sciences it is impossible to predict the occurrence of local floods, while floods in large streams can usually be accurately predicted and most governments maintain services for this purpose. A seacoast sometimes experiences a flood of a third class; such floods are not due to rains but result from the so-called tidal waves caused by earthquakes or terrific windstorms.

There were several noteworthy floods in the United States during the year as well as about the usual number of minor floods.

There was a flood in the Sacramento river valley late in February which exceeded the flood in that valley of December, 1937, and in many respects surpassed any flood there since systematic records of floods have been kept. From Kennett, Calif., to the mouth of the Feather River new high water marks were established. The magnitude of this flood was by far the greatest of record in the upper

part of the basin. However, farther down the river, where the flood-control system with its by-passes and levee construction work has been constantly changing the natural conditions and present river gage heights are not comparable with those of earlier years and consequently are not a true index of the volume of water that is being discharged by the river. Before there was any flood control system in operation in the Sacramento Valley the overflow waters drained into natural reaches of unreclaimed lowlands on each side of the river. Under present conditions where the water is confined to leveed channels, not only are gage heights proportionately higher for the same volume of water but failures in levees are more disastrous because the reclaimed lands are affected. The extraordinary vigilance that was maintained by supervising engineers and reclamation officials throughout the valley both in safeguarding levees that were severely strained and in repairing hundreds of minor breaks was instrumental in preventing wholesale disaster in many areas. For example, the Sutter Basin with a 60-mile levee system was saved only by desperate efforts. Nevertheless the overflow due to the high water was extensive. The total acreage of agricultural lands flooded was slightly more than half a million. The total flood damage was nearly \$7,000,000.

There were extensive floods in the Ohio River and Valley in May but the flood waters did not reach especially high levels and hence these floods were not noteworthy.

On June 4 and 5 excessively heavy rains in northeast Nebraska caused disastrous local floods in small streams in that section of the State. The greatest damage was in the towns of Homer, Pender, and Winnebago; the area in which the heavy rain occurred is hilly so that the run-off was rapid, and it was sufficiently large to cause flood conditions in some of the larger streams such as Logan Creek and Elkhorn River. Five persons were drowned and the property damage was nearly \$2,000,000.

There was a damaging flood in the Tombigbee River system in July. Rains were heavy over the Black Warrior and Tombigbee basins on July 2 and 3 causing sharp rises on the latter of these days. Heavy showers occurred over the upper parts of both drainage areas every day except one from the third to the fifteenth; the Black Warrior at Tuscaloosa, Ala., had three flood crests and the upper Tombigbee had two flood crests during this period. In the lower portion of the Tombigbee River the flood continued until August 1. This flood caused over \$4,000,000 worth of damage most of which was to prospective crops.

In August there were severe floods in the rivers of North Carolina and in portions of Virginia, South Carolina, Georgia, and Tennessee. These floods resulted from excessive precipitation accompanying the passage of a tropical Hurricane (q.v.) near Savannah, Ga., on August 11. This Hurricane moved slowly westward to the Southern Appalachian Mountain region; it gradually turned clockwise and on the thirteenth it was moving northward and on the next day eastward, finally it passed out to sea again on August 17. All the rivers on the Atlantic Slope from the James River in Virginia to the Altamaha River in Georgia had floods as well as the New, French Broad, and Holston Rivers of the Ohio Valley. Previous high stages of record were exceeded at a number of places; at Weldon, N.C., on the Roanoke River a

stage of 58 feet was reached on August 18, exceeding the crest stage at that place during the great flood of 1877 by nearly 5 feet. See DISASTER LOAN CORPORATION; FLOOD CONTROL.

RICHMOND T. ZOCH.

**FLORIDA.** Area, 58,666 square miles, including (1930) 3805 square miles of water. Population, Apr. 1, 1940 (census), 1,897,414 (1,045,791 urban and 851,623 rural); 1930, 1,468,211. The figure for 1940 came within 40,000 of doubling that of 1920 (968,470). Chief cities (1940): Jacksonville, 173,065; Miami, 172,172; Tampa, 108,391; Tallahassee (State capital), 16,240.

**Agriculture.** Florida harvested, in 1940, 1,620,000 acres of the principal field crops; another great part of the agricultural return came from the orchards. The year's indicated crop of oranges, 29,800,000 boxes, was expected to bring the growers \$24,034,000; that of grapefruit, 21,000,000 boxes, \$11,994,000. Of the field crops, corn, on 821,000 acres, made 9,031,000 bu. (approximate value, \$5,870,000); potatoes, on 28,000 acres, 4,312,000 bu. (\$4,010,000); tobacco—mainly for cigars, 16,700 acres, 16,123,000 lb. (\$4,536,000); sugar cane, 30,400 acres, 1,216,000 tons (\$3,283,000), much exceeded the average of previous years; sweet potatoes, 18,000 acres, yielded 1,080,000 bu. (\$1,026,000). The great production of truck crops brought, for 1940, an estimated \$31,165,000.

**Mineral Production.** Phosphate rock furnished about two-thirds of Florida's total value of mineral production for 1938, which attained \$12,866,981 (Bureau of Mines' estimate published in 1940). Producers' sales of phosphate rock fell to 2,678,784 long tons for 1939, from 2,707,335 for 1938; in value, more sharply, to \$7,893,457, from \$8,773,680. The Federal Department of the Interior suspended, in 1939, sales of public lands in the State prior to the outcome of an investigation, then started, to find whether land in addition to the actual 66,000 acres should be put into the Federal Phosphate Reserve. An estimate of the geologist George R. Mansfield, published in 1940, put total reserves of phosphate rock in Florida above 5 billion tons: of this, over 2 billions known, 1¼ probable, and 1¼ possible.

**Education.** Florida's inhabitants of school age (from 6 years to 20) were reckoned at 468,755. For the academic year 1939-40, enrollments of pupils in public schools numbered 397,900. This comprised 912 in kindergarten, 249,354 in elementary studies through sixth grade, and 147,634 in the six higher grades. The year's current expenditure for public-school education amounted to \$18,910,624. The 13,629 teachers' and principals' salaries, taken together, averaged \$1009.14 for the year.

**History.** A severe and persistent cold spell, which afflicted the southern States from Louisiana to Virginia in the latter part of January, did much of its worst damage to crops in Florida. Freezing temperatures recurred every night in the greater part of the State, from January 19 to January 28; the lows ranged from 42 at Key West to 10 at Deland, and 24 was reported near Miami. The chief damage befell vegetables growing in Broward and Dade counties, where losses apparently ran to some \$15,000,000. Damage to oranges and grapefruit, while reported extensive, was limited by smudging.

The U.S. Supreme Court set aside (February 12) the conviction of four Negroes found guilty in a Florida court and sentenced to death for the murder of a white merchant in 1933; the decision

held that confession had been extorted from the accused after a week of questioning attended with brutality, and that they had thus been deprived of the Constitutional guarantee of due process of law and of guarantees in the Fourteenth Amendment.

Some of the cities of the State reportedly showed symptoms of the tendency toward corrupt or weak government familiar among communities of rapid growth. The Federal Bureau of Investigation worked with the State's Attorney General to break up gambling enterprises against which reformers, notably in Miami and Orlando, had exerted themselves in vain; gambling-houses, chiefly running lottery-like games known as cuba and bolito, were closed by use of injunction.

The disturbance of foreign trade by war abroad, rendering the nation's importation of rubber uncertain, renewed interest in experiments toward growing rubber in Florida. One of these, a rubber plantation at Miami, maintained by the Federal Government, had spent, according to the *Dallas News*, over \$1,000,000, through a number of years, and was successfully growing more than 2000 rubber trees introduced about 17 years before, after the rubber corner of 1922 Heels of rubber from this plantation were being tested in Washington. The trees had apparently not suffered severely from cold spells, but the problem how to raise rubber in competition with the cheaply produced East Indian article had still to be solved. In the Everglades, the scanty remnant of the Seminole tribe that had never formally submitted to the authority of the United States were visited by Federal agents in October and persuaded to register for the military draft. See **ROADS AND STREETS**.

**Elections.** Florida's elections of State candidates were virtually settled, in the absence of any formidable Republican vote, at the Democratic primaries in May. U.S. Senator Charles O. Andrews was chosen to retain his office for six years more, but it required a run-off primary to assure his re-nomination. Spessard L. Holland, nominated by the Democratic vote for Governor, was elected unopposed in November. Both Andrews and Holland prevailed in the primaries over opponents put up by the Townsend old-age-pension organization.

At the general election (November 5) the State cast a popular vote for Roosevelt (Dem.) as President, and against Willkie (Rep.) by about 3 to 1 and formally elected the State's Democratic nominees, as named above. Presidential vote: Dem., 360,407; Rep., 126,412. Except one railroad-commission seat, unopposed Democrats won all State offices.

The voters dealt on November 5 with six proposed amendments to the State constitution: they gave majorities in favor of five—to forbid the State's taxing property, save intangible, ad valorem; to let the Legislature create a system of parole; to allow any excess over the expected collection of the State's levy on pari-mutuels to go to the counties; to add a seventh member to the State Supreme Court; and to exempt \$500 of every widow's property from taxation; an amendment to let the Legislature create a system of electing county commissioners according to districts was defeated.

**Officers.** Florida's chief officers, serving in 1940, were: Governor, Fred P. Cone (Dem.); Secretary of State, R. A. Gray; Attorney General, George Couper Gibbs; Comptroller, J. M. Lee; Treasurer, W. V. Knott; Commissioner of Agriculture, Nathan Mayo; Superintendent of Public Instruction, Colin English.

**FLOWERS.** See **HORTICULTURE**; **BOTANY**.

**FLUID COUPLING.** See **AUTOMOBILES**.

**FLUORESCENT LAMPS.** See **ELECTRICAL ILLUMINATION**.

**FLUSHING MEADOW PARK.** See **FAIRS, EXPOSITIONS, AND CELEBRATIONS**.

**FM BROADCASTING.** See under **FREQUENCY MODULATION**.

**FOOD AND DRUG ADMINISTRATION.** Most of the legal actions taken by the Food and Drug Administration during the fiscal year 1939-40 were for violations of the Food, Drug, and Cosmetic Act of 1938, though this new consumer statute did not completely supersede the pioneer pure-food law of 1906 until July 1, 1940.

Enforcement of the new measure brought Federal regulation in several new fields, notably cosmetics, therapeutic devices, and containers. Numerous seizures of harmful beauty preparations in 1938-39 together with continuous surveillance of the industry quickly forced the few manufacturers who made such products to eliminate potentially dangerous ingredients from their formulas with the result that only one seizure of a dangerous cosmetic was necessary in 1940. It involved an eyelash and brow dye containing a poisonous coal-tar color.

On the other hand, more than 2,000,000 lb. of coal-tar colors were certified by the Administration as harmless and suitable for use in foods, drugs, and cosmetics.

Thirty-four shipments of devices bearing false and misleading curative claims were seized during the year. Most of them were therapeutic lamps, heat and light applicators, or other electrical gadgets offered as treatments for such serious disorders as kidney and heart disease, eczema, abscesses, gangrene, varicose veins, asthma, ulcers, rheumatism, Bright's disease, and diabetes. Next in number were vaporizers and inhalers for respiratory diseases, as well as other worthless or harmful contraptions.

Deceptive containers brought about the seizure of 145 shipments of tooth paste, cosmetic creams, face powders, cheese, spices, candy, ice cream, alimentary pastes, tea balls, cookies, nose drops, bandages, and adhesive tape.

Another project under the new law was the promulgation of legal standards for several foods, including tomato products, egg products, and various canned fruits and vegetables. Hearings were also held on the standards proposed for many other kinds of food. Eventually, of course, the entire food field will be covered.

Thanks to the increased power afforded by the new law to control sanitary conditions in the factory, the Administration was able to stop certain offensive practices carried on by a small minority, especially in the production of candy and shelled pecans.

The new requirements for more informative labeling brought about vast changes in the composition and labeling of drug products during the year. Dangerous drugs had virtually been driven from the market by the many seizures made the previous year. Work with new drugs, for which applications must be filed with the Government to establish that these products are safe for use, was continued in increased volume.

Marked changes for the better were noted in various branches of the food industry. As for the food-poisoning cases investigated by the Adminis-

tration, with one exception those due to botulism involved home-canned food. Seventeen cases of another type were caused by "tenderized" ham.

These activities, of course, represent but a few of the aspects of the Administration's work in protecting the consumer under the Food, Drug, and Cosmetic Act. As usual the Administration also enforced the Insecticide Act, the Caustic Poison Act, Import Milk and Filled Milk Acts, Tea Act, and the Naval Stores Act.

WALTER G. CAMPBELL.

**FOOD AND FOOD INDUSTRY.** See CHEMISTRY, INDUSTRIAL; LIVING COSTS AND STANDARDS; MARKETING. For foodstuffs and farmers' prices, see AGRICULTURE; DAIRYING; HORTICULTURE; LIVESTOCK; and articles on products. Compare RATIONING.

**FOOD POISONING.** See FOOD AND DRUG ADMINISTRATION.

**FOOD STAMP PLAN.** See SURPLUS MARKETING ADMINISTRATION; also DAIRYING.

**FOOTBALL.** The gridiron continued its unshakeable hold on the public mind in 1940 and the game showed no deterioration in the quality of the playing.

Huge crowds, exciting games, astounding reversals of form and ruling, and an unusual series of mistakes in score-keeping, all combined to keep the collective public pulse in high speed. On one occasion a post-mortem examination of a close play resulted in the reversal of the final score two days after the game had ended.

In one of the most colorful sporting spectacles in history, and on the golden anniversary of their first gridiron conflict, Navy defeated Army 14-0 at Philadelphia's Municipal Stadium before a crowd of 102,000 persons.

Another exciting contest was the Cornell-Pennsylvania smash-up before 80,000 spectators in Franklin Field, one of the most nerve-wracking sessions of the season, with Penn emerging victor after yielding 13 points in the first seven minutes of the game. The triumph made Pennsylvania the champion of the Ivy League.

Stanford was the surprise team of the year and qualified for Rose Bowl honors with a climactic victory over California at Berkeley. The triumph established Clark Shaughnessy as the miracle performer of the year. Coming from Chicago, he succeeded to the leadership of an aggregation that had won only a single game in 1939 and by some mysterious power and tactical equipment he piloted the team through a campaign in which it never met defeat. In that respect, Stanford shared honors with only four other major teams. The others were Minnesota, which was generally considered the top team of the year; Tennessee, which finished its third successive regular schedule without upset; Boston College, the No. 1 eleven of the East; and Lafayette.

Outstanding elevens of the season included Michigan and Northwestern in the Middle West, Pennsylvania and Cornell in the East, Washington on the Pacific Coast, and Texas, Rice, and S.M.U. in the South. Michigan had one of the finest aggregations of the year; and in Tom Harmon the Wolverines had one of the greatest backs in the history of football. In his final appearance of the season, he broke the 15-year-old record of the unforgettable Red Grange.

Cornell, unconquerable in 18 games, was finally vanquished by Dartmouth in one of the strangest

denouements in the memory of football fans. In the final play of the game, Cornell made an apparent touchdown and was acclaimed the victor. Motion pictures, however, showed that the pass had been made on an illegal fifth-down. The referee acknowledged the error two days later; and Cornell conceded its defeat by a score of 3-0.

Notre Dame, after a brilliant start, which included the defeat of Army, was beaten by Iowa and Northwestern. In its first upset in three years, Georgetown was downed by Boston College 19-18, after leading by 10 to 0. Penn State experienced the sensation of meeting its first defeat in the final game of the season, losing to Pittsburgh. Though vanquished several times, Harvard, Columbia, and Dartmouth had remarkably strong teams; and other creditable elevens were those of Navy, Temple, Pittsburgh, Princeton, Colgate, and Syracuse.

The post-season games played on New Year's Day 1940 resulted as follows: Rose Bowl (Pasadena, Calif.): Southern California 14, Tennessee 0; Sugar Bowl (New Orleans, La.): Texas A. and M. 14, Tulane 13; Orange Bowl (Miami, Fla.): Georgia Tech 21, Missouri 7; Sun Bowl (El Paso, Tex.): Catholic University 0, Arizona State of Tempe 0; Cotton Bowl (Dallas, Tex.): Clemson 6, Boston College 3.

The corresponding events played one year later, on New Year's Day 1941, produced the following results:

Rose Bowl: Stanford 21, Nebraska 13; Sugar Bowl: Boston College 19, Tennessee 13; Orange Bowl: Mississippi State 14, Georgetown 7; Sun Bowl: Western Reserve 26, Tempe (Ariz.) Teachers 13; Cotton Bowl: Texas A. and M. 13, Fordham 12.

Professional football continued to command the serious attention of the American public. One of the sensational events of the season was the massacre of the Washington Redskins by the Chicago Bears by the astronomical score of 73 to 0. In the early part of the season the Redskins won seven straight and seemed destined for championship honors. Their success was short-lived, however, and in November, after defeating the Bears 7-3, they were definitely headed downhill. They were humbled by the Brooklyn Dodgers and also by the New York Giants. Then the race tightened and the Redskins, by an effort born of sheer determination, managed to beat the Philadelphia Eagles 13 to 6 and capture the laurels of the eastern division.

In the west, the Chicago Bears and the Green Bay Packers ran neck and neck till the very end, the former taking final honors. The play-off between the Washington Redskins and the Chicago Bears, representing the eastern and western divisions respectively, occurred on December 8 in Griffith Stadium before a crowd of 36,034 persons who paid some \$102,280 to watch the slaughter.

**FOREIGN EXCHANGE.** See INTERNATIONAL BANKING AND FINANCE; the countries under *Finance*.

**FOREIGN RELATIONS.** See UNITED STATES under *Foreign Affairs* and the foreign countries under *History*; also, PAN AMERICANISM.

**FORESTRY.** Because of the sharp demand for lumber for construction of barracks and other uses incident to the defense program, there was a notable increase in lumber output in 1940 over that of the preceding year. As a result, lumber prices rose sharply, to the detriment of home building and other ordinary domestic uses. As emphasized

by Earle H. Clapp, Acting Chief of the Forest Service in his annual report to the Secretary of Agriculture, forests are unlike many of our natural resources. With planned management and protection, the forests can be continuously harvested. At present, the nation is not making adequate provision for the perpetuation of the forests. Approximately three-fourths of the commercial forest areas are in private ownership. The Forest Service stressed the need of public co-operation and aid to private owners and urged that private owners be encouraged to co-operate by effecting reasonable practices that would aim toward sustained production. At the present time, more than 85 per cent of the 202 million acres in private ownership lack forest management of any kind. Of some one million industrial and non-farm owners, only 215 are operating on a sustained yield basis and the properties so managed represent less than 11.5 million acres. Forests are so vital to the welfare of the nation, both in time of peace and war, that their constructive management is a matter of primary concern to the American people.

**Lumber Production.** Based on figures released by the National Lumber Manufacturers Association, Washington, D.C., there was a considerable increase in lumber production in the United States in the calendar year 1940 as compared with 1939. The data, in board feet, are shown in the accompanying table.

Month	1939 (Board feet)	1940 (Board feet)
January..	1,782,200,000	1,899,471,000
February..	1,637,400,000	1,823,576,000
March..	1,922,700,000	1,988,497,000
April..	1,968,300,000	2,151,887,000
May..	2,234,900,000	2,433,522,000
June..	2,251,600,000	2,217,113,000
July..	2,143,400,000	2,321,597,000
August..	2,400,800,000	2,489,724,000
September..	2,303,100,000	2,439,702,000
October..	2,362,500,000	2,743,397,000
November..	2,250,300,000	2,288,381,000
December..	2,001,800,000	2,169,820,000

**Lumber Trade.** An analysis of data in the October, 1940, Monthly Summary of Foreign Commerce of the United States, published by the U.S. Department of Commerce, shows a distinct upward trend in the values of both export and import items as compared with those of the preceding year. The total values for the 10 months ended October 31 were as follows: Imports: 1940, \$210,918,427; 1939, \$204,539,707. Exports: 1940, \$134,113,177; 1939, \$80,571,184. A breakdown for 1940 shows the following:

	Imports	Exports
Wood, Unmanufactured .....	\$ 6,877,059	\$ 2,249,107
Wood, Sawmill Products .....	19,274,512	31,244,315
Wood, Manufactures .....	9,537,285	16,904,011
Paper Base Stocks .....	65,117,330	27,809,308
Paper and Manufactures .....	110,112,241	55,906,436

The very important item of paper (q.v.) and manufactures is indicated and under imports includes the vast amount of news print obtained from Canadian sources.

**Public Forests.** According to the 1940 Report of the Chief of the U.S. Forest Service, there are 196 million acres of publicly owned forest land in the United States outside Alaska. Community forests owned by villages, towns, cities, and counties total about 8 million acres. State forests include approximately 19 million acres. The balance

of 169 million acres was in the National Forests. With forest lands outside continental United States included, the National Forests embraced on June 30, 1940, 176,567,095 acres owned or in process of acquisition as compared with 175,843,405 acres at the end of the preceding fiscal year. The great significance of nationally owned forests rests not only in their production of lumber on a sustained basis but also in their value for protection of water resources, their recreational facilities and the inclusion of vast grazing areas that are managed also on a sustained basis. Under systematic forest fire protection, the national forests have a fine record in keeping losses at a minimum, despite the fact that millions of citizens utilize these forests as a source of recreation and restful vacations.

**Forest Protection.** A most interesting development in forest fire control in 1940 was the greatly expanded use of airplanes and trained parachute jumpers for the suppression of fires in remote areas lacking in roads or accessible trails. Prompt attack on forest fires is a potent factor in reducing potential losses. Education through the facilities of the radio, motion pictures, and public press was actively pursued in an attempt to reduce man-caused fires. The Civilian Conservation Corps, with 322 camps on National forests, 176 on State forests, and 101 on privately owned forest land, again constituted a most important arm of defense in the reduction and suppression of forest fires. In addition to direct fire fighting, the CCC aided greatly by the construction of roads and trails, reservoirs, and the like. See CIVILIAN CONSERVATION CORPS; LAND UTILIZATION, OFFICE OF; SOIL CONSERVATION SERVICE.

Working through the Northeastern Timber Salvage Administration, the U.S. Forest Service aided in the disposal of timber and pulpwood resulting from the disastrous September, 1938, hurricane. Fire hazards in New England were reduced by the systematic disposal of limbs and brush.

In the Pacific Northwest, control of white pine blister rust was actively pursued by the destruction of wild currant and gooseberry bushes, on the leaves of which the disease passes an essential part of its life. The task is tremendous, with over a million and a half acres of western white or sugar pine lands from which the alternate host plants must be eradicated.

**Publications.** Through the public press and journals such as *American Forests*, conservationists continued to press actively the great need of preserving our American forests and of acquainting the public with forest species and their uses. The U.S. Forest Service published *Forest Outings*, a finely illustrated book of 311 pages devoted to outstanding features of the National Forests, particularly from the viewpoint of recreational possibilities.

J. W. WELLINGTON.

**FORMOSA (TAIWAN).** An island near the southeast coast of China, ceded to Japan by China in 1895. Total area, including the Pescadores, 13,889 square miles. Total population (1937 estimate), 5,609,000. Chief towns: Taihoku (the capital), 278,446 inhabitants in 1935; Tainan, 111,959; Keelung, 84,978; Takao, 83,735. The chief agricultural products are rice, sugar, tea, sweet potatoes, ramie, jute, and tumeric. Camphor is obtained from the forests under a government monopoly. Livestock (1937); 1,849,195 swine, 282,101 buffaloes, 76,341 cattle, and 70,384 goats. Gold,

silver, copper, and coal are the main mineral products. Trade (1938): Imports, Y366,659,000; exports, Y456,454,000 (yen averaged \$0.2845 for 1938; \$0.2596 for 1939). Budget (1939-40): Revenue and expenditure were estimated to balance at Y208,602,000. Governor General, Adm. Kiyoshi Hasegawa who succeeded Adm. Seizo Kobayashi on Nov. 26, 1940. See JAPAN under History.

**FOUNDATIONS.** Construction procedure on foundation work must often be changed as work progresses, due to unexpected conditions encountered. With good bearing material found only at a depth of 90 ft. under the site for the west pier of the new Black River bascule bridge at Lorain, Ohio, it was planned to sink cylinders of steel plate, 8 and 12 ft. in diameter, to this depth and fill them with concrete to form supporting piers. This was to be done within a cofferdam. But as conditions appeared to be favorable for pile driving, it was decided to make the cylinders by driving steel sheet piles. However, obstructions that had not been revealed by borings led to the use of steel piles instead of the shafts and piers. Curious behavior of some Mississippi River bridges seems to indicate that piers founded in the deep bed of soft clay and silt will rise and fall slightly with change in level of the water, but the records are not complete enough to be reliable.

Steel H-beam piles 194 ft. long, the longest ever driven, were used in the foundations for the concrete piers of the Potomac River bridge at Ludlow Ferry, Md., and also as combined foundation piles and trestle posts of the viaduct approaches. Some of those under the river piers were driven until their tops were 80 ft. below water. They were made in two pieces, one being 115 ft. long and the other making up the desired length, the two being connected by riveted splices. In the trestles, the part above ground is cased in concrete. Steel piles of Z-section have been used to build up hollow piers which are filled with concrete.

Wood piles 150 ft. long were used under the new Post Office building at San Francisco. The maximum length of single piles was 126 ft., requiring special construction of pile drivers to handle them. For greater lengths, two piles were put end to end, with steel dowels and barbed grids between them, the joint being spliced by an 18-in. length of 10-in. steel pipe. Of the 4000 piles used, about 2500 were spliced.

Foundations of large buildings have presented many interesting features and difficult problems. To provide against expected unequal settlement under different parts of the New England Mutual Life Insurance Building at Boston, Mass., due to varying character of soil materials, the foundations were made so stiff as to distribute the load over the softer spots. The concrete foundation walls were made as girders of reinforced concrete. Foundation design for the new building of the Aetna Casualty & Surety Company, in New York, was complicated by rapid-transit subways on two sides. As rock was too deep to be reached economically, spread footings on piles were used in the interior area. Along the sides adjacent to the subways, however, the foundations consist of steel pipes driven as piles to a depth below the subway level and then filled with concrete.

A troublesome foundation problem arising from the construction of the Chicago rapid-transit subways at a deep level in the clay formation, is the effect of the excavation of these tunnels upon many buildings which have shallow or spread founda-

tions. Movement of the clay and drainage of contained water is bound to occur and may endanger foundations built near the surface of the soil. In anticipation of such troubles, many buildings, large and small have been pulled down, as their value would not warrant the cost of building new foundations. Notable among these are the 23-story Capitol Building, and the 14-story Great Northern Hotel, the latter built in 1892 and pulled down in 1940. Some of the wrecked buildings have been replaced by two-story structures having rental value sufficient to pay their taxes. In other cases, the sites are utilized as parking areas for automobiles. The general effect is a marked change in the appearance of the business district, since some notable "skyscrapers" and many old buildings of moderate height have disappeared.

An exception to the policy of abandonment is the 17-story Monadnock Block, 66 × 400 ft. in plan and 216 ft. high. The old foundations were brick piers on grillage mats or footings consisting of six or seven layers of steel rails embedded in a deep slab of concrete, about 15 ft. below the street level. Its longer side fronts on Dearborn St., which is the route of a subway line. To establish a sure foundation on this side, the old footings of the columns were underpinned and held on jacks while shafts were sunk beneath them to rock at about 60 ft. below the street and 25 ft. below the floor of the subway. These shafts, 4 to 5½ ft. in diameter and belled out at the bottom to 9½ or 13½ ft., were filled with concrete to form piers supporting the old foundations.

In recent years much progress has been made in earthquake-resistant buildings and their foundations. A 1940 example is the Hoover Library of War and Peace at Stanford University, in California. This building, situated near an active geological "fault," consists mainly of a 16-story steel-frame tower 52½ ft. square and 280 ft. high, with reinforced concrete walls and containing several floors of book racks. Its foundation is a massive slab of reinforced concrete 61 ft. square and 5½ ft. thick. A two-story building around the base of the tower has independent footings for its columns, on the sand and gravel formation.

Pneumatic or compressed-air caissons are applied to an unusual purpose in forming the deep foundations for the cut-off or core wall in the Merriman earth dam for the Delaware River water supply of New York. There are 18 caissons in a row, mainly 45 × 12 ft. in plan, and the highest is 169 ft., penetrating 136 ft. below the bottom of the cut-off trench.

E. E. RUSSELL TRATMAN.

**FOUNDATIONS AND TRUSTS.** See **BENEFACTIONS.**

**FRACTURES,** Compound. See **MEDICINE AND SURGERY.**

**FRANCE.** A country of western Europe. As a result of the German invasion of 1940, the capital was transferred successively from Paris on June 10 to Tours, Bordeaux, Clermont-Ferrand, and Vichy. German and Italian troops remained in occupation of a large part of France from the commencement of the armistice on June 26 until the end of the year.

**Area and Population.** The area at the beginning of 1940 was 212,722 square miles. It was reduced during the year by 5605 square miles to approximately 207,117 square miles as a result of the annexation by Germany of the departments of

Bas-Rhin, Haut-Rhin, and Moselle, the former German provinces of Alsace and Lorraine. The population of France on Jan. 1, 1939, was estimated at 41,980,000. The population of Alsace-Lorraine in the 1936 census was 1,915,627. See *History* below. Live births in 1938 numbered 612,138 (14.6 per 1000); deaths, 646,879 (15.4 per 1000). Live births in the first six months of 1939 totaled 312,652 (14.9 per 1000); deaths, 350,369 (16.7 per 1000). Populations of the chief cities at the 1936 census were: Paris proper, 2,829,746; Marseille, 914,232; Lyon, 570,622; Bordeaux, 258,348; Nice, 241,916; Toulouse, 213,220; Lille, 200,575; Nantes, 195,185; Strasbourg, 193,119; Saint-Étienne, 190,236; Le Havre, 164,083; Toulon, 150,310; Rouen, 122,832; Nancy, 121,310; Reims, 116,687; Roubaix, 107,105; Clermont-Ferrand, 101,128.

**Colonial Empire.** The colonies, protectorates, dependencies, and mandated territories of France had a total area of some 4,617,579 square miles and a total estimated population of 70,000,000 in 1938. See the separate articles in this *YEAR BOOK* covering each of the following divisions: ALGERIA; CAMEROON, FRENCH; FRENCH EQUATORIAL AFRICA; FRENCH GUIANA; FRENCH INDIA; FRENCH INDO-CHINA; FRENCH WEST AFRICA; GUADELOUPE; MADAGASCAR; MARTINIQUE; MOROCCO; NEW CALEDONIA; NEW HEBRIDES; OCEANIA, FRENCH; RÉUNION; ST. PIERRE AND MIQUELON; SOMALILAND, FRENCH; SYRIA AND LEBANON; TOGO, FRENCH; and TUNISIA.

**Religion and Education.** With the exception of about 1,000,000 Protestants and a few thousand Jews, the French people profess the Roman Catholic faith. At the 1931 census there were 2,286,273 persons of five years or over (7 per cent of the total) unable to read or write. The school enrollment was: Elementary (1937-38), 5,436,554; higher elementary (Nov. 15, 1937), 257,597; secondary (November, 1938), 268,043; universities (July 31, 1938), 74,832.

**Agriculture.** About 38 per cent of the working population is directly supported by agriculture, 31 per cent by industry, and 11.5 per cent by commerce. There were 50,148,088 acres of arable land (36.84 per cent of the total) in 1937. Yields of the chief products in 1938 in metric tons except where otherwise indicated were: Wheat, 7,800,000 (1939); rye, 811,100; barley, 1,290,800; oats, 5,457,400; corn, 578,600; potatoes, 17,314,500; beet sugar, 930,000 (1939); olive oil, 4800; wine, 61,000,000 hectoliters. Livestock on Jan. 1, 1939, comprised 2,692,000 horses; 135,000 mules; 185,000 asses; 15,622,000 cattle; 9,872,000 sheep and lambs; 7,127,000 pigs; 1,416,000 goats.

**Mining and Manufactures.** Mineral and metallurgical production in 1938 in metric tons was: Coal and lignite, 47,557,000; iron ore, 10,100,000; pyrites, 147,000; potash (K<sub>2</sub>O content), 582,000; bauxite, 683,400; pig iron and ferroalloys, 6,049,000; steel ingots and castings, 6,174,000. Silk production (1939) was 41 metric tons; rayon, 25,500 metric tons; alcohol (1937), 109,701,000 gal.; vessels launched, 47,700 gross tons (1938).

**Foreign Trade.** Merchandise imports in 1938 were valued at 45,981,000,000 francs; exports at 30,586,000,000. For the first eight months of 1939, imports were 32,539,000,000 francs; exports, 23,832,000,000 francs. For distribution of trade in 1937 and 1938, see the 1939 *YEAR BOOK*.

**Finance.** Civil budget revenues for 1939 were 63,657,000,000 francs and expenditure appropriations 106,377,000,000 francs. Defense appropri-

tions, covered entirely by borrowings, totaled about 80,000,000,000 francs. The aggregate deficit was thus about 123,000,000,000 francs, or approximately \$3,000,000,000 at the average exchange rate of \$0.0251 for 1939. Civil budget estimates for 1940 placed revenues at 79,951,183,112 francs; expenditures, 79,889,137,098 francs. At the beginning of 1940, the defense budget for that year was estimated at 249,000,000,000 francs, all of which was to be borrowed; it was almost equivalent to France's entire national income in 1939. The French Treasury reported the total public debt on Aug. 31, 1939, at 445,000,000,000 francs. See *History*.

**Transportation.** The French railway network, comprising seven large systems with about 26,427 miles of line, incurred an aggregate deficit averaging about 2,500,000,000 francs annually previous to the European War. On Mar. 14, 1940, the Minister of Public Works reported that the railways were operating with a small excess of receipts. Highway mileage (1939), 393,761 (see *ROADS AND STREETS*). Inland waterways carried 45,006,000 metric tons of freight in 1938. Operating statistics of Air France, which virtually monopolized air transport, were for 1939: Length of services, 27,823 miles; miles flown, 5,838,917; passengers, 91,469; mail, 1,774,243 lb.; freight and excess baggage, 1,897,718 lb. Previous to the European War (q.v.) the leading ports by volume of freight handled were Marseille, Le Havre, Cherbourg, Dunkirk, Rouen, Boulogne, and Bordeaux. In June, 1939, the French merchant marine had a gross tonnage of 2,952,975.

**Government.** Under the Constitution of 1875, with its amendments, executive power was vested in the President, acting through a ministry selected by him but responsible to Parliament. Legislative power was vested in the Chamber of Deputies and the Senate, members of which jointly elected the President for seven years. The Senate in 1940 had 314 members, all 40 years or more of age and chosen by electoral colleges in each department for nine years, with one-third retiring every three years. The Chamber of Deputies had 618 members, elected by direct manhood suffrage for four years. President, Albert Lebrun (re-elected Apr. 5, 1939). The Cabinet at the beginning of 1940, headed by Edouard Daladier (Radical Socialist), was appointed Apr. 10, 1938, and reorganized on a war basis Sept. 13, 1939. The chief members were: Premier, Minister of National Defense, War and Foreign Affairs, Edouard Daladier (Radical Socialist); Armaments, Raoul Dautry; Blockade, Georges Pernot (Socialist and Republican Union); Justice, Georges Bonnet (Radical Socialist); Interior, Albert Sarraut (Radical Socialist); State, Camille Chautemps (Radical Socialist); Finance, Paul Reynaud (Radical Socialist); Colonies, Georges Mandel (Independent Republican); Education, Yvon Delbos (Radical Socialist); Air, Guy La Chambre (Radical Socialist); Navy, César Campinchi (Radical Socialist); Public Works, Anatole de Monzi (Independent Socialist); Commerce, Fernand Gentin (Radical Socialist); Agriculture, Henri Queuille (Radical Socialist); Transport, Jules Julien (Radical Socialist); Labor, Charles Pomaret (Socialist and Republican Union). For political changes during 1940, including the overthrow of the Republic in July, see *History*.

#### HISTORY

At 6:50 p.m. on June 22, 1940, Gen. Charles Huntziger of France and Col. Gen. Wilhelm Keit-



el, chief of the High Command of the German armed forces, signed an armistice that marked the most humiliating setback for France since the end of the Napoleonic wars.

The French peace delegation was received on June 21 by Adolph Hitler in the same railway dining car in the same spot in the forest of Compiègne, France, where General Foch, commander-in-chief of the Allied armies, received the unconditional surrender of the Germans on Nov. 11, 1918. There the armistice was signed the following day. On June 24 France also capitulated to Italy; General Huntziger, as head of the French peace negotiators, signed a Franco-Italian armistice pact in the Villa Incisa 12 miles from Rome. Both agreements went into effect, and simultaneously fighting stopped, at 12:35 a.m. (French time) on June 25. The armistice reduced France to impotence, leaving her virtually at the mercy of the Rome-Berlin Axis.

France's surrender followed the crushing defeat of her armies in two great battles that began with the German invasion of Belgium, Luxemburg, and the Netherlands on May 10. Her fate was sealed when Italy entered the war on June 10 while French defense lines before Paris were crumbling under the fierce assault of German armored divisions. See *EUROPEAN WAR* for a complete account of the military operations.

**Armistice Terms.** The armistice agreements (see p. 231) exacted from France every concession that might be useful to Germany and Italy in prosecuting their struggle with Britain. German troops occupied more than half of France, including the entire coast on the English Channel and the Atlantic (see map on p. 232). This area comprised all the coal mines and virtually all the war industries of France. All factories, mines, and transportation facilities in this region were placed at the disposal of the occupying forces. Germany and Italy held all French war prisoners pending conclusion of a permanent peace, but France was required to release its war prisoners and also all German and Italian subjects, particularly refugees, designated by the victors. Moreover the Reich reserved the right to denounce the armistice if, in the judgment of the German Government, France did not fulfill all of its terms.

**Political Developments.** The collapse of French military defenses was accompanied by the fall of the Third Republic, born during the travail of the Franco-Prussian War. It not only discredited the parliamentary system and the politicians charged with responsibility for maintaining French security, but also opened the pathway for the ascendancy of the Fascist, pro-German and pro-Italian elements in France and the crushing of Leftist political influence. Coincidentally there began a reorientation of French foreign policy that brought the government into closer collaboration with France's victorious foes—in the hope of obtaining more favorable peace terms—while widening the rift with Britain that began with the French capitulation to Hitler.

Premier Daladier, by utilizing the extensive powers granted his government by Parliament in 1939 (see 1939 *YEAR BOOK*, p. 287 f.), managed to curb political and class antagonisms during the first part of 1940 and to present what seemed like a united front to the enemy. The censorship was further tightened and other repressive measures taken to end the defeatist and pacifist propaganda assiduously circulated by German agents and sym-

pathizers on the one hand and by Communists and pacifists on the other. On January 25 the ban against expressions tending to weaken French morale was extended to remarks made in public or on posters and placards. Severe measures were taken to curb the activities of spies and traitors. Dr. Karl Roos, leader of a pro-German Alsatian autonomist movement, was executed for espionage on February 7.

**Drive on Communism.** The government's drive against communism was extended. In mid-January both houses of Parliament by overwhelming majorities passed a law excluding Communist representatives from Parliament and from municipal offices throughout France. Those Communists who publicly repudiated their party's policies before Oct. 26, 1939, were exempted. Expulsion of 60 of the 72 Communist members of the Chamber of Deputies was consummated on February 20. On March 19 Minister of Interior Albert Sarraut reported to the Senate that in addition to the 60 Deputies, 2778 Communist members of municipal councils had been suspended, 620 Communist labor unions dissolved and 675 other Communist organizations banned. In all, 3400 Communist agitators had been arrested up to March 7, he said.

After a secret trial, 36 Communist Deputies who signed a letter to Edouard Herriot, Speaker of the Chamber, urging acceptance of Hitler's peace terms in the fall of 1939, were sentenced on April 3 to five-year prison terms, fines, and loss of civil rights for five years. Eight others, who fought for France in the World War, received suspended sentences. On May 3 some 200 Communist leaders were interned on islands off the French west coast. Nazi sympathizers and agents also came in for severe punishment, particularly during May and June when France was fighting with her back to the wall. Five Paris newspapermen were arrested June 5. There were numerous executions of French and foreign spies. Many of the latter entered France among refugees from Belgium and the Netherlands and played an important role in disrupting French communications and morale.

**Fall of Daladier.** In the effort to end defeatist and pro-German propaganda and to prevent the Germans from obtaining useful information, the censorship was administered with a rigidity that had unfortunate effects upon the French people at large. Little information was given to Parliament or the public concerning the administration and progress of the war. The resulting restlessness found expression early in February in demands from many Deputies for a report on the progress of armament industries, on military operations, and on the government's economic and foreign policies.

Premier Daladier sought to still this unrest by giving the desired information to the committees of the Chamber. But the Deputies were not satisfied and on February 9 they voted 262 to 227 for a secret session of the Chamber to hear a full explanation of the government's war policies. M. Daladier's convincing statement of his government's progress earned him a 534-0 vote of confidence in the Chamber on March 10 after a two-day debate. The resolution expressed the Chamber's confidence in ultimate victory. But belief in Allied supremacy, and with it the fortunes of the Daladier Government, soon began to wane.

A parliamentary barrage of criticism against the inept handling of the censorship led Daladier



on February 27 to create a Ministry of Public Information for the co-ordination of published information, broadcasting, propaganda, and censorship. With the signing of the Finnish-Soviet peace treaty on March 12 and the consequent German diplomatic and strategical gain, criticism of Daladier's conduct of the war gained strength. On March 16 he obtained a vote of confidence in the Senate, 240 to 0, after another secret debate, but 60 Senators under the leadership of former Premier Pierre Laval abstained as an expression of their disapproval. Laval was said to have demanded a "white peace" with Germany "to offset the Red danger."

The Socialists on the Left and the Republican Federation on the Right seized the opportunity to press for representation in the Cabinet, which was largely composed of Radical Socialists. There was also sentiment for more aggressive prosecution of the war. The impression began to gain ground that while the French army was sitting tight behind the Maginot Line at a cost of a billion francs daily, the Allied cause was losing ground on the diplomatic, military, and economic fronts. On March 19, in another secret session of the Chamber, only 239 Deputies voted to support Daladier while 300 abstained. The Premier immediately presented the resignation of his cabinet.

**Reynaud Cabinet Formed.** President Lebrun called upon Paul Reynaud, the politically independent Minister of Finance in the Daladier Ministry, to form a new cabinet. Reynaud was an ardent foe of those elements in France favoring further appeasement of Hitler and a compromise peace. He had handled France's difficult financial problems with exemplary vigor and success. He proceeded energetically to form a new government with wider political backing—seven parties from the Socialists on the Left to the right wing of the Center were represented—and to reorganize the cabinet system for more efficient prosecution of the war on all fronts.

The composition of the Reynaud Ministry formed March 21 was as follows: Premier and Foreign Minister, Paul Reynaud; Vice Premier, Camille Chautemps (Radical Socialist); National Defense and War, Edouard Daladier (Radical Socialist); Justice, Albert Sérol (Socialist); Interior, Henri Roy (Radical Socialist); Finance, Lucien Lamoureux (Radical Socialist); Information, Louis-Oscar Frossard (Republican Socialist); Navy, César Campinchi (Radical Socialist); Air, Laurent Eynac (Left Democrat); Education, Albert Sarraut (Radical Socialist); Colonies, Georges Mandel (Independent Republican); Commerce and Industry, Louis Rollin (Left Republican); Public Works and Transport, Anatole de Monzie (Republican Socialist); Labor, Charles Pomaret (Republican Socialist); Merchant Marine, Alphonse Rio (Republican Socialist); Supplies, Henri Queuille (Radical Socialist); National Economy and Agriculture, Paul Thellier (Left Republican); Armament, Raoul Dautry (non-party); Public Health, Marcel Héraud (Republican Socialist); Pensions, Albert Rivière (Socialist); Blockade, Georges Monnet (Socialist).

A number of much-criticized members of the Daladier Cabinet were dropped from the Reynaud list, including Minister of Justice Georges Bonnet, advocate of appeasement, and Air Minister Guy La Chambre. In the interests of efficiency, the cabinet was divided into a War Committee of five; a War Cabinet composed of the Premier, Vice Pre-

mier, and Ministers of War, Navy, Air, Finance, Armaments, Blockade, and Colonies; and the Economic Committee to co-ordinate all economic activities, comprising the Ministers of Interior, Commerce, Agriculture, Public Works, Supply, and Merchant Marine.

The Reynaud Ministry got off to an inauspicious start. It was confronted from the start with the political opposition of the extreme Right, which was not represented, and of part of the Radical Socialists, who were resentful of the overthrow of the largely Radical Socialist Daladier Ministry and the loss of three key cabinet positions. There was also growing opposition from the appeasers led by Laval, Bonnet, and Pierre-Etienne Flandin while the underground Communist movement continued to give the government trouble. Reynaud scraped through the first test in the Chamber with a majority of only one vote but he proceeded to organize his government to "wage war in all fields." Nevertheless the strength of the opposition indicated that the Premier might be overthrown in secret hearings scheduled before the Senate on April 9 and before the Chamber on April 11-12. His overthrow would have greatly increased the demand for peace with Hitler on the basis of the status quo.

**Effect of Norway Campaign.** Before dawn of April 9 the Germans launched their surprise attack upon Denmark and Norway and the "sit-down war" that had done so much to sap French morale came to an end. Without a dissenting vote, both houses of Parliament decided to give the Premier a free hand to carry on during the Norwegian campaign. A week later, however, he was called upon to give a full report of his progress both at home and abroad. His statements before secret sessions of the Senate and Chamber did much to revive confidence and he received unanimously favorable votes in the Senate on April 18 and in the Chamber on April 19.

Little news of the Norwegian campaign reached the French people until May 2 when the disheartening announcement was made that the Allied forces had been evacuated from the Trondheim region. The Reynaud Government then came in for some of the criticism that forced the resignation of Prime Minister Chamberlain in Great Britain. The stability of the cabinet was again in danger when the German onslaught against Luxembourg, Belgium, and the Netherlands on the morning of May 10 inaugurated the decisive battles on the Western Front.

**The Struggle for Survival.** Again the parties and groups hostile to the government withheld their criticisms and temporarily abandoned their partisan maneuvers to support the government in meeting France's supreme test on the field of battle. Premier Reynaud moved to widen the government's support by adding to the War Cabinet as Ministers of State two extreme Rightists, Louis Marin (Republican Federation) and Jean Ybarnégary of the pro-Fascist French Social party. A month before their parties had refused to join the cabinet because of their unwillingness to co-operate with the Socialists.

Reynaud, with the support of a majority of the government, made heroic efforts to check the military debacle that began with the quick collapse of the Netherlands, the piercing of the main Belgian defense lines before Allied troops could reach their assigned positions, and the fatal German break through the French defense system along the

Meuse between Namur and Montmédy on May 15 (see EUROPEAN WAR). On May 16 Paris was placed under military rule and Premier Reynaud warned the Chamber of Deputies and the French people that new "methods and men" might be necessary. On May 18 he took over direct control of the War Ministry from Daladier, to whom he transferred the Foreign Affairs portfolio. The aged Marshal Henri Philippe Pétain, famous organizer of French resistance at Verdun in the World War, was called home from his Ambassadorship in Madrid to become Vice Premier and chief adviser to Reynaud in the conduct of the war. Georges Mandel, disciple of Clemenceau and an able administrator, was appointed Minister of Interior to carry out the Premier's orders that weakness be punished by death. Armament and airplane factories were placed on a 24-hour basis, while strong measures were taken against spies, saboteurs, and slackers.

On May 19 Gen. Maxime Weygand was hurriedly recalled from Syria to replace Gen. Marie Gustave Gamelin as commander-in-chief of all French armed forces. With the inexorable German advance continuing, Premier Reynaud told the Senate on May 21 the full story of the disaster that was overtaking French arms. "The truth is," he declared, "that our classic conception of warfare has run counter to a new conception. The basis of this conception is not only in the massive use of armored divisions and of fighting airplanes; it is in the disorganization of the enemy rear . . ." He declared the German forcing of the Meuse was achieved as a result of "unbelievable faults which will be punished." These revelations and Reynaud's appeal for a super-human effort to save France awoke the ill-informed nation from its complacency, but last-minute efforts to remedy the situation proved unavailing.

The surrender of the Belgian army by King Leopold and the defeat of nearly one-third of the Allied forces in the Battle of Flanders, which ended with the German capture of Dunkirk on June 3 (see EUROPEAN WAR), lent impetus to demands of defeatist elements for immediate peace negotiations. However Premier Reynaud resolutely rejected talk of surrender. On June 6, the day after the Germans launched their offensive against the hastily improvised Somme front, Reynaud reorganized his government to eliminate the defeatists and others. He took over the Foreign Affairs portfolio from Daladier, who was dropped, and named Jean Prouvost, France's leading newspaper publisher, as Minister of Information. Maj. Gen. Charles de Gaulle, long an unheeded advocate of mechanized warfare, became Reynaud's chief assistant in the War Ministry, and Paul Baudouin, president of the Bank of Indo-China, was chosen to assist the Premier in the Foreign Office. Albert Sarraut, Lucien Lamoureux, Anatole de Monzie, and Marcel Héraud were replaced by Yvon Delbos, Marcel Bouthillier, Louis Oscar Frossard, and Georges Pernot, respectively.

In the face of the steady German advance, the Premier made a final effort to rally all French forces to avert catastrophe. Ably aided by Minister of Interior Mandel, he took further measures to punish slackers, fifth columnists, and other pro-German elements. At the same time he named Eirik Labonne to the vacant French Embassy in Moscow in an effort to gain Soviet aid. The "miracle" for which Reynaud strove failed to materialize, however. On June 10 his government was forced to leave Paris for Tours. Italy entered the

war on the German side the same day, eliminating hope that the beaten French armies might make a successful stand in southern France. The attitude of Spain also became threatening. On the night of June 13 the government fled from Tours to Bordeaux, and the following day German troops occupied Paris.

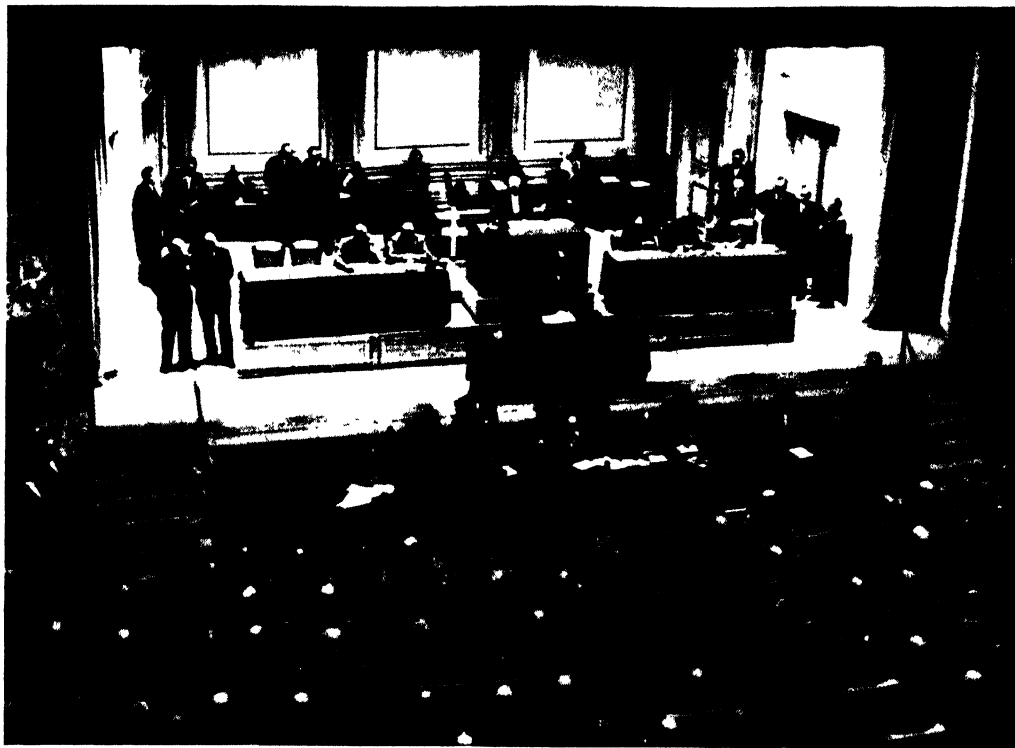
**Fall of Reynaud.** These tragic events reinforced the peace faction in France. Members of the cabinet demanded that the Premier open negotiations for an armistice. Hoping to win sufficient American support to remain in office and prosecute the war to the bitter end, the Premier on June 10 sent a personal appeal to President Roosevelt for "material support by all means 'short of an expeditionary force.'" He declared that if his government were driven out of France "we shall establish ourselves in North Africa to continue the fight and if necessary in our American possessions."

By June 12 Reynaud's position was gravely endangered. President Lebrun presided over a cabinet session in the Château de Cange, Tours, that day. Premier Reynaud called in General Weygand, who in "the most dramatic meeting of any government in the French Republic's history" informed the ministers that the military position of the French armies was hopeless. The cabinet unanimously decided to ask Prime Minister Churchill to come to France for consultation. Churchill arrived at Tours on June 13, accompanied by Foreign Secretary Halifax, Lord Beaverbrook, Minister of Aircraft Production, and a cabinet secretary. They conferred with Premier Reynaud and Minister of Interior Mandel.

Reynaud asked the British Prime Minister to release France from her obligation not to open peace negotiations without Britain's consent. According to Churchill's account of this interview, given before the House of Commons on June 25, he refused his consent but agreed that if the United States failed to guarantee sufficient aid to enable Reynaud to continue the struggle, he would reconsider his decision. He also undertook to send all possible British aid to the hard-pressed French armies. According to a statement of the Pétain Government issued June 24, Reynaud informed the cabinet after his conference with Churchill that the latter had stated that Britain would not blame France if events forced her to seek an armistice.

That same evening Premier Reynaud (June 13) broadcast his final appeal to the United States for "clouds" of war planes. He frankly admitted that the Battle of France was lost and implied that France could not continue the war without the "hope of a common victory" through American aid. President Roosevelt replied on June 15 that his administration would redouble its efforts to supply the Allied war needs as long as they resisted, but that only Congress could make military commitments. He added that the U.S. Government would not recognize infringement by force of the "independence and territorial integrity of France."

On June 16 Reynaud advised Churchill that the President's response did not meet France's need. He again requested release from the Anglo-French agreement not to make a separate peace. The British Government's reply stated that while Britain was determined to continue the struggle, it would agree to French armistice negotiations provided the French fleet was sent to British ports and held there during the negotiations. Seeking to induce France to continue the war, the British a few



*Wide World*

#### OFFICIAL END OF THE FRENCH REPUBLIC

The French National Assembly, convened in a theater in Vichy, when it voted in favor of a totalitarian dictatorship



*Wide World*

#### MARSHAL HENRI PHILIPPE PÉTAIN AND HIS CABINET

This session of Nov. 30, 1940, was called to discuss Hitler's proposals for Franco-German collaboration. The Ministers are, left to right: Gen. Charles Huntziger, War; Raphael Albert, Justice; Marshal Pétain, Chief of State; Paul Baudouin, Foreign Affairs; Admiral Jean Darlan, Navy; Pierre Caziot, Agriculture; Marcel Peyrouton, Interior; Pierre Laval, Vice Premier, who was ousted on December 14; Yves Boutillier, Finance; and René Belin, Industrial Production.



*Acme*

GENERAL MAXIME WEYGAND (LEFT) ARRIVES IN MOROCCO  
Accompanied by Gen. Auguste Nogues, Weygand is welcomed at Rabat by Moroccan chiefs and French officers



*Wide World*

GENERAL DE GAULLE INSPECTING "FREE FRENCH" TROOPS IN LONDON

hours later formally proposed the "indissoluble union" of the British and French empires, with a constitution providing "joint organs of defense, foreign, financial and economic policies"; the conferring of British citizenship on all Frenchmen and French citizenship on all British subjects; joint responsibility for the repair of war devastation on their territories; a single war cabinet controlling all Anglo-French forces on land, sea, and air; and formal association of the British and French Parliaments.

This offer was rejected. Instead the Reynaud Cabinet, meeting again the same night, voted 13 to 11 in favor of concluding a separate peace. Reynaud immediately resigned and a new government headed by Marshal Pétain was formed to sue for peace. It included Camille Chautemps as Vice Premier, Generals Weygand, Louis Colson, Bertrand Pujo, and Adm. Jean Darlan as heads of the defense ministries, and other officials who had held posts in the two Reynaud cabinets.

On June 17 Marshal Pétain, whose support of Weygand's capitulation proposal had been decisive, announced to his stunned countrymen in a radio address that as Premier of France he had applied to Hitler the previous night for an honorable termination of hostilities. This appeal, forwarded through Gen. Francisco Franco of Spain, was made with full expectation that France's victorious enemies would demand Alsace-Lorraine, Nice, Savoy, and other border areas; Corsica; overseas colonies, and probably the French fleet as the price of peace.

Three high British cabinet and naval officials were rushed to Bordeaux by Prime Minister Churchill to remind the Pétain Government that the condition on which Britain agreed to release France from her alliance obligations—dispatch of the French fleet to British ports—had not been complied with. They received assurances from Admiral Darlan and other members of the government that the fleet would never be allowed to fall into German and Italian hands. Yet the Pétain Government, after some hesitation and debate, authorized General Huntziger to sign the armistice accords, providing among other hard conditions that the French fleet should be demobilized and disarmed under German or Italian control in ports to be specified by the victors.

According to officials of the Pétain Government, they surrendered for the following reasons: (1) To end the slaughter of French troops, the suffering of hordes of refugees driven before the advancing German armies, and the devastation of cities and towns in unoccupied France by German and Italian air raids, (2) to forestall the military occupation of all France and to maintain the government on unoccupied French soil in order to lead the nation through the trials awaiting it, and (3) because Britain and the other French allies were unable to give the aid needed to continue the struggle. Neutral observers asserted that the Pétain Government was composed of persons who believed an early German victory over Britain certain and that a pro-Axis policy was henceforth necessary in order to obtain more lenient peace terms from Hitler and Mussolini than would be possible if France fought to the bitter end with Britain. This view was supported by the inclusion in the government on the day after the Franco-German armistice was signed of former Premier Pierre Laval, who replaced Chautemps as Vice Premier, and Mayor Adrien Marquet of Bordeaux. Both were

known for their marked pro-Nazi and pro-Fascist leanings.

**Split over Armistice.** The Pétain Government's surrender and adoption of a pro-Axis orientation deepened the divisions among the French people. On June 20, while Premier Pétain's order to continue resistance until honorable peace terms were obtained was still in effect, a group of nearly 100 parliamentary leaders, opposed to surrender, sailed from Le Verdon near Bordeaux on the steamship *Massilia* for Casablanca, French Morocco. The group was headed by the ex-cabinet officers Daladier, Campinchi, Delbos, and Mandel. French authorities aided the ship's departure, arousing belief that the Pétain Government was seriously considering continuation of the struggle.

At Casablanca the parliamentarians were welcomed by Gen. Albert Noguès, Resident General of Morocco, who at first seemed disposed to continue the war. However he received orders to detain the *Massilia* and its passengers, and was won over to acceptance of the armistice by Gen. Henri Gouraud, whom Marshal Pétain sent post-haste to Casablanca on June 27. Meanwhile the British Government had sent General Lord Gort and Minister of Information Duff Cooper to Morocco to establish contact with Daladier and his associates and persuade them to fight on with Britain. Through some misunderstanding, they landed by seaplane at Rabat instead of Casablanca. The French authorities at Rabat displayed a hostile attitude and refused to allow the British representatives to get in touch with those on board the *Massilia*.

This convinced the British of the authenticity of a report—said to have been deliberately circulated by the Germans—that an agreement had been reached for the surrender of the French fleet at Oran. The British attack on the French fleet followed on July 3, ending all hope of forming a separatist government in North Africa. The parliamentarians on the *Massilia* were refused transport facilities by the Franco-German armistice commission when they sought to return to Vichy for the July 9-10 session of Parliament (see below). Some of the most prominent were later returned to France under arrest to face trials or court-martials.

Ex-Premier Reynaud also attempted to leave France in order to organize resistance in North Africa, but was turned back at the Spanish border and arrested. Thus the little-known Gen. Charles de Gaulle was left to assume leadership of the numerous Frenchmen at home and in the colonies who refused to accept the armistice and repudiated the Pétain Government. He had gone to London upon the collapse of the Reynaud Cabinet, in which he was Under-Secretary for War, and issued radio appeals to the French people to continue the struggle. On June 23 he announced the formation, in agreement with the British Cabinet, of a French National Committee in London to carry on the war in alliance with Britain. On June 28 the British Government formally recognized de Gaulle as "leader of all free Frenchmen, wherever they may be, who rally to him in support of the Allied cause."

General de Gaulle declared that France could not honorably surrender while the governments of Poland, Norway, the Netherlands, Belgium, and Luxembourg continued to fight as allies of Britain and while France had at her disposal a vast empire with large military forces, a formidable fleet, and a large gold reserve deposited in England and the

United States. In defiance of Pétain's orders, he recruited Frenchmen in Britain, the French colonies, and foreign countries to continue the struggle. The Pétain Government deprived him of his military rank on June 23 and on July 7 a military court in Toulouse sentenced him in absentia to four years in prison for disobeying orders and inciting soldiers to disobedience. On August 2 he was sentenced to death, also in absentia, for plotting against the State.

Punitive measures were taken against other French leaders, within and without France, for their refusal to accept the armistice. After several plots against the Pétain regime had been discovered, street assemblies and demonstrations were forbidden on June 24. However the bulk of the military and political leaders remaining in France rallied behind Marshal Pétain. Largely through the influence of General Weygand, Pétain overcame the strong opposition of French commanders in French Indo-China, Syria, Algeria, and Tunisia to the armistice and secured their pledge of allegiance.

**France Goes Totalitarian.** At the end of June, the Pétain Government moved from Bordeaux to Clermont-Ferrand and then to Vichy. On July 5, Pétain announced that he had designated his new Vice Premier, Pierre Laval, to draw up a constitution giving France an "ultra-modern version of democracy." On July 9, 398 out of the 618 Deputies in the Chamber and 226 out of 314 Senators met in Vichy and approved a draft resolution giving Marshal Pétain full power to promulgate a new constitution. The vote was 395 to 3 in the Chamber and 229 to 1 in the State. There was no debate on the resolution on July 9, but when it came before both houses meeting jointly as the National Assembly on July 10, opposition groups succeeded in inserting a provision for a national plebiscite on the new charter. The resolution was then formally enacted, 569 to 80. It was stipulated that the constitution "shall guarantee the rights of work, family and native country" and be "applied by the Assemblies which it shall create."

Under authority of this resolution, Marshal Pétain issued six Constitutional Acts establishing an authoritarian regime and repudiating the principles and abolishing the institutions which France derived from the French Revolution. By Act No. 1 (July 11), he assumed the functions of the head of the French State and repealed Art. 2 of the 1875 Constitution providing for the election of a President by the National Assembly. By Act No. 2 (July 11), he assumed virtually unlimited powers of administration and legislation, with the exception of the power to declare war. By Act No. 3 (July 11), he decreed that the Senate and Chamber should remain in existence until the Assemblies provided for in the Constitutional Law of July 10 were formed. The Senate and Chamber were ordered to adjourn until further order; they were to convene only at the call of the Head of the State.

By Act No. 4 (July 12), Marshal Pétain provided that Pierre Laval should automatically succeed him if he should be prevented from exercising his functions before ratification by the nation of the new constitution. If Laval were prevented from assuming the office, the Council of Ministers would assume the powers of the Chief of State until they designated someone to fill the post "by a majority of seven votes." Act No. 5 of July 30 provided for the establishment of a Supreme Court

of Justice. A supplementary law of the same date authorized the court to try officials for crimes, misdemeanors, or betrayal of duty and all persons charged with attacks against the security of the State; it was empowered to sit in secret session "whenever the public interest calls for it." All provisions of the 1875 Constitution contrary to these five Constitutional Acts were abrogated.

**The Dictatorship in Action.** In assuming dictatorial powers on July 11, Marshal Pétain in a radio broadcast to the nation declared that labor was France's "supreme resource," that "international capitalism and socialism exploited and degraded France" and must be excluded from the new order, that an "elite corps" of leaders must be created, and the family strengthened and preserved. He stated that the government was preparing to return to German-occupied territory and had requested "that Versailles and the ministerial quarters in Paris be vacated for us."

On July 12 he named a new cabinet with Laval as Vice Premier and the other Ministers as follows: Defense, Gen. Maxime Weygand; Interior, Adrien Marquet; Foreign Affairs, Paul Baudouin; Finance, Yves Bouthillier; Justice, Raphael Alibert; Youth and Family, Jean Ybarnégary; Agriculture, Pierre Caziot; Communications, Deputy François Pietri; Colonies, Sen. Henri Lemery; Public Instruction, Sen. Emile Mireaux. The Marshal also announced that he would appoint governors for the 12 French provinces, giving them a large measure of personal responsibility and authority.

Under the direction of Pétain and his Ministers, the complete reorganization of France along totalitarian lines was gradually carried into effect. The process was by no means completed by the year's end and the promised new constitution was still in the process of formulation, but the main outlines of the new State had been shaped. Municipal elections were provisionally abolished in 2722 towns and cities having more than 2000 inhabitants in order to end municipal politics and electoral strife. Administration of these communities by technical experts along the lines of the American city manager system was planned. On December 15 Marshal Pétain announced his intention of creating a Consultative Assembly. A decree of December 25 made the prefects the supreme authorities in the departments, subordinate to the provincial governors but with authority over all local officials. There was a sweeping reorganization of the personnel of the prefects, judiciary, police, and virtually all other governmental services. The new Supreme Court, created to fix war responsibilities, and the Summary Court, to curb subversion, commenced operations.

**Church and Educational Reforms.** Secret societies were abolished, their headquarters closed and their properties confiscated in a move aimed chiefly at Freemasonry. All government officials were required to take an oath barring membership in secret societies. Jews were barred from directing positions in the government and from some professions. The influence and some former privileges of the Roman Catholic Church were restored. Public church processions, banned for many years, were resumed in August on Assumption Day. In September the Cabinet abrogated the law of 1904 forbidding religious orders to teach in France, and the law of 1901 discriminating against religious associations.

The educational system was reorganized both as

to personnel and methods. Liberal and radical influences were eliminated and inculcation of the love of family, home, and country was made a major objective. Physical education and sports were emphasized, Latin was made compulsory in lower grades, and normal colleges for training teachers of primary schools were abolished. A youth program was initiated "to prepare youth morally and physically to meet the painful exigencies of existence." To replace the former conscript system, abolished by the armistice, all youths in their twenties were required to enroll for six months in a compulsory National Service organization, modeled on the German labor camps. All private youth organizations were placed under government supervision. In an effort to strengthen and encourage the family, various State subsidies were given parents of large families. Divorce was made more difficult. The education of girls was revised to stress preparation for family life, and moral and legal barriers were erected against women in the professions and in industry.

**Censorship Measures.** A partial prohibition law, banning strong drinks in the afternoon, was introduced. State supervision was established over the medical profession, the motion pictures, the press, and other forms of communication and propaganda. Foreigners were barred from French journalism and advertising, and publicity as well as news and editorials were strictly censored. On November 3 the government took over the Havas news agency. At the same time severe penalties were established for listening to foreign radio stations broadcasting "anti-national" propaganda and for the publication of slurs or attacks upon the Chief of State. A government Office of Information was established December 20 to centralize and control the distribution of all news in France.

**Economic Reorganization.** The dictatorship also undertook the reorganization of the economic system along corporative lines. Labor unions, employers' associations, and trusts were dissolved. The regime of economic liberalism was abolished. New federations of workers, employers, and professional men were established under strict government control and supervision. Each industry was placed under a standard organization attached to a cabinet Ministry and a permit system made membership in the organization and observance of its rules and regulations a virtual necessity. State control over production, marketing, and consumption of industrial goods was established September 12. The French Line was reorganized under government control on December 15. The rebuilding and electrification of the railway system was undertaken.

The franc was detached from the pound sterling and placed on a managed currency basis. The task of framing the 1941 budget was placed in the hands of a committee of 13 members appointed by Marshal Pétain. Standard prices were imposed for stable foods and other necessities and this, together with rationing regulations and the control of production and distribution, maintained prices on a fairly stable level. Foreign commerce was severely regulated and conducted mainly on a barter basis.

Particular care was taken in reorganizing agriculture on a corporative basis. Local syndicates of peasant families were grouped into regional unions functioning through regional councils, charged with supervision of insurance, health, etc. Delegations from the regional unions were to form a national council, charged with supervision over the

regional units. In addition the national council was to control special groups of peasants, organized by categories of production, to promote agricultural progress. A back-to-the-land movement was initiated, with the direct assistance and under the organized control of the government. The State assumed power to give landless farmers nine-year concessions to land that had been idle for more than two years. It undertook the organization of "farm crews" to aid in the seasonal activities of sowing and harvesting. Some hundreds of thousands of demobilized soldiers and unemployed workers were mobilized to aid in the reconstruction of war damage and other State activities.

**The New Army, etc.** The army was demobilized in accordance with the armistice terms and then reorganized on a volunteer basis. Large numbers of officers were retired. The new army law of October 9 provided for terms of service varying from three to 15 years, according to the branch of service. Recruiting of a "quality force" of men between 18 and 25 was begun in November. The liberties and privileges accorded foreigners in republican France were withdrawn and many of anti-Nazi refugees from Germany and German-occupied territories were turned over to the Gestapo under the terms of the armistice. Increasingly harsh measures were taken to curb underground activities of the Communists, who had played a prominent part in the demoralization and defeat of France. On October 25, 1000 "Communist militants and propagandists" were arrested in the Paris area and elsewhere and a number of arms caches were raided.

Meanwhile the government gradually brought order out of the chaos that resulted from the French military collapse. Most of the 10,000,000 refugees, who had fled into Southern France before the advancing Germans, were repatriated. (Over 3,000,000 persons had left the Paris area alone.) The number of unemployed was reduced to about 800,000 by the year end. Some 2,000,000 demobilized soldiers were returned to their homes.

**The Food Problem.** The food shortage became increasingly acute, notwithstanding the progressive tightening of the rationing system introduced on October 1. In August an American Red Cross official reported that the "situation throughout France now is worse than in Belgium after the World War and is growing still worse." The Germans shipped large quantities of foodstuffs from France to the Reich and in addition the army of occupation requisitioned much French produce. The disruption of the French transportation and distribution system also made it difficult to distribute existing food supplies. However some food shipments were received from the French North African colonies and a small quantity of American relief supplies were allowed through the British blockade, which cut France off from most of the outside sources of supply. As a result, actual famine was averted during 1940 although the shortage of food, fuel, and clothing caused widespread hardship.

**Purge of Opposition Leaders.** While laying the foundations for a Fascist France, the Pétain Government undertook a "moral purge" of the opposition leaders. The Supreme Court of Justice, created under the Constitutional Act of July 30, convened at Riom on August 8. After a secret investigation into the alleged "crimes and misdemeanors" of governmental officials held responsible for France's involvement and defeat in war and

others charged with attempts against the security of the State, indictments were returned on September 5 against former Air Ministers Guy La Chambre and Pierre Cot, both of whom were then in the United States.

On September 7, ex-Premiers Daladier and Reynaud and General Gamelin were taken into "administrative internment" under Daladier's decree of Sept. 3, 1939, providing for the internment of persons regarded as dangerous to public security and the national defense. Former Minister of Interior Mandel was brought from Morocco and confined under the same law on September 11. On September 15 ex-Premier Léon Blum was confined with the four other notables in the Chateau de Chazeron near Vichy. Subsequently many other leaders of the Popular Front and of the Daladier and Reynaud Governments were interned.

The public prosecutor assigned to the Riom court asked the indictment of Daladier and Gamelin on September 18. Daladier was accused of declaring war without consulting Parliament and of failing to equip the army properly while serving as Minister of War. General Gamelin was charged with blundering in his conduct of French military operations. On October 19, the prosecutor asked the indictment of Blum for "betrayal of the duties of his charge" as Premier in the first Popular Front Government; of Mandel for "corruption and speculation on the value of the national currency;" and of Reynaud for "embezzlement of public funds."

On November 17 Gamelin, Daladier, and Blum were formally arrested and transferred from the Chateau de Chazeron to the detention center at Bourrasol near Riom. A few days later Reynaud and Mandel were moved to Pellevoisin, where a dozen lesser political figures and airplane manufacturers were being detained. At the end of December, preparations were still being made at Riom for the formal trial of the indicted men.

Vichy officials stated that the purpose of these trials was to apportion responsibility for France's entrance into the war and subsequent defeat. General de Gaulle, in London, charged that "the wretched people who betrayed France by capitulating are trying to divert attention from their own crimes." Neutral observers in France reported that the Riom trials had two major objectives—to discredit the defunct Republic and its still influential leaders, and to prove to the Germans that a few politicians and not the French nation as a whole were responsible for France's participation in the conflict. It was hoped in this way to temper the harshness of the terms that the Germans were believed likely to impose in the final peace settlement.

Meanwhile punishment was meted out to many prominent Leftist politicians, journalists, bankers, and others—many of them Jews—who had taken refuge abroad and continued to oppose the Pétain Government and its program of collaboration with Germany. The Vichy Government during October revoked the citizenship and confiscated the properties of 34 leading exiles. A military tribunal at Clermont-Ferrand tried others on military charges arising from their support of General de Gaulle's "Free French" movement or from the ill-fated effort of Daladier and his associates to continue the war from North Africa. Jean Zay, who resigned his post as Minister of Education to join the army when war was declared, and Pierre Viot, Under-Secretary of State for Foreign

Affairs in the Blum Government, were convicted of desertion for going to Morocco on the *Massilia*. Two former aides of Premier Reynaud were convicted in absentia of desertion and removing war documents. Some de Gaulle officers arrested for rebellious activity at Dakar, Senegal, were awaiting a hearing at the year's end on treason charges before the Summary Court established to try speculators and traitors.

**France and Germany.** Marshal Pétain's capitulation to Germany and his program for the reorganization and reconstruction of France was predicated largely upon his conviction that a German victory over Britain was inevitable and that France must come to terms with the new master of Europe. Hitler likewise anticipated the early collapse of British resistance. The terms of the armistice imposed upon France were based on that assumption. When the British fought off the German air invasion during August and September and later launched successful offensives against the Italians in Africa and the Mediterranean, the Vichy and Berlin Governments were both forced to revise their policies.

British tenacity strengthened Pétain's hand in resisting German demands, while at the same time it undermined the prestige of his government among Frenchmen and made his policy of limited collaboration with the Reich more and more dangerous to the unity of the nation and of the empire. Support for General de Gaulle's "Free French" movement gained momentum with each British and Greek victory, making it increasingly difficult for Vichy to hold the French colonies in line. Simultaneously Hitler's anxiety to win French collaboration against Britain increased, and the Germans resorted increasingly to a combination of threats and promises to secure the Vichy Government's co-operation.

**Loss of Alsace and Lorraine.** Beginning late in July the Germanization of Alsace and Lorraine commenced under German civil administrators appointed by Chancellor Hitler. National Socialism was introduced a step at a time, while all elements of French culture were rooted out through repressive legislation, the deportation of French-speaking inhabitants, the closing of French schools, etc. Toward the end of the year, it was formally announced that Alsace and Lorraine were being re-incorporated in the Reich.

**Conditions in Occupied Area.** In the remainder of the occupied area of France, German measures became progressively more onerous while the long-drawn-out negotiations with Vichy proceeded. Anti-German and pro-British individuals were imprisoned or removed from their positions. On June 27 severe penalties were imposed for the possession of arms or radio-sending apparatus, for listening to non-German radio broadcasts, spreading anti-German reports, holding meetings or demonstrations, and for either the dismissal of employees or the quitting of work by employees in order to harm German interests.

Factories in the occupied area were put to work on German war orders wherever possible. The machinery of others was shipped to Germany. On July 28 a ban was imposed on traffic and communication between the occupied and unoccupied areas, while a mounting barrage of criticism was aimed at the Vichy Government by official German spokesmen and by the press, which had been placed under rigid German control. French producers and storekeepers were forced to exchange their goods



for paper marks, printed especially for the army of occupation and not exchangeable outside of the occupied area. On August 10 all banks and other financial institutions in the occupied zone were placed under German supervision.

The efforts of the Vichy Government to return to Paris in accordance with the armistice terms were repeatedly rebuffed. Marshal Pétain, in a broadcast on August 13, announced that the German Government informed him on August 7 that it could not permit the transfer to Paris "for reasons of a technical nature and so long as certain material conditions had not been realized." From various sources it was indicated that the Germans wanted the co-operation of the Vichy Government in obtaining the French gold reserves in the United States. They demanded the elimination of suspected anti-German individuals from the Vichy Cabinet and the restriction of French authority in the unoccupied area. Foreign Minister Baudouin was denounced for his alleged efforts to form an Italo-French-Spanish bloc as a counter-weight to Germany.

**Pétain Reorganizes Cabinet.** The Vichy Government made efforts to conciliate the Germans and relieve this mounting pressure. Vichy suspended relations with the refugee Dutch and Belgian governments, interned all British subjects, and reorganized the personnel of the Foreign Service to eliminate persons unacceptable to Berlin. Moreover all of the former parliamentarians in the Pétain Government except Vice Premier Laval were eliminated in a cabinet reorganization on September 6. Laval, who had conducted negotiations with the German Ambassador in Paris, obtained greatly increased powers. He secured control of all means of propaganda and communication along with the duty of co-ordinating the work of the various governmental departments.

Important changes in the cabinet included the replacement of the influential Adrien Marquet as Minister of Interior by Marcel Peyrouton and of War Minister Maxime Weygand by Gen. Charles Huntziger. Weygand was sent to French North Africa as general delegate, armed with full civil and military powers, including command of all France's armed forces in North and West Africa and Syria. The purpose of his mission was not only to keep the colonies loyal to the Vichy Government but also to back up Marshal Pétain in his negotiations with the Germans. The other members of the cabinet were either military-naval men or experienced civil servants sympathetic to Pétain's program of national reconstruction.

The foregoing measures failed to appease the Germans, who were becoming more insistent upon control of unoccupied France and the use of French air and naval bases in North Africa, West Africa and Syria. On September 14 travel and communication between the occupied and unoccupied zones were further restricted. Deportations from Alsace-Lorraine and other parts of the occupied zone were increased and the whole machinery of German control was tightened. Hundreds of thousands of French war prisoners were sent to Germany to augment the labor force.

In a message to the French people on October 10, Marshal Pétain appealed to Hitler to make "a wholly new peace of collaboration" rather than "the traditional peace of oppression." He said that France would collaborate with the Reich on an honorable basis but that "if all roads are closed to us, we shall know how to suffer and wait."

**Hitler and Pétain Confer.** This statement was followed by a new effort to arrive at a settlement with the Germans that would ease the tragic position of French war prisoners and the whole civil population. Vice Premier Laval was entrusted with the negotiations. On October 21 Pétain announced through the French press that his government had decided to change its foreign policy. On the following day Laval conferred with Hitler in Paris. He reported to the cabinet at Vichy and was returning to Paris for further discussion with the German Fuehrer when Marshal Pétain decided to intervene directly. Laval was recalled to Vichy and a communiqué was issued stating that under no circumstances would France fight against Britain or turn over her fleet or armaments for war purposes. It was indicated that Laval had agreed to such conditions in his talks with Hitler and that Pétain had repudiated Laval's stand.

There followed on October 24 a historic meeting between Hitler and Marshal Pétain near Tours in occupied France. Two days later the Marshal informed his cabinet that after discussing means of "reconstructing peace in Europe" they had "come to agreement on the principle of collaboration. Methods of application are yet to be examined." The cabinet approved this decision and on October 28 Vice Premier Laval replaced Paul Baudouin as Foreign Minister to carry on the negotiations with the Germans for application of the accord. However Pétain sent War Minister Huntziger to Paris with Laval to participate in the negotiations. In a radio broadcast to the nation on October 30, which hinted at dissensions within his government, the Marshal called upon the nation and the colonial empire to follow his leadership. He said he had accepted only the principle of collaboration with Germany and that such collaboration "might" lighten France's burden by improving the status of the war prisoners, reducing the cost of the German occupation, and relaxing the barrier between occupied and unoccupied France.

**The Pétain-Laval Split.** The conflict between Pétain and Laval over the extent of French co-operation with Germany rapidly widened in subsequent weeks. Before conferring with Hitler on October 22, Laval had asserted in a press interview in Paris that he was staking the future of France on collaboration with the Reich, that he was convinced democracy was doomed everywhere, and that he hoped for the complete destruction of the British. He apparently was determined to turn over French metropolitan and colonial bases to the Axis, to cede part of the French fleet, and even to join openly in the war upon Britain. Pétain firmly rejected these proposals, which threatened to throw the French colonial empire into the arms of General de Gaulle and the British and to provoke civil conflict within France. There were serious anti-German demonstrations in Paris on Armistice Day (November 11).

With the support of the Germans, Laval strengthened his position at Vichy in preparation for an attempt to oust Marshal Pétain and swing France over to a policy of full co-operation with the Reich under his leadership. Meanwhile the German occupational authorities continued to tighten the screws on Pétain and the French people generally to force acceptance of Laval's policies. The tightening of German controls was varied with occasional minor concessions to aid Laval in his struggle with Pétain. Among such gestures was Hitler's announcement, on the centenary of the return of

Napoleon's ashes from St. Helena to Paris; that the remains of Napoleon's only son, the Duke of Reichstadt, would be returned from Vienna to Paris. Marshal Pétain was invited to attend the ceremonies in connection with the reinterment in the Invalides (Napoleon's tomb) on December 15.

Laval apparently conspired to take the Marshal into custody in Paris and seize control at Vichy. The plot was said to have been discovered by Minister of Interior Peyrouton, who denounced Laval to Pétain. The Marshal confronted Laval at a cabinet meeting in Vichy on December 14 and ordered him placed under arrest. In a radio address to the nation that evening he announced the dismissal of Laval from the cabinet and the revocation of Constitutional Act No. 4, designating Laval as his successor. Announcing that Pierre-Etienne Flandin had been appointed Foreign Minister, the Marshal declared that he had taken action against Laval "for high reasons of interior policy . . . in no way connected with our relations with Germany."

**Pressure on Pétain.** The detention of Laval and the eradication of his influence at Vichy was a severe setback to German plans in France. The Nazi press and official statements from Berlin adopted a more threatening tone toward the Pétain Government. On December 16 Otto Abetz, German Ambassador in Paris, arrived at Vichy with a guard of picked German troops and demanded the "moral rehabilitation" of Laval. He obtained Laval release, and after an interview with Pétain the former Vice Premier took up residence in Paris. Laval's friend, Fernand de Brinon, was named chief liaison officer between Vichy and Paris and the palace guard organized by Minister of Interior Peyrouton was dissolved. But the Marshal up to the end of the year stubbornly resisted German demands that Laval be readmitted into the cabinet.

On Christmas Eve Pétain sent Adm. Jean Darlan to Paris to resume negotiations for limited collaboration with Germany. No progress was achieved up to the end of the year, however. The cost of the German army of occupation amounted in September to 400,000,000 francs a day or half the cost of prosecuting the war. On December 22 the total provisional non-interest-bearing advances from the Bank of France to the State to defray the cost of supporting German troops were increased to 73,000,000,000 francs. No progress whatever was made toward liberating the war prisoners in Germany and occupied France. The food situation throughout France was becoming increasingly acute. How long the Vichy Government could resist Hitler's demands under these circumstances remained problematical. But all signs pointed to a stiffening of French morale and a revival of hope for liberation as Axis difficulties multiplied.

**"Free French" Activities.** Throughout the critical months following Pétain's capitulation, General de Gaulle's "Free French" forces slowly gained strength and prestige as the prospects for successful Allied prosecution of the war brightened and as German mastery in France became more onerous. On August 7, the British Government undertook to bear the cost of de Gaulle's armed forces in so far as necessary, and to permit them to retain their French character and leadership under nominal British control. At the same time Prime Minister Churchill pledged the "full restoration of the independence and greatness of France" when an Allied victory was gained.

This enabled de Gaulle and the French officers who rallied to his cause to reorganize the military, naval, and air units that had escaped to Britain during the debacle in France. Those desiring to return to France were repatriated, but their places were taken by Frenchmen who escaped from France or the Vichy-controlled French colonies or who volunteered from British Empire and neutral countries. One "Free French" military force was organized in Britain, with a nucleus of veterans of the Narvik campaign and of troops evacuated from Dunkirk. Many French pilots flew their planes across the Channel from unoccupied France, while others stationed in French North Africa flew to Gibraltar or Egypt to join the British and "Free French." Large units of the French forces in Syria crossed into Palestine rather than accept the armistice terms and in December participated in the British offensive in North Africa. On November 29 de Gaulle claimed that his forces comprised 35,000 trained troops, 20 warships, 1000 aviators, and 60 merchant ships.

Beginning in August some of the lesser French colonies ousted their pro-Vichy officials and threw in their lot with General de Gaulle, while similar movements in other colonies were repressed with difficulty. The New Hebrides and New Caledonia in the Pacific, French Cameroon and most of French Equatorial Africa repudiated the Vichy Government in August and smaller colonies in French India and the Pacific followed suit. On September 23 "Free French" forces under the personal direction of General de Gaulle, supported by a British naval squadron, attempted to capture the strategically important port and capital of French West Africa at Dakar. The attack, which was designed to bring all of French West Africa under "Free French" control and encourage the movement in French North Africa, was beaten off.

This fiasco delayed the progress of the de Gaulle movement temporarily. But on October 10 his forces landed at Duala, capital of French Cameroon, and shortly afterward began a military campaign that brought the rest of French Equatorial Africa under "Free French" control early in November. Meanwhile on October 27 General de Gaulle issued a proclamation from Leopoldville, in the Belgian Congo, declaring that "since the French Government and the representation of the French people do not exist normally and independently of the enemy, the powers formally performed by the Chief of State and by the Council of Ministers will be exercised by the leader of the Free French forces assisted by a Council of Defense."

While consolidating his position in Equatorial Africa and preparing to aid the British in Egypt and East Africa, General de Gaulle returned to London and in a series of radio broadcasts attacked the Vichy Government for its anti-Jewish measures and other anti-democratic legislation and aims. He appealed for resistance to German pressure and for the aid of the colonial military forces under Vichy's control in driving the Italians out of Africa.

Supported by General Weygand in French North Africa, the Pétain Government sought to counter de Gaulle's efforts by rounding up his adherents, curbing their propaganda, replacing doubtful officials in the colonies with pro-Vichy appointees, and revoking the limited powers of self-government exercised by some of the colonial assemblies. On November 25 Jean Chiappe, former prefect of the Paris police and a well-known Rightist, was



Oran on July 3 was followed by French air attacks upon Gibraltar and on July 8 by Vichy's severance of diplomatic relations with London. Their respective embassies were closed on July 17, but it was agreed to exchange agents to liquidate the important economic matters still outstanding between the two former allies.

During July Vichy directed a series of angry protests to London against the Oran affair, the requisitioning of French merchantmen in British ports, the bombing by the R.A.F. of German-held bases in France, the distribution of propaganda leaflets by British aircraft over French territories, etc. The revolt of the French colonies was also attributed to British influence. While enforcing the blockade against Vichy-controlled colonies, the British purchased the surplus products of the colonies under "Free French" control and extended other economic support. The joint "Free French" and British attack on Dakar brought another retaliatory bombing of Gibraltar by French planes based in Morocco.

When the negotiations between Laval, Hitler, and Pétain appeared to be nearing a conclusion, Prime Minister Churchill on October 22 broadcast a radio appeal to the French people to continue the fight against the Germans and not to hinder Britain in the prosecution of the war. On October 23 the British agreed to permit medical supplies to enter occupied and unoccupied France through the blockade. About the same time King George VI sent a message to Marshal Pétain expressing sympathy for French sufferings and assuring him that France would share in Britain's ultimate victory. The Marshal was reported to have replied by curtly pointing out the unfortunate effect of British attacks on Frenchmen at Oran and Dakar. A minor air attack on Marseille, attributed to a British airplane, brought another French protest on November 25. In December it was revealed that French warships were convoying foodships between Marseille and French North Africa without British interference.

**Influence of United States.** In their efforts to prevent the Vichy Government from collaborating with Germany, the British and "Free French" received influential support from Washington. French assets in the United States valued at more than a billion dollars were "frozen" by order of President Roosevelt on June 17 to prevent their acquisition by the Germans. A large stock of French gold was transferred from France to the United States on a U.S. cruiser during the same month. American authorities delayed giving the Vichy Government access to any of these funds until they received assurances that French collaboration with Germany would not go to the extent of impairing American interests.

An announcement at Vichy on September 30 that the defenses of the island of Martinique in the West Indies would be strengthened was frowned upon in Washington, and the State Department made futile efforts to regain about 100 American airplanes that had been taken to Fort de France, Martinique, by the French aircraft carrier *Bearn*. The disposition of some \$200,000,000 worth of gold held by the French Government at Fort de France was also at issue. On the day Marshal Pétain conferred with Hitler, President Roosevelt sent him a personal message warning that close military collaboration with Germany would lead the United States to invoke the Declaration of Havana and to occupy the French West Indian possessions.

Pétain replied that France did not intend to go to war against Britain, surrender her fleet to Germany, or permit Axis use of additional French bases.

Through American mediation, an agreement for partial demilitarization of Martinique and the cessation of the British naval blockade was concluded (see MARTINIQUE under *History*). On November 22 President Roosevelt appointed Rear Admiral W. D. Leahy as Ambassador to France. He arrived in Vichy at the beginning of January, 1941.

**France and Italy.** Mussolini's entry into the European War on June 10, when German victory over France seemed assured, marked the final failure of repeated French efforts to conciliate Italy and obtain either her active aid against the Reich or her neutrality without granting the extensive territorial and other concessions demanded by Rome (see YEAR BOOKS for 1935 to 1939). These efforts were pursued by the Daladier and Reynaud Governments during the first part of 1940. Negotiations for a revised Franco-Italian trade pact were begun in Paris February 26, but were never completed. After the Brennero meeting between Hitler and Mussolini on March 18 the Italian press assumed a more threatening tone toward France and Britain. During the campaign in Norway beginning April 9, Fascist threats to enter the war caused the Allies to shift additional naval forces to the Mediterranean and contributed materially to the German triumph.

Nevertheless Premier Reynaud on April 20 again proclaimed France's desire for a settlement of questions at issue with Italy. Adopting Pierre Laval's policy, he declared that his government considered a Mediterranean entente with Italy and Spain to be one of the indispensable bases of peace. This overture met with no response, other than Italian protests at the alleged damage caused Italian industry by the Anglo-French blockade. On June 6, the second day of the Battle of France, Premier Reynaud made a final effort to prevent Italian participation. He called upon Italy to settle peacefully her disputes with France in order "to avoid the hegemony of Germany." But on June 10 the French Ambassador at Rome was informed that Italy was entering the conflict in "fulfillment of her Axis obligations."

On June 20 the Pétain Government asked Italy for an armistice. The Italians carefully avoided drama and humiliating conduct in their negotiations with the French armistice delegation commencing June 23. But their terms were considered severe and were accepted by the French only after extended debate.

For France's relations with other powers during 1940, see BELGIUM, CANADA, CHINA, FINLAND, FRENCH INDO-CHINA, GREECE, IRAQ, ITALY, JAPAN, MEXICO, NORWAY, PANAMA, RUMANIA, SPAIN, SWITZERLAND, SYRIA AND LEBANON, TANGIER, TURKEY, UNION OF SOVIET SOCIALIST REPUBLICS, under *History*. See also BIRTH CONTROL; EDUCATION; EUROPEAN WAR; FASCISM; JEWS; LEAGUE OF NATIONS; MOTION PICTURES; MUSIC; NAVAL PROGRESS; REPARATIONS AND WAR DEBTS; WAR RELIEF.

**FRANKLIN INSTITUTE.** The Franklin Institute of the State of Pennsylvania for the Promotion of the Mechanic Arts, founded in 1824, is devoted to the increase of useful knowledge, to the encouragement of invention and discovery, and to the education of the public in the achievements of science and industry. Its very title has always

indicated a desire to do honor to Benjamin Franklin.

The Committee on Science and Arts, formed of 66 members of the Institute, reviews in great detail many of the advances of science and technology. It recommends to the Board of Managers those persons deserving the annual awards of the Institute, which are formally presented at Medal Day Exercises in May. A Franklin Medal, highest award of the Institute, was presented in 1940 to Dr. Leo Hendrik Baekeland, retired president of the Bakelite Corporation, and to Dr. Arthur H. Compton of the University of Chicago for his "brilliant experiments on various properties of X-rays." The Cresson Gold Medal was awarded to Dr. Robert R. Williams, chemical director of the Bell Telephone Laboratories, for his researches on vitamin B1.

The Franklin Institute includes in its activity publication of *The Journal of the Franklin Institute*, established in January, 1826, lectures presented about 20 times a year by distinguished persons in science and industry, and traveling shows which extend its educational influence beyond its walls. From the laboratories of the Bartol Research Foundation and the Biochemical Research Foundation, additions are constantly being made to scientific knowledge. The Institute also operates a seismograph and promotes scientific expeditions. The seismograph and observatory, with Franklin Hall and the Fels Planetarium, together with its 4000 active exhibits constitute the Institute's museum. The library now numbers 121,000 volumes and 40,000 pamphlets, devoted entirely to works on applied science and technology, and is particularly noted for the collection of patent literature.

The President in 1940 was Philip C. Staples; Secretary and Director, Henry Butler Allen. The Institute is located in a new building on Benjamin Franklin Parkway, Philadelphia, Pa.

**FREEMASONRY.** Dedication of the new Scottish Rite Temple in Washington, D.C., occurred on May 12 with elaborate ceremonies. The Order of De Molay for boys (under Masonic auspices) is raising \$40,000 for the erection of a statue of George Washington at the entrance of the Memorial Temple at Alexandria, Va. Under a special dispensation from the Alberta (Can.) Grand Lodge, Ivanhoe Lodge No. 142 at Edmonton, dedicated a 445-lb. granite pillar, to mark the site of the first Masonic lodge meeting in Canada within the Arctic Circle.

**Civic Activities.** The Connecticut Grand Lodge now requires each applicant for the degrees to submit duplicate fingerprint cards, one set for filing with the Department of Justice in Washington. According to the Masonic Relief Association, \$4,670,043 were spent for charity during the fiscal year ending in 1940 by the 49 American Grand Lodges, of which 28 maintain each a Masonic Home for aged and indigent Masons and 7 more maintain two such Homes. Hospitals in connection with the Homes are supported in 17 jurisdictions. The Missouri Grand Lodge, which maintains two Homes, offers the use thereof, together with transportation and education, to 25 European refugee children now, and possibly 15 more later.

"Masonry sees in the coming generations the future promises of our country," said Grand Commander Lopez-Penha of the Dominican Supreme Council in presenting a silver trophy to the winning basketball team of Ciudad Trujillo Normal High School; for some years the Council has do-

nated copy books to the schools. Despite the war, a total of £297,881 was raised by the stewards of English lodges for the three Royal Masonic Institutions maintained by the premier Grand Lodge.

**France.** On August 3 the Pétain government at Vichy, formally decreed the dissolution of all secret societies, including, of course, the Masonic Order.

**Ireland.** "Freemasonry is not banned by the Government," writes J. Edward Allen; "quite the contrary; but lawless bands of Irish from time to time storm and occupy the Masonic Temples . . . When Masons protest they are told that it is possible to stop the lawlessness . . . but that it is strongly advised not to."

**Japan.** The Masonic bodies, whose membership is required to be limited to foreigners, are facing complete suppression, following the dissolution of Rotary Clubs.

**Netherlands.** Masonry has been suppressed by the Nazi military government.

**Norway.** Under date of September 21 it was announced that the Masonic Lodges "had been dissolved," and on November 29, Quisling, the Nazi Fuehrer, issued a decree penalizing continued membership and converting the order's headquarters into a museum.

**Spain.** On March 2, Dictator Franco issued a retroactive decree dissolving "Masonic, communistic, and other secret orders;" but the decree was primarily directed against the first, confiscating property and imposing penalties of six years imprisonment for membership or support.

**Yugoslavia.** As the result of a crusade sponsored by the clerical Minister of Education, Koroshetz, the Grand Lodge, it was announced on August 2, "decided" to dissolve and discontinue its activities.

The Mother Scottish Rite Supreme Council announced in October that no communications had been received from Masonic bodies in Finland, Denmark, or Belgium since their invasion by the totalitarian powers. The most recent estimate of Masons in Europe is 63,050.

**Conventions, etc. (National and International):**

**February 23, 24,** National Conference of Grand Masters at Washington; 8 subjects were on the agenda and a committee was appointed to report on "continuity of administration" at the 1941 conference.

**April 6,** centenary celebration of Illinois Grand Lodge, Jacksonville.

**April 24,** Annual Festival of Grand Lodge of England, Duke of Kent, Grand Master, presiding, Earl of Harewood reappointed pro-Grand Master, 5056 subordinate lodges reported with an estimated membership of 450,000. (Masons in the British Empire, 1,048,426.)

**June 3,** centenary of first Masonic convocation in Missouri, celebrated at Lexington by Lodge No. 149.

**June 11-13,** annual meeting, Imperial Council, Nobles of the Mystic Shrine at Memphis, Tenn. George F. Olen-dorf of Springfield, Mo., was elected Imperial Potentate. Iowa Grand Lodge observed centennial of Iowa Masonry at Burlington; 1500 Masons attended.

**July 15-19,** 41st triennial convocation of Grand Encampment of Knights Templar, at Cleveland.

**September 22,** annual meeting of Northern Supreme Council at Cincinnati.

**October 1,** annual session, Canadian Supreme Council at Montreal; total membership of the 1379 Canadian subordinate lodges is reported as 168,951.

**October 8,** centennial celebration of Louisville Commandery and the beginnings of Knight Templary in Kentucky.

Total membership of the 50 (including Philippine) Grand Lodges of the United States is reported as 2,489,587; estimated grand total of the world, 3,798,451. See *BULGARIA under History*.

C. SUMNER LOBINGIER.

**FRENCH ACADEMY.** ACADEMY, FRENCH.  
**FRENCH CAMEROON.** See CAMEROON,  
 FRENCH.

**FRENCH CONGO.** See FRENCH EQUATORIAL  
 AFRICA.

**FRENCH EQUATORIAL AFRICA.** A French colonial territory consisting of the four colonies: Chad (461,202 sq. mi.; capital, Fort Lamy), Gabon (93,218 sq. mi.; capital, Libreville), Middle Congo (166,069 sq. mi.; capital, Brazzaville), and Ubangi-Shari (238,767 sq. mi.; capital, Bangui). Total area, 959,256 square miles; total population (Jan. 1, 1938 estimate), 3,500,000. Capital, Brazzaville. The chief products are palm oil, coffee, cacao, cotton, and wild rubber. Tropical forests of 300,000 miles in area contain trees of industrial value. Ivory is an important item of export. The minerals found include copper, zinc, and lead. A railway, 318 miles in length, connects Pointe-Noire with Brazzaville. Trade, values in old United States gold dollars (1938): Imports, \$5,000,000; exports, \$5,200,000. Budget (1938): Revenue and expenditure balanced at 224,629,000 francs (franc averaged \$0.0288 for 1938; \$0.0251 for 1939). French Equatorial Africa is a single administrative unit under the rule of a governor general, aided by an administrative council.

**History.** French Equatorial Africa was the most important French colony to declare its independence of the Vichy Government during 1940 and throw in its lot with Gen. Charles de Gaulle's "Free French" forces. The secession movement began in the Chad Colony on August 28 and spread immediately afterward to French Cameroon (q.v.) and to Brazzaville, capital of Equatorial Africa, in the Middle Congo district. The pro-Vichy Governor General at Brazzaville was replaced by General de Gaulle's representative, General de Larminat. Officials of the Gabon district remained loyal to the Vichy regime until the second week of November when Lambarene, Libreville, and Port Gentil were captured by "Free French" forces in a short campaign.

See CONGO, BELGIAN and FRANCE under *History*; EUROPEAN WAR under *Effects of the Fall of France*.

**FRENCH GUIANA.** A French colony in South America. Area, 7722 square miles; population (1936 census), 30,906. The penal settlement had a population of 5628 men. Capital, Cayenne, 11,704 inhabitants. Rice, maize, manioc, cacao, coffee, bananas, and sugar cane are the chief agricultural crops. There are large forests rich in various kinds of timber. Gold mining is the most important industry. Trade (1937): Imports, 52,708,646 francs; exports, 36,853,999 francs (franc averaged \$0.0405 for 1937). Budget (1937): Balanced at 17,704,755 francs. The colony is administered by a governor, assisted by a privy council and a general council.

**ININI, TERRITORY OF.** This territory comprises the hinterland separated from French Guiana by the Decree of July 6, 1930. Area, 27,027 square miles; population (1936), 6099. The main center is Maroni. Rose wood and cabinet wood are the chief products. Figures of commerce are included in those of French Guiana. Budget (1937): Balanced at 3,329,542 francs. The territory is under the direct administration of the governor of French Guiana, assisted by an administrative council.

**History.** Although strong sentiment in favor of Gen. Charles de Gaulle's "Free French" movement was reported from French Guiana after the

defeat of France, Gov. Robert Chot and his administration remained loyal to the Vichy Government throughout the remainder of the year. On October 11 a de Gaulle spokesman in London charged the Vichy Government with attempting to introduce a German mission into French Guiana, but this was denied by Vichy officials. To keep in touch with developments in the colony, the State Department in Washington on August 17 announced the opening of a consulate at Cayenne.

See FRANCE under *History*.

**FRENCH GUINEA.** See FRENCH WEST AFRICA.

**FRENCH INDIA.** The five French colonies in India—Chandernagor, Karikal, Mahé, Pondichéry, and Yanam. Area, 196 square miles; population (1938), 300,353. Capital, Pondichéry (50,209 inhabitants). Chief products: Rice, groundnuts, and manioc. In 1938 (at the ports of Pondichéry and Karikal), imports amounted to 79,053,000 francs and exports to 118,446,000 francs (franc averaged \$0.0288 for 1938). All five colonies adhered to the "Free French" movement headed by Gen. Charles de Gaulle following the French capitulation to Germany and Italy in June, 1940. See FRANCE under *History*.

**FRENCH INDO-CHINA.** A French dependency in southeastern Asia comprising the divisions shown in the accompanying table.

<i>Division</i>	<i>Sq. mi.</i>	<i>Pop (1936)</i>	<i>Capital</i>
Annam * . . . . .	57,143	5,656,000	Huê
Cambodia * . . . . .	69,884	3,046,000	Pnom-Penh
Cochin China * . . . . .	25,096	4,616,000	Saigon
Kwangchowan * . . . . .	309	230,000	Fort Bayard
Laos * . . . . .	89,189	1,012,000	Vientiane
Tonkin (Tongking) * . . . . .	44,787	8,700,000	Hanoi
French Indo-China . . . . .	286,408	23,260,000	Hanoi *

\* Protectorate. \* Colony. \* Also known as Kwangchow. Leased from China for 99 years in 1898 (territory increased in 1899) and placed under the authority of the Governor-General of French Indo-China. \* The capital city is Hanoi, but during certain seasons of the year, when climatic conditions are oppressive, the government offices move to Saigon.

Chief towns: Hanoi, the capital, 145,491 inhabitants; Binh-Dinh, 147,199; Cholon, 145,254; Haiphong, 122,000; Saigon, 111,000; Pnom-Penh, 102,678; Tchékam, 35,000; Huê, 33,222; Vientiane, 28,000; Battambang, 22,000; Fort Bayard, 12,000. Education (1938): 6934 primary, secondary, and professional schools with a total of 488,821 students enrolled; the university at Hanoi had 631 students.

**Production and Trade.** The most important agricultural product is rice, of which 1,692,000 metric tons were exported during 1939. Other agricultural products were rubber (66,000 metric tons in 1939), maize, pepper, spices, tea, kapok, groundnuts, and copra. Mineral production (1939) in metric tons: Coal (2,544,000), tin (1200), zinc (6000), manganese, wolfram, and salt. Trade (1939): imports, 2,382,000,000 francs; exports, 3,492,400,000 francs (franc averaged \$0.0251 for 1939).

**Communications.** In 1938 there were 22,270 miles of highway and 2093 miles of railway (1,170,727 tons of freight and 12,963,804 passengers were carried). Air services were operated on the following routes: Saigon-Batavia (Netherlands Indies), Hanoi-Vientiane, Saigon-Bangkok (Siam). A radio-telephone service is in operation between Saigon and Europe.

**Finance.** The revenue and expenditure of the

1939 general budget balanced at 1,076,381,800 francs. In addition, the supplementary railway budget for 1939 balanced at 156,438,800 francs. The public debt on Jan. 1, 1940, amounted to 2,444,383,000 francs.

**Government.** The government for the whole of French Indo-China is administered by a governor assisted by a secretary-general, a government council, and a grand council for economic affairs. Cochinchina, which is a direct French colony, is headed by a governor aided by a colonial council, and each of the four protectorates is headed by a resident-superior assisted by a protectorate council and a council of economic affairs.

### HISTORY

**The Japanese Invasion.** The defeat of France by German arms in June, 1940, was the signal for Japan to launch its long-planned attempt to seize control of French Indo-China. The groundwork for invasion had been laid by the conquest of Hainan Island and other Chinese territories adjoining Indo-China during 1939 (see YEAR BOOK, 1939, pp. 290, 394). A foothold in French Indo-China was obtained by concessions extracted from France in the weeks previous to the French military debacle in Europe. On June 20 the French Ambassador at Tokyo agreed to cut off most of China's remaining trade through French Indo-China. (Shipments of munitions had been prohibited since early in 1939.) Moreover the French permitted scores of Japanese inspectors, including military and diplomatic officials, to enter French Indo-China and establish trade control stations at five key points on highways and railways leading into China.

While the control stations were being established late in June, Japanese warships appeared at Haiphong and Japanese troops were concentrated in Kwangsi Province on the Chinese side of the French Indo-China border. An immediate military occupation of the French colony appeared imminent until the British attack upon the French fleet at Oran on July 3 and simultaneous pressure exerted from Washington—and possibly from Berlin, also—caused a change in Japan's tactics. The warships were withdrawn from Haiphong on July 4.

Shortly afterward a Japanese military mission headed by General Nishihara arrived at Hanoi and demanded the right to establish naval and air bases, move troops across Indo-Chinese territory to attack the Chinese in Yunnan Province, and control all trade through the ports of Northern and Central Indo-China. The Japanese insisted on cessation of French defense preparations and close co-operation with Japan in economic matters. The Chinese Government at Chungking, on the other hand, warned Hanoi authorities that they would send troops across the frontier if Japanese forces entered French Indo-China. Early in September Chinese forces did attempt to cross the frontier but they were repulsed in a minor clash.

Supported by diplomatic and military moves by the American and British governments, the French authorities in Indo-China resisted Japanese pressure, including an ultimatum from General Nishihara. Early in September, however, the Vichy Government, under pressure from Berlin, ordered Hanoi officials to grant "limited military facilities" to the Japanese. The Nipponese subsequently increased their demands, and it was not until September 22 that an agreement was reached at Hanoi

providing for: (1) Immediate landing of a limited number of Japanese troops at Haiphong, (2) establishment of three Japanese air bases north of the Red River in Tonkin, (3) the garrisoning of these air bases with 6000 Japanese troops, and (4) maintenance of a "few Japanese effectives" at Haiphong.

At 10 o'clock that night an army of more than 10,000 Japanese troops advanced across the Indo-Chinese frontier from Kwangsi Province in China and attacked French forces at three frontier posts. A battle of considerable proportions raged along the frontier until September 25 when the French were obliged to evacuate the important railway center of Langson. Although the agreement signed at Hanoi had not provided for the entry of these troops, the French accepted the *fait accompli*. Fighting ceased and on September 26 the first contingent of Japanese troops authorized by the agreement landed at Haiphong.

Once in control of the new air bases, from which they raided the Burma Road and Chinese cities that were previously beyond the range of their bombing planes, the Japanese demanded further military bases and economic concessions in the southern part of the colony, particularly at Saigon. In November and December large Japanese forces were concentrated in southern China and on Spratly Island (see map in YEAR BOOK, 1939, p. 392) in preparation for the occupation of all of French Indo-China as soon as the world political and military situation permitted. The negotiations for an economic treaty between Japan and French Indo-China were transferred to Tokyo from Hanoi on December 20.

**Hostilities with Thailand.** While attempting to stall the Japanese advance, the French authorities in Hanoi were obliged to face other threats to France's tenuous hold on the colony. The government of Thailand seized the opportunity presented by French impotence to demand the return of sections of Laos and Cambodia, conquered by the Thai people in the 16th century and taken from them by France in 1893. To reinforce Bangkok's demands, Thai warplanes bombed French military posts in the disputed region on September 28. The French Minister at Bangkok then undertook to negotiate a settlement on orders from Vichy. On October 15 it was announced that France had refused to cede territory in Cambodia and Laos west of the Mekong River but had agreed to arbitrate Thai claims to certain islands in the Mekong and to establish a mixed commission to settle frontier incidents.

Notwithstanding the French offer to send a mission to Bangkok to continue negotiations and pressure from Washington for the maintenance of peace and the territorial status quo, the Thai Government concentrated 100,000 troops along the frontier. Beginning in October Thai raids into Indo-China were resisted by French and native troops. An undeclared border war gradually developed, marked by frequent air raids and sporadic clashes between military and naval forces. Hostilities were continuing at the year end, with no definite outcome in sight. The French meanwhile suspended negotiations with Bangkok pending the cessation of Thai attacks. Japan was said to be encouraging Thailand to continue its aggressive policy in order to make Hanoi more amenable to Japanese demands.

**Native Uprisings.** The French authorities also had to contend with serious native uprisings in



Southern French Indo-China toward the end of November. They were variously attributed to nationalist and Communist elements eager to end French rule, to the activities of pro-Thai or pro-Japanese agitators, and to sympathizers with General de Gaulle's "Free French" movement. Not long after riots and demonstrations in seven southern provinces and in the suburbs of Saigon were suppressed, another native revolt occurred in mid-December northwest of Hanoi in the Langson region. French officials asserted that this outbreak was organized and the rebels armed by the Japanese. The movement was reported to have been crushed by French forces without great difficulty.

The anti-French outbreaks were accompanied by some demonstrations of loyalty to the French regime, particularly in the districts demanded by Thailand. King Sisowathmonivong of Cambodia on December 16 pledged his full co-operation with the French in defending the colony. Thai newspapers reported on July 8 that King Bao-Dai of Annam had been assassinated at Hue.

**Disensions Among French.** The Pétain Government's capitulation to Germany and Italy in June divided French officials, military men and civilians in Indo-China into pro-Vichy and pro-de Gaulle factions. Their struggle for control of the colony further weakened it in facing the onslaught of internal and external enemies. Gen. Georges Catroux, whose sympathies were with the "Free French" forces, was recalled as Governor General about June 26 by the Vichy Government and replaced by Vice Admiral Jean Decoux. This move and the subsequent British attack on the French fleet at Oran ended the co-operation between French and British forces in the Far East that might have delayed the Japanese invasion of French Indo-China.

Following an abortive effort of pro-de Gaulle elements late in August to seize control of the colony, Governor General Decoux was reported to have dismissed "Free French" sympathizers from commands and offices throughout Indo-China. On November 20 another group of de Gaulle adherents were arrested in Saigon in connection with a conspiracy to oust the pro-Vichy government. The Vichy regime made further changes in the colony's administrative personnel on December 13, appointing Henri George Rivoal as Governor General and Emile Grandjean as Resident General of Tonkin.

Meanwhile the cost of living rose sharply, adding to native unrest. Foreign and domestic trade was disorganized, and the colony seemed headed for major political and economic difficulties as well as eventual absorption by Japan.

See CHINA, FRANCE, JAPAN, and THAILAND under *History*.

**FRENCH IVORY COAST.** See FRENCH WEST AFRICA.

**FRENCH LITERATURE.** Literary production in France had been brought to an almost complete standstill in September 1939. The relative calm of the first weeks of hostilities, however, brought about a rapid reaction in France as well as in England; people let themselves be lulled into a tragic illusion that things were to continue that way indefinitely, and literary activity again assumed a quick tempo. This tempo was kept up until the very eve of the invasion and the occupation of Paris in June. Meetings were held as if nothing had happened. The French Academy (q.v.) proceeded to the election of a new "secrétaire perpétuel," André Bellessort, and announced the elec-

tion of Paul Hazard to the "fauteuil" of Georges Goyau; on January 18th, Jérôme Tharaud's belated reception took place with the usual ceremonies; as late as May the annual "séance de distribution des Prix de vertu" was held. Centenaries were commemorated—Daudet, Zola, Rodin. Newspapers and periodicals brought their sizes nearer to normal, and the printing firms resumed their business.

Paris was surrendered on the 13th of June; but on the 1st and 8th the *Nouvelles littéraires* still came out, printing reports of a Charles Péguy commemoration at the Comédie Française, the election as members of the "Institut" of the Villon scholar, Pierre Champion, and of the Balzac scholar, Marcel Bouteron. Books had kept coming from the press, tragically optimistic on the outcome, like Joseph Pesquidoux's *Un petit Univers*—which was the garden of France that one must cultivate in peace to remain faithful to the old mother country; or like G. Duhamel's *Positions Françaises*, a continuation of *Mémoires sur la Guerre Blanche* (1939), with the theory that Totalitarianism is a result of materialism and of the mechanization of life. Roland Dorgèlès, the author of *Croix de Bois*, in his *Retour au Front* returned from the Maginot Line quite certain that the soldier of 1940 was fully as sure of victory as the "poulu" of 1914. And one read with delight the witty and gay pages written by Amédée Pavart, *Pavart s'en va-t-en guerre*, telling of the mobilization of Sept. 6-8, 1939.

Then all of a sudden France is invaded, and illustrious refugees come to these shores—André Maurois, Paul Hazard, Jules Romains, Henri Bernstein, and others. Of course all publications come to a sudden stop, as Pasteur's *Correspondance*, prepared by Robert Valléry-Radot, of which just one volume had come from the press; the great *Encyclopédie*, *La Civilisation écrite* (under the direction of Monzié) was interrupted after the 18th volume; so was François Mauriac's *Journal* after the third volume. Jules Romains's *Hommes de Bonne volonté* could not go on, neither could Henri Troyat's *Judith Madrier* which was to have a continuation of at least one more volume. Of course, *Quatre mois au front*, by Chamson will never be continued.

Some papers and reviews have tried hard to face adversity [and very few copies were received in America]. The *Odyssees* of *L'Illustration* offers a good example of the difficulties to be overcome. The last number distributed was that of June 8; the 15th of June number had been all printed but has remained undistributed; the publishers tried to go to Tours, but could not stay and went on to Bordeaux where three numbers were printed in reduced size; then they tried Clermont-Ferrand and printed nine numbers, again in reduced size; and only since September 14 have they succeeded in coming to normal—but in Lyons.

**Poetry.** In *Le Temps* of January 13, Robert Kemp revealed that Fr. Mauriac, the novelist and playwright, had been in his younger years a poet, and that some of his poetry formed part of his last story *Les Chemins de la mer*. The theme of the philosophical verses is the struggle between Cybèle, who represents nature, and man; nature tries to seduce mortals and tear them away from their aspirations for spiritual redemption. This is indeed the Mauriac of the somber novels he has consistently signed which brought to him the honor of the French Academy. It has been said that the dire consequences of war for humankind brought about



a revival of religious aspirations; this is borne out certainly in the field of poetry. Among the successful poets of the early part of 1940 several are profoundly Catholic; such as Jean Cayrol, author of *Phénomènes célestes* (Cahiers du Sud), and of *L'Âge d'or* (Cahiers des poètes catholiques); or as Raymond Millet, author of a *Poème de la Messe*, which offers a sort of lyric dramatization of the ceremonies of the holy mass: "Introibo," "confiteor," "Credo," "Gloria," etc. It must further be remarked that some of the most important "Prix de poésie" went to religious poets: "Prix Desbordes Valmore," to Rose Malhamé, for a collection called *Au Dieu inconnu*; "Prix Petit-Didier" (15,000 francs) went to Fernand Rivoire, for his general work; also entirely in the most idealistic note, the "Prix Louis Le Cardonnell" (who was a priest himself) to Fernandet, for the latter's collective works. Let us not forget the well known inspired Jewish poet, Edmond Fleg, who as early as 1913 had started on a long epic of the Jewish creed with *Écoute Israël*. He offered in 1940 a second part of his ambitious philosophical poem under the title *L'Éternel est notre Dieu*, and he announces the third and last *L'Éternel est Un*. Other poets are Mme. Marie Cossa, who was awarded the "Prix Blémont"; Philippe Dumaine, who received the "Prix Verlaine"; Paul Prist, who earned the "Prix Allan Poe" (reserved to a non-French poet) for *Messages*. (Paul Prist is a Belgian, editor of the well known *Indépendance Belge*.) A warm welcome was extended to a young woman poet, Andrée Homps, who published a first collection called *Disparates*.

**Theater.** Here as in other domains, efforts were made to continue active as much as possible, in spite of the war. The company of the "Comédie Française" completed a triumphal tour through several European countries, playing especially Racine's *Andromaque* (1939 had been called the Racine year, on account of the tri-centenary of the poet's birth), and Méréimée's *Le Carosse du Saint-Sacrement*. The students of Professor Cohen, of the Sorbonne, the "Théophiliens" as they call themselves, kept reviving medieval plays for scholarly audiences. So little was dreamed of the sudden stop in June that in May, when Edouard Bourdet, the director of the Comédie Française, was temporarily incapacitated by an accident, it was thought expedient to appoint Jacques Copeau as a substitute—a very short-lived function indeed!

The influence of the war was felt, however, on the stage. Fewer new plays were produced, and interest in what they call "revues"—i.e. humorous comments on events of the day on the stage—was more intense than usual. Plenty of material for satire was provided by political and military happenings. The two best known *revuists* in Paris in some years have been Rip, who wrote *Quelque part . . . à Paris*, and De Létraz who offered *Familiare*. In the cabarets, the "chansonniers" shared in this popularity with their witty comments in lines composed on popular tunes. A revival of "Marionette plays," offering distraction to soldiers in the leisurely first weeks of the war, were provided where real actors could not be produced, and from the front the boom of wooden actors passed to the rear of the lines.

As for the plays themselves, one only stood out as an actual war-play, *Eltvire*, by Henri Bernstein, built on the background of the horrors of the ruins brought about by the invasion and the horrid destruction in Czechoslovakia and Poland. A play by

André Savoir, *Banvo*, about air-raids was produced again. The bulk of theatrical activity consisted of "reprises" of successful plays of recent years, such as Balzac's *Le Faiseur* (Atelier), Giraudoux's *Ondine* (Athénée), Racine's *Phèdre* in modern scenery (Montparnasse), Stève Pas-seur's *Je vivais d'un grand amour* (Oeuvre). Of new plays, one may mention Maurice Rostand's *Le Roi de France*, which pictures the Count de Chambord who, in 1873, lost the throne of France because he refused to accept the flag of the Revolution. (Did the author think of the Duke of Windsor, or simply of the recent and sporadic attempts of the royalists in France to re-establish the monarchy?) Sometimes in order to forget the war, the public favored lighter plays, or at least such as would not remind them of war. Jean Cocteau called "comédie légère" his *Les monstres sacrés*, which tells of two stage artists deeply in love with each other, but whose serene life is spoiled temporarily by a mythomaniac. Another play by one of the theater celebrities was *C'était l'histoire de rire* by Armand Salacrou, called by the author "farce dramatique"—an ultra-modern theme treated frankly but with indisputable psychological insight; i.e. married couples who imagine to exchange mates—"histoire de rire." Claude-André Puget, who had earned such recognition in 1938 with his play *Les jours heureux*—hailed as a sort of new Musset or Edmond Rostand on account of the light, charming, witty, youthful spirit of his theater—offered *Ce petit ange n'est rien du tout*; he did not, however, achieve a success comparable to that of two years earlier; the scene is in the artists' quarter in Paris, where, for a time only however, a sort of Ariel appears, called here Myriel. Sacha Guitry's never exhausted vein inspired him with an amusing comedy, *Florence*, preceded by a little stunt—before the curtain rises, Sacha Guitry comes before the public and says that a woman in the audience has threatened to shoot at the actors because she has been told that the marital complications enacted are her own adventure!

**Novel.** A few comments first on some novels which had remained quite unnoticed during the last weeks of 1939 on account of the war but received due attention early in 1940. The "Prix Femina," Paul Vialar's *Rose de la mer*, tells a sea adventure and of rough sailors who experience something that reminds one of the famous Bret Harte story *The Luck of Roaring Camp* (a little child born at sea makes very human beings of those rough men). The "Prix interallié," *Les Figurants de la mort* is a story in which a socialist leader succeeds in enlisting men for a revolutionary coup by making them believe that they are just fighting a mock battle for a film. In view of the war events Varillon's *Massacre des Innocents* has inspired some new debates; the theme is that of Paul Raynal's play *Tombeau sous l'Arc de Triomphe* (1924 and 1929): Has the generation of the first world war not been cruelly sacrificed to the pre-war generation which succeeded in reaping the advantages the 1918 victory?

It was during 1940 that the Canadian writer Ringuelet (real name Dr. Philippe Panneton) came to his own in France; the French Academy had awarded him its "Grand Prix du roman" in 1939 for *Trente arpents*, but political events precluded its success with the public; then in 1940 another award was made, the "Prix des Vikings," and the book which had been at first printed only in Montreal was advertised by the well known Flammarion

firm. (The book was also published in translation by Macmillan, New York.) It is a story of a French Canadian family, somewhat the same milieu as that of Louis Hémon's famous *Maria Chapdelaine*. An honest "habitant" is fairly prosperous in his farm, but has to face the challenge of the new generation which lacks respect for old traditions. Here belongs also Marcelle Tinayre's *Est-ce un miracle?* a keen analysis of a religious soul that reminds one of the novel that made her famous in 1902, *La Maison du Pêché*.

Jules Romains's last published volumes in the collection *Hommes de Bonne Volonté*—what will be the fate of the continuation?—are (XVII) *Vorge contre Quinette*, the story of some unsavory dealings of a bookbinder during the first world war, dealings which had passed unnoticed by the courts, but were taken up after peace had been restored (Vorge is a naïve or a shrewd eccentric who happens to be involved too); and (XVIII) *La douceur de vivre*, which tells of an idyllic liaison at Nice between a young intellectual and a pretty "fleuriste" in the days that followed the strenuous years now over. Roger Martin-du-Gard ends his "roman fleuve" with *Épilogue*, giving the philosophical testament of the old scientist Antoine Thibault; he dies discouraged; his hopes for a "Wilsonian" peace ideal is shattered: Mankind can only try to accept courageously its inhuman destiny. Claude Farrère in his *La onzième heure* takes us to Asia which he knows so well and suggests a faithful psychology of the representatives of the two great nations involved in the gigantic conflict, the Japanese and the Chinese. A similar attempt is made for the two nations at war in western Europe, the French and the Germans; Jacques Moreau, in his *Intelligence avec l'ennemi*, introduces two young men, one from the East, the other from the West of the Rhine, who had become acquainted before 1914, exchanged letters with respect to each other's country, trying to iron out disagreements; both are open minded, the Frenchman, however, after having understood the claims of Germany immediately after the Versailles Treaty, cannot accept the Hitler gospel.

From the novels that have no especial connection with the present wars, the few following may be picked out: Simenon's *Le Bourgmestre de Furnes*, in which the author treats the psychology of remorse as he often has done before. Somewhat in the same vein is the novel by Jean Schlumberger, *Stéphane le Glorieux*—the hero lives in the near East, the lands of everlasting wars; he is considered boastful, but is one day to realize that he has brought about the death of a fellow man, and can no longer free his mind from the remembrance. Jean Cocteau, the cryptic author who is or is not a surrealist, returned to his career. He had published a mystifying novel in 1913, *Le Potomac*, and has now produced a sequence, *La fin du Potomac*, which again can be understood by initiates only.

As was to be expected, the depressing note is not lacking in the 1940 crop of French novels. Reflecting something like a somber anticipation, we are treated to a gallery of despondent people, not seldom cases of morbid discouragement; Jean Guirec (author of the recent *Maison au bord du monde*) writes *Le crime des indifférents*; Christian Mégrét, also known before for his pessimistic outlook on life *Les fausses compagnies*; J. P. Sarthe (author of *La Nausée* and of *Le Mur*), *L'Imagination*; Drieu de la Rochelle, *Gilles*; Bertrand de la Salle, *Monfenil* (conflict between gen-

erations); Germaine de Beaumont, *Les clefs*. Not quite as gloomy, are Louis Aragon, *Voyage sur l'Impériale*; Claude Silve (*C'est De Laforest Divonne*), *Le Palerstin*; A. Colling, *Demain-Relâche*; Pierre Benoit, *Les environs d'Aden*; and, actually written in a light vein, is René Joglet's *Valparaiso*.

Two short story collections might be indicated: Peisson, *La carte marine* (nine moving stories), André Armandy *L'Arc-en-ciel de lune* (six stories).

**Miscellany.** Publications of a strictly timely interest—war—have been mentioned. A few have no direct connection with present day events. Several volumes are souvenirs of early life: Ch. Maurras's *Images de mon enfance*; Ch.-F. Ramuz, the French Swiss writer tells of his student days in *Paris, Notes d'un Vaudois*; Fr. Carco was lucky enough to bring to a conclusion his autobiographical *Souvenir Bohème d'artiste* (vol. 5); F. Baldensperger, *Une vie parmi d'autres*, is printed and was ready for going on sale when the war broke out; Jacques Chadourne, *Chronique privée* is not so much an autobiography as a sort of soliloquy on life—something of the order of Montaigne's *Essais*. The souvenir of Clémenceau, the "Tiger" of the last war was vividly evoked by his great friend General Mordacq. The Jewish problem is taken up by one of the sharpest French pens of our days, Robert Vallery-Radot: *Israël et nous* does not try to hide the seriousness of the question, but, of course, cannot accept for one moment the brutal solution given to it by modern apostles of barbarism; it could be solved if the Christians would endeavor to convert the Jews to their philosophy of life. Auguste Bailly publishes another of his fascinating books of history, *Byzance*. Henri Bordeaux, in *Crimes involontaires*, has three striking stories: "*Marie Ravelle, empoisonneuse*," "*Infanticide*," and "*Paricide*."

**History of Literature and Criticism.** A great collective work, sponsored by the "Nouvelle Revue Française," *Tableau de la littérature française*, could not be finished on account of the war, but stopped with the 18th century. The authors of the different chapters are all men of high reputation, such as Alain, Thibaud, Valéry, etc. Several scholarly books could come from the press before the invasion: A large volume on *Claude Fauchet*, the historiographer of Henry IV, by J. P. Espinet-Scott; three belated books on *Racine*, by Saint-René Taillandier, by Dimier, and by Crouzat; a captivating volume by Georges Mongrédien on *Marion de Lorme et ses amours* (the Marion of Victor Hugo's drama); Vianey offered a new *Psychologie de LaFontaine*. Daniel Mornet, once more gives proof of his formidable erudition in a *Histoire de la Littérature du XVII<sup>e</sup> siècle; ses caractères véritables; ses aspects inconnus*. Two French professors at Hunter College, Henri Dupont and René Taupin, wrote a *France au XVIII<sup>e</sup> siècle*. Two books on Lamartine, one by H. Guillemin, *Lamartine*, the other by a young American scholar, A. J. George, *Romantic Unanimism*. Very interesting is a volume on *Balsac à Fougères*, by E. Aubrée; another, no less interesting, is by Paul Souchon, *Olympio et Juliette, Lettres inédites de Juliette et de Victor Hugo* (Juliette was to Hugo's *Tristesse d'Olympio* what Madame Charles was to Lamartine's *Le Lac*). At last an exhaustive volume (850 pp.) came out on *Alphonse Daudet* (whose centenary was commemorated), by a very conscientious lady, Yvonne Martinet. At the same time Léon Daudet publishes

some *Souvenirs inédits* about his father. A new book on Mallarmé whose fame seems to be still gaining, by E. Noulet, *L'Oeuvre poétique de Mallarmé* (584 pp.). Two works on *Baudelaire*, one by Blin, the other by an Italian, Giovanni Macchia. A study on *La géographie de Marcel Proust*, by André Ferré, and a very important new edition, brought up to date, of René Lalou's well known *Histoire de la Littérature française contemporaine*, bring us to the 20th century.

In closing, let us mention an open *Lettre à l'Académie Française*, by the famous French linguist, Albert Dauzat, asking for spelling reform. It was in *Le Français moderne*, April number, and came after several articles in the same review giving in detail the arguments for resurrecting the old problem.

ALBERT SCHINZ.

**FRENCH SOMALILAND.** See SOMALILAND, FRENCH.

**FRENCH SUDAN.** See FRENCH WEST AFRICA.

**FRENCH TOGO.** See TOGO, FRENCH.

**FRENCH WEST AFRICA.** A French colonial federation made up of the colonies shown in the accompanying table

Colony	Sq. ms.	Pop. (1937)	Capital
Dahomey .....	43,232	1,289,128	Porto Novo
Dakar*	60	126,929	Dakar
French Guinea.....	96,886	2,065,527	Conakry
French Sudan .....	590,966	3,635,073	Bamako
Ivory Coast .....	184,174	3,981,459	Abidjan
Mauritania .....	323,310	370,764	St. Louis*
Niger .....	499,410	1,809,576	Niamey
Senegal. ....	77,730	1,666,374	St. Louis
French West Africa	1,815,768	14,944,830	Dakar

\* Including dependencies    \* The lieutenant-governor of Mauritania resides in St. Louis, Senegal

Chief towns: Dakar (the capital), 42,000 inhabitants; Kaolack, 39,981; St. Louis, 35,927; Porto Novo, 27,483; Bamako, 26,182; Abidjan, 26,143; Thiès, 18,915; Bobo-Dioulasso, 18,589; Kayes, 16,036.

**Production and Trade.** The principal agricultural products are groundnuts, maize, rice, palm kernels and oil, cottonseed, coffee, cotton, tobacco, sesamum, and cacao. Gold was the chief mineral produced. Trade (1938): Imports, 1,627,200,000 francs (textiles, fuel oil, machinery, foodstuffs, and beverages were the chief items); exports, 1,416,100,000 francs (franc averaged \$0.0288 for 1938; \$0.0251 for 1939).

**Communications.** In 1938 railways extended 2453 route miles. There were 8314 miles of telephone line and 21,457 miles of telegraph line. The road mileage in 1939 was 33,565 and the number of motor vehicles was 15,783.

**Finance.** The various budgets in the financial estimates for 1938 balanced as follows: General budget, 335,000,000 francs; local budgets, 498,162,000 francs; supplementary budgets, 293,102,486 francs.

**Government.** The federation of French West Africa is under the general rule of a governor general, aided by a council. Each colony is administered by a lieutenant governor, subject to the governor general at Dakar.

**History.** French West Africa was one of the main theaters of the struggle for control of the French colonial empire that broke out between the

Vichy Government and the adherents of Gen. Charles de Gaulle's "Free French" movement following the capitulation of France to the Axis powers in June, 1940. On September 23 a de Gaulle expedition, supported by British and "Free French" warships, attacked Dakar in an attempt to wrest control of the capital and chief port from pro-Vichy officials. The attack was repulsed by shore batteries and warships loyal to the Vichy Government. Numerous adherents of General de Gaulle were arrested and imprisoned. The pro-Vichy authorities in French West Africa, headed by Gov. Gen. Pierre Boisson, were still in control at the year's end.

See EUROPEAN WAR under *Effects of the Fall of France*; FRANCE under *History*.

**FREQUENCY MODULATION.** See BROADCASTING STATIONS; FEDERAL COMMUNICATIONS COMMISSION; RADIO.

**FRIENDLY ISLANDS (TONGA).** See BRITISH EMPIRE.

**FRIENDS (QUAKERS).** A religious group founded in England by George Fox (1624-91), which teaches the doctrine of nonresistance and the absence of outward ordinances. There are four denominations of Friends in the United States, the oldest and largest of which is the Orthodox Society of Friends. Headquarters, Richmond, Ind. For statistics, see RELIGIOUS ORGANIZATIONS.

**FRUIT.** See AGRICULTURAL CHEMISTRY AND ENGINEERING, BUREAU OF; ENTOMOLOGY, ECONOMIC; HORTICULTURE.

**FSA.** See FARM SECURITY ADMINISTRATION.

**FSCC.** FEDERAL SURPLUS COMMODITIES CORPORATION. See SURPLUS MARKETING ADMINISTRATION.

**FTC.** See FEDERAL TRADE COMMISSION.

**FUEL.** See CHEMISTRY, INDUSTRIAL; ELECTRIC LIGHT AND POWER; LIVING COSTS AND STANDARDS; also, COAL, GAS, etc.

**FUKIEN.** See CHINA under *Area and Population*.

**FURNITURE AND FURNISHINGS.** See LIVING COSTS AND STANDARDS.

**FURS.** See FASHION EVENTS; GARMENT INDUSTRY. For fur production, see ALASKA.

**FUTUNA AND ALOFI.** See NEW CALEDONIA.

**FUTURES TRADING.** See COMMODITY EXCHANGE ADMINISTRATION.

**GABUN.** See FRENCH EQUATORIAL AFRICA.

**GALAPAGOS ISLANDS.** See ECUADOR, under *Area and Population* and *History*.

**GAMBIA.** See BRITISH EMPIRE.

**GAMBIER ISLANDS.** See OCEANIA, FRENCH.

**GAMBLING.** See FLORIDA and ILLINOIS under *History*.

**GARBAGE AND REFUSE DISPOSAL.** Incineration of garbage and refuse continues to increase in favor, but this method is far from taking care of all of the huge aggregate of these materials gathered by municipal and private scavengers. Much garbage and refuse is dumped unceremoniously on vacant land; a few cities have such dumps under engineering control, covering the waste material with ashes or earth, thus forming sanitary fills and converting mosquito breeding or other idle spaces into park or building areas. The country over, a large percentage of the garbage collected is fed to hogs. For the most part this is done by private collectors under as inadequate engineering control as is exercised at the

majority of the garbage dumps; but a few exceptional cases show that hog farms can be conducted as well as sanitary fills. Inquiries made on behalf of the YEAR BOOK show that at the close of 1940 garbage-reduction works, for the recovery of grease and fertilizing material, were being operated to treat the garbage of eight municipalities: Boston, Rochester, Syracuse, Philadelphia, Reading, Washington, Indianapolis, and the small town of Royal Oak, Mich. At Philadelphia only half and at Washington about a third of the garbage is treated by the reduction process. All these works are now owned and operated by the cities except Boston and Syracuse; Syracuse owns the works but has them operated by contract. At one time or another privately owned reduction works treated the garbage of New York, Buffalo, Pittsburgh, Baltimore, Cincinnati, Columbus, Detroit, Chicago, St. Louis, Kansas City, New Orleans, and a few smaller places. Most of these cities, with some that owned reduction works, have built incinerators. These have the advantage over reduction plants in that they destroy refuse as well as garbage. One reason for the abandonment of reduction works is the uncertainty of revenue from the by-products—grease and tankage—owing to fluctuations in price. Grease in particular is sometimes a drug on the market. Privately owned works received a bonus from the city. The revenue from any method of garbage and refuse disposal pays only a part of the yearly operation, maintenance, and capital charges, and the heavy cost of collection is extra.

Sanitary land-fills in Queens Borough, New York City, for the disposal of garbage and refuse were approved by a committee of leading sanitarians chosen by the Surgeon General of the U.S. Public Health Service on agreement for the dismissal of a local grand jury indictment of the fills as a nuisance. Extensive areas of land have been reclaimed for park and other purposes by these fills and large savings effected by shutting down incinerators. At the close of the year New York City was operating 11 sanitary fills in the boroughs outside of Manhattan. Eleven of the older and least efficient incinerators had been shut down, leaving 12 in use. (See *Engineering News-Record*, Mar. 28 and Dec. 5, 1940, for committee report with rules for sanitary fills in general, and for a description of New York's sanitary fills; for a description of new 750-ton incinerator, with heat utilization, see *Sewage Works Engineering*, Aug., 1940.)

Concern over the possibility that garbage disposal by feeding to hogs spreads trichinosis among both hogs and humans was noted in the YEAR BOOK for 1939. At Fontana Farms, 50 miles from Los Angeles, where a contractor has fed the garbage of that city to hogs for many years, studies of hog feeding were being made in 1940, the University of California and the State Board of Health co-operating with the contractor. The studies are said to show that although the chemical contents of raw and pasteurized garbage are practically the same, pasteurization destroys vitamins and decreases pork products by 15 per cent. The studies were prompted in part by the fact that a bill to prohibit feeding garbage to hogs has been before the legislature which, if passed, would prevent the renewal of the disposal contract on its expiration in 1941. That would not only deprive the city of the 50 cents a ton it is paid for 200,000 tons of garbage a year but also necessitates the adoption

of some other means of disposal, requiring not only capital outlay and charges but also operating and maintenance expenses. Indianapolis, for some years, has recovered grease and stock food from its garbage, the sale of which materially reduces the cost of disposal.

Additions have been made to the cities which treat garbage and sewage together to the extent of either grinding the garbage and adding it to the sewage sludge or solid residue for digestion or for incineration. Notable instances are Gary, Ind., and Rock Island, Ill. At Gary ground garbage is delivered to the sewage-sludge digestors, adding to the gas produced for utilization by the sewage alone. (See *Sewage Works Engineering*, Sept., 1940.) At Rock Island, garbage from one grinder goes to the sludge digestors and from another to an incinerator which burns both filtered sewage sludge and ground garbage. Dry refuse is burned in a third incinerator. Digester gas is stored in two spherical-shaped steel tanks for heat and power used by the combined plant. (See *Engineering News-Record*, Aug. 15, 1940.) At Tonawanda, N. Y., refuse and sewage treatment plants were put in use, the latter including settling and sludge digestion tanks and mechanical sludge-dewatering apparatus. Dayton, Ohio, has completed a garbage and refuse incinerator with equipment for drying sewage sludge for use as a fertilizer or for incineration.

**Bibliography.** *Refuse Collection*. American Public Works Association; four pamphlets. *Preparation for Treatment, Factors Affecting Costs, Methods, Equipment* (Chicago)

M. N. BAKER.

**GARMENT INDUSTRY.** The men's and women's apparel industry, slow as it was to assume the garb of depression which had enveloped most other manufacturing enterprises in the early 1930's, has been equally dilatory in reacting from oppressive conditions, once these gained a foothold in the clothing trades. This phenomenon was clearly demonstrated during 1940, when prosperity smiled upon such heavy industries as building, steel, and automobiles, but continued to turn a stern countenance to the garment producing world.

A trend toward lower priced units, generally, and casual and sports items in particular, has characterized both men's and women's wear. Indicative of the growing importance of outdoor clothes is the showing made by separate coats for men. In the first ten months of 1940, separate coats cut exceeded the 1939 total by 27.7 per cent. In October, alone, the increase was 217 per cent. Slack suits, too, have enjoyed greatly widened popularity. In the women's wear trades, such articles as active and spectator sports dresses, blouses, skirts, jackets, beach-wear, and ski-wear have frequently returned handsome dividends to their makers.

Contrariwise, the major feminine apparel divisions—dresses and coats and suits—have had difficulty in "breaking even." Serious under-capitalization, reflected in intensive competition, is as true today as ever of the people of marked individualism and untiring ambition who comprise the bulk of these consumers' goods' entrepreneurs. The dress field, for example, is said to have a capital of \$400 per worker, as compared with \$2150 to \$6000 for most of the heavy manufacturing industries. While this would seem to be sufficient handicap, the industry, generally, has been further weighed down by reason of the fact that its very life-blood is Fashion (q.v.). Prolonged lulls in

each season's demand and an insistence on the part of retailers upon adhering to rigorous hand-to-mouth buying have served as stumbling blocks to many a manufacturer's success.

In an effort to combat sluggish deliveries to the stores—a concomitant of the laborious processes of production in the medium-to-better priced section of the women's wear trades—the higher quality sportswear houses, banded together as the Sportswear Guild, a division of the Fashion Originators' Guild of America, have led a movement for earlier seasonal openings. A policy of introducing costume suits in mid-June, fall lines in July, mid-season things in September, Southern resort collections in October, advance spring showings in mid-November, regular spring goods in January, and summer openings in March, is the Guild's answer to the geographically diverse needs of the country's retailers.

The past year has also been distinguished by the birth of a plan in the New York dress market to stave off the advancing decentralization of its \$350,000,000 business to such other centers as Chicago, Los Angeles, and St. Louis, not to mention smaller communities the length and breadth of the land.

A "streamlined" promotional program, soon to be inaugurated, has been conceived by the Dress Joint Board of the International Ladies' Garment Workers' Union. This entails the raising of a \$1,500,000 fund among manufacturers, the union, real estate men, bankers, fabric houses, and retailers to be expended in an advertising campaign to maintain and extend New York's leadership in the dress field, to foster a desire for better dress, and to increase total dress sales as a whole. A corollary modernized production project provides for the opening of a "school for management," establishment of fair trade practices between retailer and manufacturer, improvement of jobber-contractor relations, and institution of better planning and cost accounting systems by the producers. Another aspect of this determination to "save New York's industries" is the six-months' impartial study of men's and women's wear trade exodus, begun in November, by the Institute of Public Administration, employed jointly by the New York City Department of Commerce and the Committee of Fifteen.

The women's coat and suit trade's dollar volume has fallen slightly below that of 1939. The number of units sold to the retailers of the country decreased about 4 or 5 per cent below last year's figure. This is an estimate gathered from the sale of labels to manufacturers and jobbers in the United States by the National Coat and Suit Industry Recovery Board, whose members are responsible for 95 per cent of the country's total production of these garment types. In 1940, approximately 15,500,000 labels were sold, as against about 16,300,000 in 1939, and slightly over 15,400,000 in 1938. Just as in all other branches of the garment trades, coats and suits have ended the year with the market practically depleted of finished goods and piece goods, thereby imparting a salutary tone to the outlook.

The women's fur trade is an exception to the rule of adversity. For the first time in many years—some say since the First World War—this field is taking on the form and substance of a "sellers' market." Diminished stocks of fur coats, plus consistently stronger raw fur quotations, have been factors in the transition, perhaps the only one in

evidence in the numerous apparel producing classifications.

Millinery has pulled itself up by its own bootstraps, partly through an industrywide publicity campaign under the auspices of the Millinery Stabilization Commission of New York.

Sales of men's clothing for the year show an approximate gain of 5 per cent. Men's suits cut declined about 7 per cent. Overcoats cut revealed a gain of 4 per cent. Wholesale suit prices averaged about \$1.10 higher than in 1939 and about \$1.30 more than in 1938.

SAMUEL FEINBERG.

**GAS, Natural.** See GAS INDUSTRY; OHIO and MISSISSIPPI under *Mineral Production*.

**GAS INDUSTRY.** The gas utilities of the United States continued their record of progress and expansion during 1940. Manufactured and natural gas companies, supplying towns and cities with a population of more than 84,000,000, served a total of 17,980,300 customers, representing the largest number of consumers ever connected to the mains of the industry. This was an increase of 481,000 over the year 1939. Of these, 10,232,900 were served by the manufactured gas industry and the remaining 7,747,400 were served by the natural gas industry. Revenues of the entire industry, both manufactured and natural, aggregated \$873,358,000, a gain of 7.3 per cent over the preceding year of 1939. The natural gas companies grossed \$491,276,000, a gain of 9.4 per cent for the year, while revenues of the manufactured gas companies were \$382,082,000, as compared with \$365,150,000 in 1939, an increase of 4.6 per cent.

PRELIMINARY ESTIMATES ON THE  
GAS INDUSTRY FOR 1940  
*Statistical Department, American Gas Association*

Customers	1940	1939	Change %
Domestic (Incl. House Heating)	16,910,000	16,459,000	+ 2.7
Industrial & Com- mercial	1,070,300	1,040,000	+ 2.9
Total	17,980,300	17,499,000	+ 2.8
<i>Gas Sales (MCF)</i>			
Domestic (Incl. House Heating)	686,792,000	622,309,000	+10.4
Industrial & Commercial	1,147,203,000	1,068,343,000	+ 7.4
Total	1,833,995,000	1,690,652,000	+ 8.5
<i>Revenue (Dollars)</i>			
Domestic (Incl. House Heating)	\$585,770,000	\$546,866,000	+ 7.1
Industrial & Commercial	287,588,000	267,143,000	+ 7.7
Total	\$873,358,000	\$814,009,000	+ 7.3

Sales of manufactured gas for domestic uses, such as cooking, refrigeration, house-heating, water heating, etc., amounted to 267,438,000 cubic feet, an increase of 7.3 per cent for the year. House-heating sales registered a gain of 25.1 per cent. The sales of natural gas for domestic uses registered a pronounced upturn, rising from 372,971,000,000 cubic feet in 1939 to 419,354,000,000 cubic feet in 1940, a gain of 12.4 per cent. Sales of natural gas for industrial purposes rose from 654,662,000,000 cubic feet in 1939 to 719,776,000,000 cubic feet in 1940, an increase of 9.9 per cent. Sales of manufactured gas for industrial and commercial purposes showed an upturn, rising from 111,078,000,000 cubic feet in 1939 to 119,624,000,000 cubic feet in 1940, an increase of 7.7 per cent.

**PRELIMINARY ESTIMATES ON THE  
MANUFACTURED GAS INDUSTRY FOR 1940**  
*Statistical Department, American Gas Association*

<i>Customers</i>	<i>1940</i>	<i>1939</i>	<i>Change %</i>
Domestic .....	9,462,100	9,325,000	+ 1.5
House Heating ...	307,400	264,000	+16.4
Industrial & Commercial .....	454,000	447,000	+ 1.6
Miscellaneous.....	9,400	9,000	—
Total .....	10,232,900	10,045,000	+ 1.9
<i>Gas Sales (MCF)</i>			
Domestic .....	197,539,000	193,455,000	+ 2.1
House Heating. ...	69,899,000	55,883,000	+25.1
Industrial & Commercial ...	119,624,000	111,078,000	+ 7.7
Miscellaneous. ....	2,270,000	1,993,000	—
Total .....	389,332,000	362,409,000	+ 7.4
<i>Revenue (Dollars)</i>			
Domestic .....	\$260,063,000	\$255,131,000	+ 1.9
House Heating .....	44,240,000	35,930,000	+23.1
Industrial & Commercial ...	76,356,000	72,774,000	+ 4.9
Miscellaneous .....	1,423,000	1,315,000	—
Total .....	\$382,082,000	\$365,150,000	+ 4.6

Preliminary estimates indicate that the total production of natural gas in 1940, including amounts used in the manufacture of carbon black and for field purposes, reached a total of 2,600,000,000,000 cubic feet. Approximately 183 billion cubic feet of natural gas were used as fuel for generating electric power in 1940.

The outstanding engineering achievement of the year was the installation in Cleveland, Ohio, of a new plant which reduces natural gas to a liquid state at a temperature of 250° below zero and stores it in special containers from which it is later withdrawn in its original form and fed into distribution mains. Some of the advantages foreseen in this novel type of plant are a substantial saving in storage facilities, the ready availability of a gas supply in case of emergencies, and the ability to maintain uninterrupted service during severe peak demands. The new plant has incited great interest not alone within the gas industry, but in the engineering and chemical professions as well.

**PRELIMINARY ESTIMATES ON THE  
NATURAL GAS INDUSTRY FOR 1940**  
*Statistical Department, American Gas Association*

<i>Customers</i>	<i>1940</i>	<i>1939</i>	<i>Change %</i>
Domestic (Incl. House Heating)...	7,140,500	6,870,000	+ 3.9
Commercial .....	562,100	541,000	+ 3.9
Industrial.....	44,800	43,000	+ 4.2
Total .....	7,747,400	7,454,000	+ 3.9
<i>Gas Sales (MCF)</i>			
Domestic (Incl. House Heating)...	419,354,000	372,971,000	+12.4
Commercial .....	122,987,000	109,314,000	+12.5
Industrial .....	719,776,000	654,662,000	+ 9.9
Electric Generation .....	182,546,000	191,296,000	- 4.6
Total Ind. & Elec. Generation .....	902,322,000	845,958,000	+ 6.7
Total.....	1,444,663,000	1,328,243,000	+ 8.8
<i>Revenue (Dollars)</i>			
Domestic (Incl. House Heating) .	\$281,467,000	\$255,805,000	+10.0
Commercial .....	55,942,000	50,362,000	+11.1
Industrial & Electric Generation .....	153,867,000	142,692,000	+ 7.8
Total.....	\$491,276,000	\$448,859,000	+ 9.4

Gas companies continued to inaugurate more favorable rates for house heating through central plant burners and equipment. It is estimated that

the total number of gas central house-heating installations connected to the lines of all United States gas companies in 1940 amounted to 800,000. In addition there were approximately 1,800,000 dwellings heated by unit heaters, space heaters, floor furnaces, etc., giving a total of more than 2,600,000 homes in the United States that are heated by gas.

In recent years, the gas industry has supplemented the substantial amount of research conducted by gas appliance manufacturers by a vigorous and well-planned program of research and development through the American Gas Association. Even better and more efficient gas equipment will shortly be available which should serve to enhance the competitive position of gas.

The gas industry is taking a leading part in supplying the vast industrial heating needs of factories and mills that are producing the thousands of parts for equipment and machines necessary in the National Defense program. For hardening the small and intricate parts of machine guns to the final heat treatment of the largest guns, specially designed gas furnaces are speeding production at an ever increasing pace. In the navy yards, some of the largest industrial furnaces ever built are annealing fully assembled gun turrets with gas. Equipment which has been developed for peacetime uses during the last decade through co-operative research and engineering by the gas utilities and leading equipment manufacturers under the sponsorship of the American Gas Association is rapidly being put to work to speed production in war industries.

Industry and business used about 55 per cent more gas during 1940 than during the boom period of 1929. It is estimated that the normal use of industrial and commercial gas during 1941 will be at least 10 per cent greater than 1940 and supplementing this will be the great quantities of gas used for purely defense production in the United States and Canada.

New streamlined gas equipment for restaurants, hotels, clubs, and bakeries is being installed in increasing quantities and is contributing materially to the modernization of all kinds of eating places. Food preparation technique is changing rapidly and chefs are finding that the newly designed specialized gas equipment enable them to easily adopt the newer cooking methods. Formerly all restaurant foods were cooked on heavy duty ranges and in range ovens. While the range is still the main cooking appliance, it is being supplemented by such special gas appliances as deep fat fryers, thermostatically controlled grills, individual deck baking and roasting ovens, radiant ceramic broilers, various types of coffee makers, and a host of other special gas devices.

The attitude of American housewives toward gas fuel and the modern gas range has undergone a marked improvement over the last five years during which the industry has sponsored a national advertising program, a survey conducted near the close of the year reveals. During 1940, full-page advertisements on the modern gas range and on the four main household uses of gas fuel appeared in national magazines with a circulation of nearly 20,000,000. In addition, 16 magazines serving the trade and professional fields carried advertising promoting the industrial use of gas. Augmented by local newspaper advertising, the national campaign was an influential factor in increasing sales of gas and modern gas-using equipment.

The gas industry continued its activities to promote the use of gas for the "4 Big Jobs" in the homes of the nation. During 1939, gas utilities reported that of the new homes constructed in their territories, 91 per cent used gas for cooking, 77 per cent for water heating, 62 per cent for house-heating, and 12 per cent for refrigeration. Preliminary figures for the year 1940 indicate further increases in each of these uses.

An impressive record of gas service was made in the housing projects completed by various governmental departments and bureaus during 1940 and the industry is supplying gas for many services in numerous cantonments and defense housing projects throughout the nation.

Total sale of gas ranges during 1940 was 1,725,000 units—the highest record in the history of the industry, according to the Association of Gas Appliance and Equipment Manufacturers. The sale of "Certified Performance Gas Ranges," inaugurated in August, 1938, has continued to increase to the point where this type of range, tested and approved for unexcelled cooking performance, represents a substantial portion of total range sales. More than 500,000 automatic gas water heaters were sold during 1940.

See POWER PLANTS; OHIO; MISSISSIPPI.

ALEXANDER FORWARD.

**GASOLINE.** See PETROLEUM.

**GEMS.** See MINERALOGY.

**GENERAL EDUCATION BOARD, The.**

An institution incorporated by an act of Congress in 1903, with the stated object of promoting education within the United States of America, without distinction of race, sex, or creed. The total amount received by the Board in gifts and the accretion thereof, exclusive of income from investments, was \$179,756,000. The Board is empowered to expend the principal as well as the income from these funds. The present program is now restricted to the continuance of the existing program in the Southern States. Support of research and experimentation in relation to the problems presented in the field of general education, i.e. the secondary school through junior college level, and the program in child growth and development were brought to a close at the end of 1940. At the end of the year 1940 the Board's unappropriated assets amounted to \$13,937,414, of which the major portion was definitely earmarked for programs already undertaken.

During the year ended Dec. 31, 1940, appropriations approximating \$6,500,000 were made by the Board. They included: *General Education:* To Teachers College, Columbia University, \$67,200 for support of the program of science teaching of the Bureau of Educational Research in Science, and \$50,000 toward expenses incurred by the Congress on Education for Democracy; to the Educational Policies Commission of the National Education Association of the United States, \$65,000 for general support and \$10,000 for its program of education for civic responsibility; to the National Association of Secondary School Principals, the Department of Secondary Education of the National Education Association, \$24,750 for support of the study of occupational adjustment; to the University of California, Berkeley, \$61,700 for support of the study of adolescent development being conducted by the Institute of Child Welfare of the University of California; to the American Council on Education, \$40,000 toward sup-

port of the co-operative study in general education at the junior college level; and to Leland Stanford Junior University, California, \$40,000 for support of the program in social studies. *Southern Education:* To Bennett College, Greensboro, North Carolina, \$200,000 toward endowment; to Tuskegee Normal and Industrial Institute, Alabama, \$60,000 for enlargement of the plant and equipment of the School of Agriculture; to the University of North Carolina, Chapel Hill, \$60,000 to the department of chemistry for apparatus, equipment, and organic materials, and for a study of new sources of tanning materials; to Fisk University, Nashville, Tennessee, \$50,000 for current expenses, primarily for teaching and research; to the University of Virginia, Charlottesville, \$48,800 toward support of a bureau of industrial research; to the Virginia State Planning Board, Richmond, \$90,000 for support of a population study of the State of Virginia; to the Virginia Polytechnic Institute, Blacksburg, \$38,450 toward support of a research and planning project in agricultural economics with special reference to land use; to Louisiana State University and Agricultural and Mechanical College, Baton Rouge, \$25,000 toward support of visiting teachers and \$9,500 for courses in techniques of population research in the department of sociology; \$135,000 for State agents and assistants for rural schools for Negroes; to the University of Georgia, Athens, \$27,700 toward the program of development of the library, biological sciences, and administration; to Atlanta University, Atlanta, Georgia, \$25,000 toward current expenses of the School of Social Work; to Clark University, Atlanta, \$50,000 for the purchase of land for a new site; to the University of Kentucky \$27,210 for research in rural population changes in Kentucky; to Meharry Medical College, Nashville, Tennessee, \$3,700,000 toward endowment and \$160,000 toward current expenses of the Medical School and Hospital; to the Association of Colleges and Secondary Schools for Negroes, \$40,000 for support of the secondary school study.

The executive officers of the General Education Board during 1940 included: Ernest M. Hopkins, chairman of the board of trustees; Raymond B. Fosdick, president; William W. Brierley, secretary. Offices are at 49 West 49th Street, New York City.

**GENERAL LAND OFFICE.** Millions of acres of public land protected under national conservation policies are today valuable elements in the program for national defense as a result of activities of the General Land Office during the 1940 fiscal year.

More than 7,000,000 acres of the public domain were embraced in withdrawals and requests for withdrawals of tracts for bombing ranges and other defense uses. In many sections of the United States, township plats depicting public land surveys prepared by the General Land Office supply the only map data available for military purposes. Speeded up to meet defense demands, cadastral engineering activities during the year resulted in surveys embracing 5,693,105 acres.

Protection of the nation's food supply through the development of an adequate supply of potash, a vital agricultural fertilizer ingredient, also was among the important defense moves brought about during the year. As a result of the war, shipments of this material from Europe and elsewhere have practically ceased. To meet the emergency, more



than 6000 acres of land, comprising the greater part of the dry bed of Searles Lake in California, have been leased by the General Land Office. It is estimated that the supply available from this source, together with other potash produced in this country largely from land leased from the Government in California and New Mexico, should be sufficient to meet all domestic needs.

The General Land Office last year was listed among the few Federal agencies which returned to the Treasury more money than was expended in their operation. Total cash receipts amounted to \$7,057,942.16, which was more than three times the amount of expenditures for operations and marked the fourth consecutive year in which receipts were in excess of \$7,000,000.

The Branch of Planning, Use, and Protection made substantial progress on an inventory of the resources of the public domain, the mapping of public domain lands, range improvement services, and the assembly and analysis of information concerning the economic resources of Alaska. Management of the timber resources on approximately 2,500,000 acres of revested Oregon and California railroad grant lands was furthered through additional research, inventory, and classification, and through establishment of improved procedures for maintaining sustained yield cutting.

Approximately 250,000,000 acres of the 325,000,000 acres of public domain in Alaska administered by the General Land Office are in need of fire protection. During 1940, the skeleton Alaskan Fire Control Service, established earlier in the year, conducted a vigorous educational campaign for fire prevention, in which Federal agencies, civic organizations, and the general public rendered active co-operation, and a short course on forest conservation and protection was conducted in co-operation with the University of Alaska. Defense activities in progress and those in prospect will greatly increase the fire hazard, and serious losses will result unless the protection organization is materially strengthened.

Under the CCC program of the General Land Office, an incalculable amount of the nation's coal resources have been saved from destruction by controlling underground coal fires which have been consuming many of the large coal beds in public lands in the vicinity of Little Thunder Basin, Gillette, Wyoming.

Conservation of the grazing resources on the vacant and unreserved public lands was furthered by regulated grazing under section 15 of the Taylor Grazing Act. At the close of the fiscal year, grazing leases were outstanding on 7,411,986.77 acres, as against 5,830,743 acres outstanding at the close of the preceding year. Revenues from grazing leases during the fiscal year aggregated \$152,378, compared with \$137,365 during the preceding year.

The change from the system of issuing permits to prospect for oil and gas on the public domain to the system of issuing leases has been practically completed. The change was designed to aid in the conservation of the oil and gas resources, prevent speculation and secure more adequate returns to the United States from such resources.

Regulations were issued governing the utilization, primarily through lease, of small areas of the public domain outside certain national reservations for home-site, cabin, camp, health, recreational, or business-site purposes under the provisions of the five-acre tract act of June 1, 1938. The conserva-

tion of national resources and the welfare of the applicants and of the communities in which the lands applied for are situated will be given primary consideration in connection with all applications received.

The regulations relating to the public lands which were codified and printed as a part of Volume II, Title 43, of the Code of Federal Regulations have been reprinted as a separate volume, with an index and tables, and with a supplement which in effect brings the volume up to Apr. 17, 1940. A series of information bulletins relating to the work of the General Land Office is available upon request.

FRED W. JOHNSON.

**GENETICS.** See BOTANY; ZOOLOGY.

**GEOGRAPHY.** See EXPLORATION; POLAR RESEARCH.

**GEOLOGICAL SURVEY.** The work of the Geological Survey is highly technical and diversified. It consists of investigations in the fields of geology and hydraulic engineering, of topographic surveys, of land classification, and of supervision of mineral-leasing operations on Government-owned lands. During the fiscal year 1940 more than \$6,500,000 were made available for such work.

The Geological Survey's investigations of strategic minerals, begun in 1939, assume an important place in the national defense program. Deposits of manganese, chrome, mercury, tungsten, and nickel in a number of western States and deposits of tin and mica in North Carolina were examined or re-examined, and reports were submitted on 18 of the 20 projects before the close of the fiscal year. Studies were also made of tin, nickel, and chrome in Alaska. At the same time the regular program of geologic investigations continued without interruption. Important studies were conducted in the metal-mining districts of Colorado and Idaho, in the oil and gas region of Kansas, in the phosphate fields of Florida, and in a number of other geologically important areas.

Measurements of stream flow were made during the year at 4761 gaging stations throughout the continental United States and Hawaii. The resulting records will appear as parts of the regular series of water supply papers that show the behavior of streams in flood, in drought, and under normal conditions. Stimulated by the ever-increasing use of water from wells, numerous groundwater investigations were conducted in 1940. Periodic measurements of water levels or artesian pressures were made in about 5500 observation wells, and analyses were made of 2255 samples of both surface and underground waters to determine their suitability for industrial, agricultural, or domestic use.

In 46 States, the District of Columbia, and Puerto Rico more than 24,000 square miles were covered by topographic surveys or resurveys, the resulting quadrangle maps being scheduled for publication as parts of the topographic atlas of the United States. A detailed survey was also made of a part of Annette Island in southeastern Alaska for an airplane landing field. These three-dimensional maps are indispensable in the planning and execution of modern military operations as well as in the everyday, nonmilitary, peacetime pursuits of the Nation. In the production of some of them the Survey continued to use the stereophotogrammetric equipment by which mapping is accomplished through the use of aerial photographs.



As technical adviser to the land-administrative agencies of the Federal Government, the Geological Survey made more than 7500 reports upon the mineral resources, water power, or storage possibilities of public lands. At the same time technical supervision was given to 6500 properties containing oil and gas, more than 200 containing coal, and 100 containing other minerals. On Indian lands more than 4000 oil and gas leases were supervised, in addition to more than 200 properties containing coal, asbestos, lead, and zinc. Minerals produced during the year from public and Indian lands and naval petroleum reserves under the supervision of the Geological Survey had an estimated value of \$80,000,000 and revenue derived by the Government as a result of this production amounted to \$8,000,000.

The Survey issued a total of 667 publications during the year, these including 49 reports in the regular series and 102 new or revised topographic and other maps. It distributed during the same period 67,735 books and pamphlets and 808,764 maps.

W. C. MENDENHALL.

### GEOLOGY. Geology in National Defense.

During the World War of 1914-18 Germany was the first nation to make use of geologists as active consultants in the field, and from the very beginning German geologists were assigned to army staffs. The value of geological advice was soon appreciated by other combatants, and before the end of the war geologists were widely employed in the field by all armies. In 1940 geologists of the United States were beginning once more to think in terms of war-time usefulness and accepted as a matter of course their listing in the newly organized National Roster of Scientific and Specialized Personnel, from which selection of competent individuals for national defense purposes will be made. This increasing preoccupation with the geological aspects of national defense was indicated at the December, 1940, meetings of the important geological societies, where a considerable proportion of the papers was devoted to various aspects of the place of geology in preparing for and waging war.

In connection with the field operations of an army, the work of the geologists consists in nothing more than the application of the well-recognized methods of engineering geology to a rather specialized type of problem. Very often this employment is in the selection, where considerations of military effectiveness allow a choice, of the best possible locations for trenches, dugouts, tunnels, air-raid shelters, and underground fortifications. Other things being equal the best location for these structures is in well drained rock or soil, which is also easily excavable. It was often found, for example, during the last war that one dugout might be comparatively dry and comfortable, while another on the same line but at slightly greater or lesser depth was cold and wet. This difference was often due to the varying permeability of the material in which the dugouts were constructed, and a slight shift in the vertical location of the poorly drained dugout might have placed it in the more permeable formation, where it too would have been dry. Since the health and comfort of troops may depend upon the quality of their quarters, geologists who could point out such differences in rock behavior were very useful.

Geologists have also shown that the potential destructiveness of bombs and shells varies greatly in different types of soil. In clay soils, bombs pene-

trate deeply, make a relatively deep crater, and throw material vertically upward, so that the radius of the area of danger is small. In sandy soils, however, craters tend to be shallow and fragments to fly horizontally over an area of much greater radius. At the front geologists are also used in locating abundant and safe water supply for troops and in finding materials for road building and other military construction. Some aspects of this subject have been discussed by Douglas Johnson in *Battlefields of the World War* (American Geographical Society, New York, 1931), and a considerable bibliography upon it developed after 1918. It may be confidently stated that the new techniques of geophysics will further enlarge the field of geologists in future military operations, whenever the characteristics of earth materials must be taken into consideration.

With the tremendous enlargement of the U.S. Army now occurring, problems of officer training arise, and here again the geologist may contribute. It is essential that officers be able to understand, if not make, maps, for there is scarcely a military operation from the inception of a plan of campaign to its execution in the field that does not require an extended knowledge of maps. Because of his wide use of maps in the field, the geologist is better able than any other map-user to picture the details of topography, which can only be depicted in part on a map of usual scale and contour interval, but which may be of tremendous importance under battle conditions. The geologist is often able to read much between the contour lines, and a map to him is as good and even better than a model in showing topography. For example, knowing something of the origin of a flat plain shown on the map without a contour, the geologist knows pretty well whether it is likely to have elevations or depressions of one origin or another too small to be caught by the contour interval, but large enough to be of great tactical importance. Such knowledge can be of inestimable value to officers, and much of it can be quickly imparted to innumerable future officers by geologists and others especially selected for this service. It is interesting to note that it is already becoming difficult for colleges to obtain topographic models, because the entire output of some model-making firms is already required by the government for instructional purposes.

In the allied field of aerial photograph interpretation, which has been developed to a great extent by oil company geologists, it seems probable that men trained in this specialty will be called upon to interpret and to teach interpretation of aerial photographs for military purposes.

So far as national defense requirements demand the planning and construction of large engineering works such as the much-discussed St. Lawrence Canal, geologists will continue to be called into consultation to solve the multitude of varied problems dealing with the behavior of rocks and soils, which are met in every great engineering undertaking.

**Strategic Metals.** Of the 25 metals which are listed as essential for national defense by the Army and Navy Munitions Board, eight are regarded as strategic in the sense that they are required for waging of modern war, and at present are unobtainable within our boundaries in quantities sufficient for our own use. The strategic metals are tungsten, mercury, tin, chromium, aluminum, antimony, nickel, and manganese. A discussion of the uses, sources, substitutes, and possibilities of in-

creasing domestic production of these metals lies largely within the fascinating field designated mineral economics, although the problems are as much technologic as economic. They can only be touched upon here, and the reader who is interested should turn to the following annual volumes covering the world production and containing much in addition to bare statistics: *The Mineral Industry* (McGraw-Hill) and *The Minerals Yearbook* (U.S. Bureau of Mines). Broad discussions of the entire subject may be found in *Rough Strategic Mineral Supplies* and *Leith World Minerals and World Politics*, both published by McGraw-Hill.

In some instances, as seems likely for tungsten, domestic production sufficient to meet war-time requirements could probably be obtained by mere increase in price. In other cases, however, no increase in price, no matter how extraordinary, could much enlarge production. This is true of tin, for it is unfortunately probable that there is more tin in some of our large city dumps than in all our mines. An increase in the price of manganese would probably result in a considerable gain in domestic production, but it would probably never be sufficient for our needs. Our nickel comes from Canada, and, since overseas transportation is not involved and Canada is a friendly nation, does not constitute a problem.

For many years the U.S. Geological Survey (q.v.) has been engaged in studying the economic deposits of the United States, and within the past two years has been able to extend its investigations greatly so that many field parties have been engaged in examinations of all promising prospects, as well as in careful restudy of many abandoned and largely worked-out mines. The successful search for potash made in this country as a result of the inability to obtain this important fertilizer material from Germany during the World War was a triumph of economic geology and will serve to illustrate something of its methods. In 1916 potash was almost unobtainable and sold for as much as \$119 per ton; in 1939 we produced over six hundred thousand tons at an average price of about \$19. The great potash deposits of Stassfurt, Germany, occur in beds of Permian age deposited in an isolated and evaporating arm of the ocean. Although no potash occurred at the surface in western Texas and eastern New Mexico, it was recognized that the beds were of the same age and character as those of Stassfurt. Exploratory drilling located the potash beneath the surface, and it is now estimated that there is a reserve of over one hundred million tons in this district from which most of our potash now comes.

The occurrence of chromite may furnish another example of the methods of geology in the search for metals. Chromite, the mineral from which chromium is obtained, often occurs in association with the iron mineral, magnetite. Frequently it occurs in lenticular masses, which may be cut off at any level by erosion. Since magnetite, as its name suggests, is magnetic, it will deflect the compass needle, and a region where masses of chromite and magnetite, even though small, occur at the surface is a promising one for exploration for underground bands of chromite by magnetic methods. Once a mass is located and its general size and shape determined by dip needle surveys, exploratory drilling is undertaken to determine the proportion of chromite before any steps toward mining operation are taken.

By such and by far more complicated methods,

geologists hope to locate new deposits of the strategic minerals and to lessen the dependence of the United States upon foreign sources. But in some instances there is little that the geologist can do, for if the metal does not occur within the desired limits, it will do no good to seek it.

**Chinese Geomorphology.** Among the books appearing in 1940, one of unusual interest because of the circumstances attending its publication was *Geomorphology* by S. Ting. Published in Chungking, this is the first text on landforms to appear in Chinese. When it is considered that geomorphology is a science with so few practical applications that this text could have little immediate use in warring China, its appearance at this time seems a remarkable indication of a national will to carry on. It may be contrasted with the statement reliably attributed to a Japanese when asked why he no longer sent an American colleague copies of his published articles, "We are just beginning to realize that Japanese science is for Japanese."

**Shore and Beach Protection.** With the tremendous increase in the recreational use of beaches the problem of their preservation from wave attack has received widespread attention in almost all States bordering on the ocean or on the Great Lakes. The shores of some States such as New Jersey and Connecticut near large centers of population are almost entirely occupied for summer recreational use, and are sources of large income to the States and their citizens in the form of taxes and spending by vacationists. Active wave erosion immediately causes economic loss in the form of "taxes to the sea," which in the aggregate amounts to millions in depreciation of property value and cost of protective works. There is a national organization of engineers, scientists, and civic divisions interested in shore protection, which publishes an enlightening quarterly known as *Shore and Beach* and meets annually at various shorefront cities in the United States. The problems of shore defense against wave and tidal current attack are complex and require co-operation of engineer and geologist, although most studies of wave processes now being published are by engineers. Successful shore defense requires community effort, for one property owner working alone may cause damage all along a shore or be defeated in his efforts, because undefended shore on each side of him continues to be eroded until he is outflanked. For this reason the construction of any large protective works or of other edifices likely to change shore currents requires authorization by State or Federal bureaus. It is interesting to note that established beaches are not only protected against destruction, but in many instances, as in the case of the famous Coney Island beach, are greatly widened by artificial deposition.

**Contour Map Symbols.** Two recent additions to the standard symbols used by the U.S. Geological Survey on its contour maps have resulted in making many of these five-color maps, whereas for many years they were printed in three colors, brown, blue, and black, except in those maps where green was rather unsuccessfully used to denote forest areas. For a number of years too, important State and Federal highways have been shown in red with the highway route number printed in a red circle or shield; this has proved a useful practice, although unavoidably confusing when routes are altered. In the latest maps red is used in short diagonal dashes and in a stippled pattern of various widths superposed upon the accustomed black to

indicate political boundaries. Although this may make the maps more useful to those to whom the contour lines have no meaning, the red pattern unfortunately makes the topography more obscure to geological users. In addition to the new use of red, a light gray tint is now used in a helpful way to denote the closely built-up parts of cities, where individual buildings shown in black would completely conceal the topography. In these built-up city areas public structures only are now shown in black, and the result is a much more legible map to the reader of contours, as can be seen in the new Weehawken, N.J., Quadrangle, where the topography of the Palisades can now be seen in the area of Jersey City, which under the old system would be entirely black. On these new maps, however, it must not be assumed that all the gray-tinted districts are solidly covered with buildings.

**Studies of Living Glaciers.** Research on living glaciers in the past few years has made rapid headway in three directions. The first of these, in which Ahlmann of Sweden has made notable contributions, is in the quantitative study of the amount of snow falling on the upper parts of a glacier, the thickness of névé thus added to the ice mass annually, and the volume of ice that is lost by melting and evaporation from different parts of the glacier each year. Such studies require that the investigator live with the glacier for a prolonged period; they have not yet been made of American glaciers, although there are many on the continent that would repay the student for the time spent upon them. The second line of research has involved microscopic study of glacier ice in a refrigerated laboratory where its behavior under differential pressure could be observed. The details of ice flowage have been revealed and recorded on motion-picture film, so that the reorientation of the ice crystals during flowage is clearly seen. This work was first undertaken in 1938 by an English group under Seligman, which set up their laboratory in a room hewn into the practically stationary ice above the bergschrund of the Great Aletsch Glacier in Switzerland. In this country Demorest has carried on similar studies with ice of Mount Rainier glaciers and has felt justified in concluding that under sufficient pressure ice acts as a viscous fluid.

The third field of research deals with variations in the size of existing glaciers in response to climatic fluctuations; it has recently brought out evidence that the present cirque glaciers of the western United States are not diminished remnants of their Ice Age predecessors but represent a new generation of ice bodies of late Post-Pleistocene age, at most 4000 years old. In addition Matthes believes that the larger glaciers of the Northwest, Canada, and Alaska, did not melt entirely away but diminished greatly in size; since then they are believed to have expanded to the limits from which they are even now receding. If these interpretations are substantiated, it will not be improper to speak of a minor ice age more recent than the last great glaciation.

It has not been possible to determine whether any correlation between glacier-maxima of short duration in Europe and North America exists, but it seems quite certain that in both continents the maxima of the 17th, 18th, and 19th centuries were the greatest ice extensions since the end of the Ice Age. The present rapid decline of glaciers does not necessarily mark the end of this last great period of ice advance, for it may be only one of many

temporary recessions that have occurred, and it is known that the Alpine glaciers are now much larger than they were during the Middle Ages and still cover the sites of villages overwhelmed as late as 1643-44. In the Sierra Nevada and Cascade Mountains the glaciers continue to lose greatly both in thickness and in length; in one glacier a decrease in thickness of 32 feet occurred in six years, in another the ice front retreated 345 feet in one year. A number of small glaciers have disappeared completely, one within the lifetime of the man for whom it was named. In addition to their great scientific interest, these studies are of some economic significance to the hydrologist, inasmuch as melt-water from glaciers is often an important source of water supply maintaining flow in streams which would otherwise dry up during the summer.

Many of these studies have been furthered by the International Commission on Snow and Glaciers, a group of scientists whose co-operation one with another must nearly come to a standstill during these years of war.

See GEOLOGICAL SURVEY.

HENRY S. SHARP.

**GEORGIA.** Area, 59,265 square miles, including 540 square miles of water. Population, Apr. 1, 1940 (census), 3,123,723 (1,073,808 urban and 2,049,915 rural); 1930, 2,908,506. Atlanta, the capital, had (1940) 302,288; Savannah, 95,996; Augusta, 65,919; Macon, 57,865; Columbus, 53,280.

**Agriculture.** Georgia harvested, in 1940, 10,673,000 acres of the principal crops. Cotton, while it supplied hardly over one-third of apparent value of the return on cultivation of the soil, remained the chief cash-yielding crop. Largely counteracting the diminution of the yearly planted acreage during the years of the New Deal, improvement of the yield of cotton to the acre held production fairly close to the average for 1929-38. Cotton in Georgia yielded 251 lb. to the acre (1940), as against an average, for the stated years, of 218. On 1,946,000 acres (stated years' average, 2,595,000), cotton made 1,020,000 bales (average, as above, 1,175,000); in estimated value to the growers, \$48,450,000. Corn, on 4,259,000 acres, grew 46,849,000 bu. (estimated value, \$31,857,000); peanuts, on 663,000 acres, 553,605,000 lb. (\$17,151,000); tobacco, 72,100 acres, 76,420,000 lb. (\$12,328,000); sweet potatoes, 99,000 acres, 6,930,000 bu. (\$6,237,000); tame hay, 1,141,000 acres, 648,000 tons (\$7,582,000); oats, 443,000 acres, 8,638,000 bu. (\$4,405,000). Peaches, the main orchard crop, made 4,154,000 bu. (\$5,192,000).

**Mineral Production.** The value of native minerals produced in Georgia in 1938 (as stated in 1940 by the U.S. Bureau of Mines) totaled \$11,598,421. Stone furnished over three-tenths of this; raw clay, somewhat less; clay products (exclusive of pottery), one sixth. Quarries' sales of stone rose to 1,988,530 short tons for 1939, from 1,465,680 for 1938; in value, to \$4,838,623, from \$3,581,319. Dimensional stone for building, monuments, etc., formed the greater part of these values: in 1939 granite contributed \$1,166,207; marble, \$1,464,960. Kaolin (used chiefly as a filler for paper and making china) made up 95 per cent of the producers' sales of clay; the total of kaolin rose to 512,214 short tons (1939) from 412,632 (1938), and in value to \$4,135,727, from \$3,314,918. The production of fullers' earth (its statistics separate from those of clay) was also important: producers' sales (inclusive of a minor part attributed to Florida)

amounted to \$1,035,066 for 1939. Products made from clay (exclusive of pottery and refractories) amounted to \$1,980,943 for 1938.

**Manufacturing.** Yearly production of manufactured goods in Georgia totaled \$677,402,657 for 1939; \$708,652,241 for 1937. Other totals for 1939 (each with that for 1937 subjoined): 3150 (2875) manufacturing establishments employed 157,970 (159,496) persons for wages of \$108,078,264 (\$110,501,344), paid for materials, etc., and contract work \$394,076,490 (\$439,145,132), and added to material, by process of manufacture, a value of \$283,326,167 (\$269,507,109).

**History.** Governor Rivers's failure in 1939 to move the Legislature to raise the taxes in order to support his system of help for schools and other liberal measures was followed in 1940 by other setbacks to his administration. W. L. Miller, the former close friend whom Rivers had removed late in 1939 from the chairmanship of the Highway Commission, fought this extension of the executive authority in the courts and obtained State Circuit Court orders to keep him in his position. Rivers countered by declaring martial law, thus seeking to suspend the operation of the orders. Courts pronounced jail sentences on officers of the National Guard who, under Rivers's orders, prevented the operation of court mandates; Rivers issued pardons to the officers. Miller carried his trouble to the Federal courts on the ground of the Federal duty to support the lawful State authorities; Judge Deaver granted him a Federal injunction against the Governor; the Governor ignored it on the plea of States' rights and was arrested for contempt (March 15) but released on his own recognizance. Rivers appealed to the Federal Circuit Court at New Orleans when thus threatened with Federal imprisonment for contempt. Meanwhile proceedings in the State's courts had been carried up to its Supreme Court. It decided (April 10) that Miller was the lawful incumbent, nullifying Rivers's order of removal. Rivers, defeated at every point, gave up the legal contest. He had accomplished the immediate object of Miller's removal, the diversion of moneys from the highway fund to meet the State's current contributions in aid of public schools. Late in October Rivers borrowed \$3,500,000 from a banking house in New York, wherewith to continue the State's payments toward the salaries of teachers in the public schools. The loan was to come due on Feb. 28, 1941, soon after Rivers's successor and inveterate opponent, Talmadge, took office; Rivers declared that ad valorem and income taxes "when paid next spring" would amply meet the maturity. On October 26 the State's Auditor submitted to Rivers an audit purporting to show that the Highway Department's balances indicated a deficit of \$13,843,408 on June 30; and the U.S. Bureau of Public Roads promptly gave notice that the State would receive no more of the Federal road money until the Highway Department should get into shape to meet its part of the shared cost of road work.

The State's audit came as a sequel to a legislative inquiry into the Highway Department. In May an economy committee of the House, questioning Hiram Wesley Evans, National head of the Ku Klux Klan and member of the Governor's military staff, learned of Evans's receiving income for co-operating with five companies engaged in bidding for highway contracts. The Federal District Attorney at Atlanta took up the matter and started investigating highway dealings before a grand ju-

ry. The Ku Klux Klan itself came into notice on account of the flogging to death of an alleged wife-beater of East Point early in March, for which nine members of the Klan were tried, and the flogging of an organizing agent of the C.I.O. in the same area, for which the principal offender was sentenced to imprisonment and fine, April 25. An order of Imperial Grand Wizard Colscott (April 17) required members of the association to cease wearing the mask that had formed part of their costume.

Rivers, who had weakened himself by resorting to the high-handed methods that he had condemned in his predecessor, Talmadge, and by defying sentiment against further taxation, sought a more popular course in May by ordering all aliens to be registered and forbidding them to engage in licensed occupations, unless applicants for citizenship.

**Elections.** At the State primaries (September 10) the Democratic nomination for Governor, assuring election in November, went to former Governor Talmadge; the supporters of Rivers failed to retain any of the major elective offices.

At the general election (November 5) the State's vote for President went to Roosevelt (Dem.) 265,194 votes, and against Willkie (Rep.), who got 46,362 votes, by about 6 to 1. Talmadge for Governor and the State's other Democratic nominees were duly elected.

**Officers.** Georgia's chief officers, serving in 1940, were: Governor, E. D. Rivers (Dem.); Secretary of State, John B. Wilson; Attorney General, Ellis Arnall; Treasurer, George B. Hamilton; Comptroller, William B. Harrison (died) and Downing Musgrove (successor); Superintendent of Schools, M. D. Collins.

**GEORGIAN SOVIET SOCIALIST REPUBLIC.** See UNION OF SOVIET SOCIALIST REPUBLICS under *Area and Population*.

**GERMAN-AMERICAN BUND.** See DIES COMMITTEE; FASCISM.

**GERMAN LITERATURE.** The year 1940 finds German literature in a chaotic condition. It is very difficult, almost impossible, to make a reliable and complete report. Magazines and books from Nazi Germany are hardly obtainable, even scientific publications do not reach the libraries and have not for months. The literature within Germany's walls has now totally become the instrument of the propaganda machine. In later years it will be a very interesting task to compare the literary situation during the first world war with that of the second world war. At that time an unusual literary activity, an abundance of intellectual intensity, that broke through in spite of the strict censorship regulations, today a sinister silence. The literary "Fuehrer" of the Third Reich, Hanns Johst, describes a trip through conquered Poland in a propaganda paper *Ruf des Reiches—Echo des Volkes* (*Call of the Reich—Echo of the people*). Martin Luserke publishes a short story from the Irish legendary circle *Bran wadet durch das Meer* (*Bran wades through the ocean*). E. M. Mungenast in *Der Zauberer Musot* (*The sorcerer Musot*) writes the story of a soldier from Lothringia, who, after the war of 70/71 has fullest understanding for the new German regime. Agnes Miegel, a second-class writer of former times publishes a new volume of poems *Ostland* (*Eastern country*) in which she writes about the fate of East Prussia from the first world war to the present. The publishing house of S. Fischer brings out a two-vol-

ume collection of carefully "purged" essays, covering two centuries under the title *Deutscher Geist* (*German spirit*). Wilhelm Schellberg and Friedrich Fuchs publish a very noteworthy collection of unknown letters of Clemens Brentano under the title *Das unsterbliche Leben* (*Immortal Life*). In *Oelkrieg* (*Oil war*) Anton Zischka announces the end of the imperialistic battles for the oil fields of the world. By a gasoline developed from coal, Germany, he sets forth, has broken the world power of oil. Out of the abundance of absolute propaganda literature, anti-Semitic literature, and inferior novels, the novel of the talented Ernst Juenger *Auf den Marmorklippen* (*On the marble cliffs*) stands out, a work that contains genuine contemporary critical notes. Otherwise the rank and file of the new publications shows no name of any literary value. And a new poetic production has been denied the Third Reich up to the present. The separation of German literature in two enemy camps, the literature of the exile and that of the Nazi, has become more apparent as the war progresses. It is interesting in this connection, that German publishers demand of American publishers of German textbooks for use in colleges, that they will refrain from publishing manuscripts of non-aryan or expatriated aryan German writers. In one case it has been found that the American publisher agreed to this demand.

The German writers in exile have spent the year 1940 in saving their own lives or in helping to save the lives of their comrades. Hitler's advance has placed the avowed and hated enemies of the Third Reich in an extraordinarily difficult position. A rescue movement, that was inaugurated by the "Emergency Rescue Committee" with a large scale assistance of American authorities, has saved many important writers from definite destruction. A large number of these are now in America, among them Hermann Kesten whose historical novel with a Spanish background *I the King* has appeared in the course of the year in an American edition; Heinrich Mann, Thomas Mann's brother, who is at work on a diary of his French experiences; Leonhard Frank; Alfred Polgar; Leopold Schwarzschild, the former publisher of the *Neues Tagebuch* (*New Diary*) formerly published in Paris; Golo Mann, a son of Thomas Mann, who last published *Mass und Wert* a Swiss magazine, now abandoned; Adrienne Thomas; Franz Werfel, whose novel *The embezzled heaven* recently appeared here as the "Book of the Month"; Gustav Regler, now living in Mexico, whose novel on the Spanish war (*Longmanns*) was a well-deserved success; Konrad Heiden, who has won acclaim as the author of two biographical works on Hitler; Leo Lania; Lion Feuchtwanger; Julius Bab; Fritz von Unruh; E. J. Gumbel. A number of these authors have received contracts in Hollywood, but the transplanting into new surroundings, presents a difficult, material, and intellectual problem. Several are still expected, the whereabouts of others is unknown. A number of the writers have become the victims of events. Walter Benjamin, a philosopher of singular stamp and Walter Hasenclever, one of the most successful playwrights of the war generation, committed suicide on the French-Spanish border. Rudolf Olden, the author of a brilliant Hitler analysis, lost his life on the way from England, when the ship on which he was crossing was torpedoed.

The printing of German books in exile had ceased almost entirely as a result of the occupation of the neutral countries of Europe. The important

publishing concerns, who were active in Holland, such as "Querido" and "Allert de Lange," naturally had to give up every activity. Of "Querido" it is said that the firm will move its seat to Batavia, if the head of the concern succeeds in getting out of England. The only German publishing house still in existence outside of Nazi Germany is the Berman-Fischer Publishing House in Stockholm, which has, however, reduced its output to a minimum. At any rate said publishing house published a translation of Sholem Asch's *Nazarene* and a new short novel by Thomas Mann *Die vertauschten Köpfe* (*The exchanged heads*) a half fairy-tale-like love story of greatest charm, with India as its locale.

It is remarkable how large a place is accorded translations of American books within the scope of the limited German literature, which actually still only has a public in Switzerland. We find such titles from the pens of Willa Cather, Dale Carnegie, Paul de Kruif, Norah Lofts, Daphne du Maurier, Christopher Morley, John Steinbeck, Thomas Wolfe, Richard Wright.

A pamphlet appeared by Karl Barth, the Swiss theologian, who was banished from Bonn; this pamphlet is entitled *Gottesbund und Staat* (*God's alliance and state*).

Georg Kaiser, possibly the most significant living German playwright published in Switzerland two new dramas *Rosamunde Floris* and *Der Soldat Tanaka*.

Bernhard Baumgartner, a Swiss author, must be mentioned as the creator of a very noteworthy and thorough Mozart-Biography. Heinrich Strobel wrote a *Debussy* Otto Strasser, at one time a collaborator of Hitler and today one of his most decided opponents, in his book *Hitler und Ich* (*Hitler and I*) has made some sensational disclosures, especially about the background of the German-Russian alliance. The book has become known by a translation in America.

Among the arrivals in the course of the year to these shores is Carl Zuckmayer, one of the strongest poetic talents of the German theater. His biographical presentation *Second Wind* appeared recently at Doubleday, Doran. Stefan Zweig, the Austrian writer, seems to have settled permanently in Brazil. He published a collection of historical essays. Emil Ludwig moved from Switzerland to California. During the course of this year there appeared by his pen in German *Ueber das Glueck und die Liebe* (*On happiness and love*), a collection of articles. He is preparing a *German History* and a biography of Trotsky. Bruno Frank, also a resident of California, is at work on a play with a historical background, the action of which takes place during the Boxer uprising.

The Viennese author Hermann Broch, whose great novel *The sleepwalker* has gained much attention, has received a Guggenheim-fellowship. He is at present at work on a new Vergil-novel.

The only German literary work that appeared in the United States in 1940 is a new edition of Thomas Mann's *Lotte in Weimar*, which publication the publisher Berman-Fischer, now in New York, made possible with the assistance of Harcourt, Brace. Interesting plans are in progress for a sort of "Museum of European Literature," a foundation, that intends to publish new editions of classical and contemporary works of German, Italian, French, Dutch, Czech, and Polish authors in the original languages.

A number of German authors published books in

original American editions. Erika Mann published *The Lights Go Down*, a collection of short stories, each based upon documentary proof and that describe the fate of a German small town and its citizens under the Nazi regime. She has also collaborated in the book *Zero Hour*, prefaced by Stephen Vincent Benét, which is a political appeal to American youth. The novel of Franz Hoellering, *The Defenders*, dealing with the Austrian labor movement, had a great literary success. A work by the Bavarian author Oscar Maria Graf, entitled *My Mother*, a touching and simple portrayal of the life of the author's mother, has attracted great attention. From the pen of the Viennese author Raoul Auernheimer there is a fascinating biography of Metternich. Heinz Pol described the collapse of French democracy, from the point of view of an eye-witness. Theodor Reik, for many years the collaborator of Sigmund Freud, wrote a volume, which contains personal memoirs of Freud and a collection of psychoanalytical essays. The psychiatrist Kurt Goldstein, who now occupies a chair at Tufts College in Boston, published in the Yale Press the interesting attempt at a social pathological biology. A volume of articles has been published out of the estate of the sociologist Emil Lederer, formerly of Heidelberg and last connected with the New School for Social Research. A stirring report of facts on the murder of her son, the lawyer Hans Litten, by the Nazis, was written by his mother, Irmgard Litten, under the title *Beyond Tears*.

A typical example for the odyssey of the German emigration is the "Institute for Social Research," that formerly was a part of the University at Frankfurt-on-Main. In 1933 it transferred its seat to Geneva. In 1934 it was joined to Columbia University as "Institute of Social Research." The official organ of the institute *Zeitschrift fuer Sozialforschung* was published up to 1940 by a Paris publisher in several languages. After the collapse of France the publication is now being continued under the title of *Studies in Philosophy and Science* in New York.

Finally the new magazine *Decision*, published by Klaus Mann, deserves mention. This is a first attempt to bring about a synthesis between the European literary emigration and American literature. To quote the editor himself, the magazine "is designed to become instrumental in intensifying the relations between the American and European spirit." In the first number the German authors were represented by Franz Werfel, Stefan Zweig, and Bruno Walter, the musical conductor.

The incongruity of this summary demonstrates best the illness from which German Literature was suffering in 1940. Dependent upon very powerful historical events, which will decide the fate of the German language and its cultural world significance, it looks forward to an unknown future.

MARTIN GUMPERT.

**GERMANY.** A former Federal republic of Europe, transformed into a centralized, totalitarian state by the National Socialist revolution commencing in 1933. Capital, Berlin.

**Area and Population.** The area and population of Germany proper and its component States at the census of May 17, 1939, with comparative figures for the census of 1933, are shown in the first table in the next column.

The second table shows the area and population of territories formally incorporated into the

# GERMANY: AREA AND POPULATION BY STATES

States	Area sq miles	Population June 16, 1933	Population May 17, 1939
Prussia * . . . .	113,012	39,934,011	41,762,040
Bavaria . . . . .	29,336	7,681,584	8,280,090
Württemberg . . .	7,530	2,696,234	2,907,166
Baden . . . . .	5,817	2,411,462	2,518,103
Saxony . . . . .	5,785	5,196,652	5,206,861
Mecklenburg * . .	6,197	805,213	910,826
Thuringia . . . .	4,540	1,659,510	1,760,595
Hesse . . . . .	2,969	1,429,048	1,469,909
Oldenburg . . . .	2,480	573,853	582,400
Brunswick . . . .	1,417	512,989	599,208
Anhalt . . . . .	893	364,415	436,213
Saarland . . . . .	738	812,030	863,736
Lippe . . . . .	469	175,538	188,598
Hamburg . . . . .	160	1,218,447	1,682,220
Schaumburg-Lippe .	131	49,955	54,162
Lübeck . . . . .	115	136,413	400,086
Bremen . . . . .	99	371,558	400,086
German Reich . . .	181,688	66,030,491	69,622,843
Austria * . . . .	34,055		7,009,014
Sudetenland * . .	8,718		2,945,261
Greater Germany .	224,461		79,576,758

\* Excluding Saarland and including Waldeck \* Excluding Saarland. \* Annexed Mar 13, 1938. \* Annexed Oct 1, 1938.

Reich but not included in the May 17, 1939, census. It does not include States under German protection, such as Bohemia-Moravia and the Government General of Poland, or the occupied countries (q.v.).

## OTHER AREAS INCORPORATED INTO THE REICH

	Date of annexation	Area sq miles	Population
Memel	Mar 22, 1939	976	153,000 *
German Poland	Oct 8, 1939	35,512	9,627,000 *
Danzig . . . . .	Sept. 1, 1939	754	403,000 *
Eupen	May 19, 1940	386	62,000 *
Malmédy			
Moresnet			
Alsace-Lorraine	Nov-Dec, 1940	5,605	1,915,627 *
Total		42,257	12,007,627

\* Estimate \* 1939 \* 1936

According to the foregoing tables, the area of Germany proper on Dec. 31, 1940, was about 266,718 square miles. The total population was approximately 91,584,385.

Living births in Germany in 1939 numbered 1,633,078, including Austria, the Sudetenland, Memel, and Danzig, as compared with 1,506,340 in 1938. Deaths totaled 1,009,290 as against 950,144 in 1938. The birth rate for Germany, including the Saar but excluding Austria and subsequent annexations, was 20.3 per 1000; death rate, 12.3 per 1000.

Populations of the chief cities at the May 17, 1939, census were: Berlin, 4,332,242; Vienna, 1,918,462; Hamburg, 1,682,220; Munich, 828,325; Cologne, 768,426; Leipzig, 701,606; Essen, 659,871; Dresden, 625,174; Breslau, 615,006; Frankfurt-on-Main, 546,649; Düsseldorf, 539,905; Dortmund, 537,000; Hanover, 472,527; Stuttgart, 459,538; Duisburg-Hamborn, 431,256; Nurnberg, 430,851; Wuppertal, 398,099; Königsberg, 368,433; Bremen, 342,113; Chemnitz, 334,563; Magdeburg, 334,358; Gelsenkirchen, 313,003; Bochum, 303,288; Mannheim, 283,801; Kiel, 272,311; Stettin, 268,915; Halle-on-Saale, 220,364; Kassel, 217,085; Graz, 210,175; Brunswick, 201,306. According to the census, the Jewish population was 330,892 in Germany, including Austria and the Sudetenland. This did not include half-Jews, of whom there were 72,733.

**Education and Religion.** Primary education

is compulsory and there is little illiteracy. Excluding Austria and the Sudetenland, there were 50,592 elementary schools and 7,503,195 pupils in 1939, as compared with 51,118 schools and 7,596,000 students in 1938. In Austria there were 4721 schools and 657,000 pupils; in the Sudetenland, 2957 schools and 274,000 pupils. Other school enrollment (in 1937-38) was: Intermediate, 272,365; "gymnasien" and "realschulen," 370,985; universities and advanced schools, 69,981 (universities, 45,989; advanced technical schools, 9554; others, 14,438). There are three new special colleges for the education of political leaders. According to the 1933 census, Protestants comprised 62.7 per cent of the total population; Roman Catholics 32.5 per cent; other Christians 0.1 per cent; Jews 0.7 per cent; adherents of other sects 4 per cent.

**Agriculture.** The Reich (including Austria and the Sudetenland) had 55,302,000 acres of arable land in 1939; 27,601,000 in meadows and pastures; 2,470,000 in trees, shrubs, and orchards; and 42,032,000 acres of forests. The gross value of agricultural production in the harvest year 1938-39 was 14,050,000,000 marks, representing an increase of 7 per cent over 1937-38. Milk accounted for 23.5 per cent of the total. The potato crop for 1940 was estimated at 58,900,000 tons for Greater Germany, including Austria and the Sudetenland but excluding territory subsequently annexed by the Reich. The sugar-beet crop was said to total 18,400,000 tons. Yields of chief cereals in 1939 were (in metric tons): Wheat, 5,613,500; barley, 4,261,800; rye, 9,454,800; oats, 6,867,700; and corn, 379,600 (1938). Meat production in 1938 totaled 3,676,800 metric tons, of which hogs accounted for 2,305,600 metric tons. The livestock census in December, 1939, showed 29,100,000 swine; 23,900,000 cattle. In the old Reich in 1938 there were 19,900,000 cattle, 23,600,000 hogs, 4,800,000 sheep, 2,500,000 goats, and 97,900,000 poultry.

**Mining and Manufacturing.** The net value of industrial production in some of the larger categories was divided as follows in 1938: Shipbuilding, 273,500,000 marks; metal, 559,500,000 marks; leatherware, 106,300,000 marks; motor vehicles, 636,500,000 marks. The 1938 output of minerals and metals in metric tons was: Coal, 186,179,000; lignite, 232,000,000; iron ore, 3,100,000; lead, 185,200; copper (smelter), 66,000 (1939); pig iron, 18,595,000; steel, 23,208,000; aluminum (smelter), 3000 (1939); cadmium, 432; zinc, 212,300 (1939); crude petroleum, 647,000 (1939). Rayon production was 66,500 metric tons; wood pulp, 2,544,000. Pig-iron production in Germany and German Poland during 1939 was estimated provisionally at 22,850,000 tons; steel, 30,950,000 tons; aluminum, 185,000 tons. Output of electric energy totaled 5,500,000,000 kilowatt-hours in 1938. Manufacture of synthetic rubber was accelerated in 1940 and a second factory, under construction during the year at Huls, was expected to exceed the capacity of the original plant at Schkopau.

**Foreign Trade.** Imports for consumption in 1938 were valued at 5,449,000,000 marks (5,468,000,000 in 1937) and exports of German products at 5,256,000,000 marks (5,911,000,000 in 1937). For the first seven months of 1939, merchandise imports totaled 3,194,000,000 marks; exports, 3,314,000,000 marks. No trade statistics have been made public by the German Government since Aug. 1, 1939. For distribution of trade among countries, see 1939 YEAR BOOK, p. 315. Also see TRADE, FOREIGN.

**Finance.** Revenue from all Reich taxes for the fiscal year ended Mar. 31, 1940, totaled 23,575,100,000 marks as compared with 17,712,000,000 for the preceding year, according to an official report of the Ministry of Finance. The increase over the 1938-39 year was consequently 5,863,000,000 marks, as compared with an increase of 3,750,000,000 for the 1937-38 year. The 1939 figure encompassed a contribution of 300,000,000 marks from Austria for the first quarter of the year; while the 1940 year includes the full annual allotment from Austria and the Sudetenland. Governmental expenditures have not been published since 1933. Including the wartime contribution of German communes and other miscellaneous items, the Reich's revenues from all sources except borrowings were estimated to total 30 billion reichsmarks for the year ending Mar. 31, 1941. Estimated expenditures were 29,288,000,000 reichsmarks in 1938-39, 44,963,000,000 in 1939-40, and about 64,000,000,000 in 1940-41.

The disclosed public debt on June 30, 1940, was computed at 60,144,800,000 marks against 35,500,200,000 on Sept. 30, 1939, one month after the European War began. The 1940 figure represented pre-1924 obligations of 3,076,000,000 marks; foreign debts of 1,236,800,000; domestic long-term and medium-term debts, 29,268,000,000; domestic short-term obligations, 22,780,200,000; tax certificates, 3,783,700,000. Note circulation of the Reichsbank on Dec. 31, 1940, totaled 14,033,000,000 marks, compared with 11,798,000,000 on Dec. 31, 1939. The nominal average exchange rate of the reichsmark was \$0.4016 in 1938, \$0.4006 in 1939, \$0.4002 in 1940. See *History*.

**Transportation.** Railway mileage under German control totaled 86,000 after the occupation of German Poland. At the beginning of 1939 mileage was 38,107. Exclusive of that in occupied France, the total railway mileage under German control on Dec. 31, 1940, was 109,904. The figure includes Bohemia-Moravia, German Poland, Danzig, Memel, Denmark, Norway, Luxemburg, the Netherlands, and Belgium. Highways (1940) covered 263,267 miles. Extension of the express highway system in 1939 consumed 921,000,000 marks and brought the length of these super roadways to more than 2000 miles. Because of the British blockade, German mail to and from North, South, and Central America was routed without exception via Siberia and Japan, according to official reports dated Dec. 2, 1940. Under construction in 1940 was a 100-mile canal linking Pinsk on the Pripiet River with Brest-Litovsk on the Bug, thus linking the Black and Baltic Seas via Russia and Germany. The Lufthansa system resumed air connections on Oct. 14, 1939, between Berlin and Copenhagen, Stockholm, Rome, and Budapest. The Berlin-Danzig-Königsberg route was extended to Moscow on Jan. 20, 1940. Berlin-Prague-Vienna were linked on Jan. 15, 1940. A week-day airmail service between Berlin and Barcelona via Stuttgart was inaugurated on Aug. 7, 1940. Total length of German air services in operation on Oct. 22, 1940, was officially reported at 7457 route miles, with daily flights averaging 18,642 miles.

**Government.** Under the Enabling Act of Mar. 24, 1933, giving the cabinet unrestricted powers to legislate by decree, dictatorial powers were assumed by Adolf Hitler in his dual capacity as Chancellor (appointed Jan. 30, 1933) and head of the National Socialist (Nazi) party, the only legal political organization. Upon the death of President von Hindenburg, Aug. 2, 1934, Hitler assumed the



functions of both Chancellor and President under the title of Leader (Fuehrer) and Chancellor (Reichskanzler). On Oct. 16, 1934, it was officially announced that Hitler would occupy both offices for life. Rights of the former Federal States were abolished by the decree of Feb. 1, 1934. Between 1933 and 1940, the Nazi party progressively brought under its control not only the government and the army but virtually all departments of political, cultural, social, and economic life (see preceding YEAR BOOKS). The Reichstag of 855 members (1940) was elected Apr. 10 and Dec. 4, 1938, from nominees selected by the Nazi party. It is a purely advisory body, meeting infrequently at the call of the Fuehrer.

The cabinet was composed as follows at the end of 1940: Fuehrer, Chancellor, and Minister of Defense, Adolf Hitler; Interior, Dr. Wilhelm Frick; Foreign Affairs, Joachim von Ribbentrop (appointed Feb. 4, 1938); Finance, Count Ludwig Schwerin von Krosigk; Food and Agriculture, Dr. Walther Darré; Economic Affairs, Dr. Walther Funk (Jan. 15, 1938); Labor, Franz Seldte; Posts, Dr. Wilhelm Ohnesorge (Feb. 2, 1937); Transport, Dr. Julius Heinrich Dorpmueller (Feb. 2, 1937); Aviation, and Commissioner for the Four-Year Plan, Field Marshal Hermann Goering; Justice, Dr. Franz Guertner; Science, Education, and Public Instruction, Dr. Bernhard Rust (Apr. 30, 1934); Church Affairs, Hanns Kerrl (July 19, 1935); National Enlightenment and Propaganda, Dr. Joseph Goebbels; Munitions, Dr. Fritz Todt (Mar. 20, 1940).

An Inner Council of Defense formed Aug. 30, 1939, consisted of Field Marshal Goering (Chairman), Rudolf Hess, deputy leader of the Nazi party; Cabinet Ministers Frick and Funk; Dr. Hans Heinrich Lammers, Minister without Port-

folio and Chief of the Reich Chancery; and Gen. Wilhelm Keitel, chief of the general staff. The Council was authorized to issue decrees and ordinances without Hitler's signature in his absence.

### HISTORY

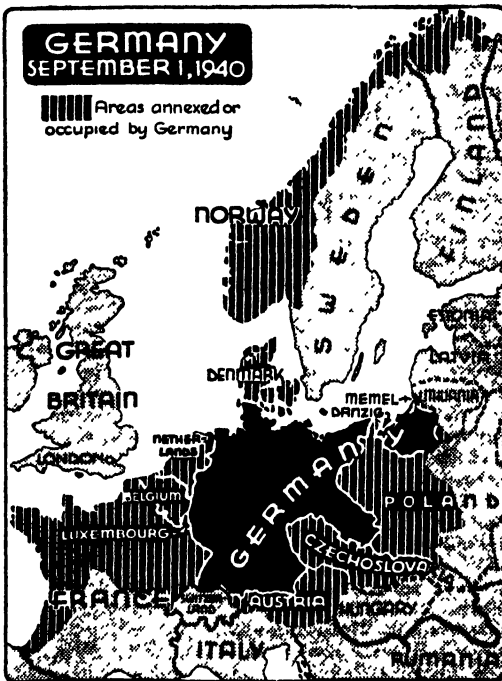
**Germany Astride Europe.** Combining his dynamic diplomacy with some of the most sensational military victories in recorded history (see EUROPEAN WAR) Adolf Hitler brought virtually the entire European continent under the sway of Nazi Germany during 1940. Denmark, Norway, the Netherlands, Belgium, Luxemburg, and France were added to the list of Nazi military conquests. Alsace-Lorraine and the Belgian districts of Eupen, Malmédy, and Moresnet were reincorporated in the Reich, thus liquidating the last vestiges of the Versailles Treaty. Luxemburg was likewise absorbed.

Italy entered the war as Hitler's ally and fell increasingly under German control. Japan adhered to the Rome-Berlin Axis, and the three Fascist powers staked an exclusive claim to control of Europe and Eastern Asia. Hungary, Slovakia, and the remnants of Rumania were brought into the Axis camp without open war by combined promises and threats. Extreme pressure was brought upon Bulgaria and Yugoslavia to do likewise. Sweden, Finland, and Switzerland were cut off from virtually all communication with the anti-Nazi world and confronted with the alternatives of military conquest or peaceful acceptance of Hitler's "new order" in Europe. Spain, bound to the Reich by close political and ideological ties, awaited only a favorable opportunity to throw its military weight on the German side.

By the end of 1940 about 167,000,000 Europeans were included within Great Germany or the ter-



Courtesy of New York Times



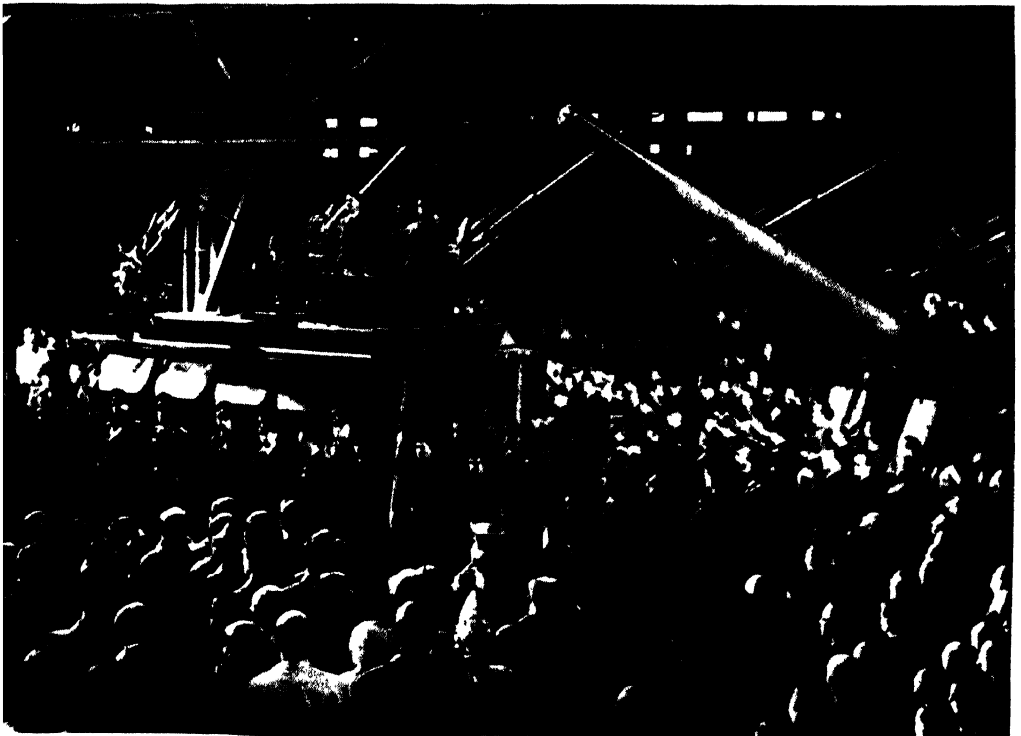
GERMANY'S MILITARY CONQUESTS DURING FIRST YEAR OF WAR





*International*

WITH FLOWER-STRIWN STREETS BERLIN GREET'S ITS HERO AFTER THE GREAT VICTORY IN FRANCE



*Aide World*

THE CHANCELLOR, HEAVILY GUARDED, ADDRESSES A GATHERING OF WORKERS IN A MUNITIONS PLANT NEAR BERLIN ON DEC 12, 1940



*International*

OCTOBER MEETING OF HITLER AND MUSSOLINI AT BRENNER PASS



*Wide World*

AMBASSADOR KURUSU, COUNT CIANO, AND FUEHRER HITLER AS JAPAN SIGNS THE AXIS PACT  
IN BERLIN ON SEPT 27, 1940

ritories under its direct military control. Another 90,000,000 persons in Italy, unoccupied France, Hungary, Slovakia, and Rumania were under various degrees of indirect Nazi domination. All of the conquered and vassal territories, together with Sweden, Finland, and Switzerland, were in process of reorganization as a single great economic unit under German direction, with Berlin as its clearinghouse and the reichsmark as its currency. Only Britain and its Balkan allies on the one hand and the Soviet Union on the other remained as obstacles to the consolidation of German domination over Europe. British influence, moreover, had been expelled from all parts of the Continent except Gibraltar, Greece, and Turkey, and the British Isles themselves were being badly battered and slowly strangled by the German air and sea warfare.

**Threats to Nazi Hegemony.** There was a reverse side to this glittering picture of German invincibility. The British Navy retained complete control of the seas and the blockade initiated in 1939 reduced Europe's overseas commerce to a mere trickle. The Royal Air Force, having repulsed Germany's "all-out" air attack during the autumn of 1940, systematically bombed factories and communications throughout areas under Axis control. This contributed to the acute shortage of food, fuel, and other essential war materials resulting from the naval blockade. Italy, shaken by a series of British victories in Africa and the Mediterranean and by the ignominious failure of Mussolini's Greek campaign, was forced to depend more and more upon the Reich for economic supplies and for military assistance and moral support.

The task of holding the conquered countries in subjection became more and more difficult as their sufferings increased and as hope for a British victory revived. The United States at the end of 1940 was steadily increasing its aid to Britain and her allies. Moreover the uneasy partnership concluded by Hitler and Stalin on the eve of the European War (see YEAR BOOK, 1939, pp. 316-317) grew more strained as the Nazi steamroller pressed into the Soviet sphere of influence in the Balkans. While preparing for a final assault upon Britain, Hitler was thus obliged to spread his armed forces over a large part of Europe and in particular to keep many divisions on guard along the eastern frontiers of the German "living room" in Central and Southeastern Europe.

**The Military Stalemate.** The stalemate in the European War that followed the conclusion of Germany's Polish campaign in September, 1939, continued through the first quarter of 1940. The "peace offensive" launched by Hitler, with Russian support, in the autumn of 1939 had revealed no basis of agreement with the Allied Governments although its propaganda value was exploited to the full. The visit of President Roosevelt's special emissary, Under-Secretary of State Sumner Welles, to the belligerent capitals in February and March revived peace talk. But the German terms presented to Welles led him to report on his return to Washington that there was no immediate prospect of a settlement. According to the Berlin correspondent of the Netherlands newspaper *Telegraaf*, Hitler's conditions were: (1) Allied recognition of Germany's permanent control over Bohemia-Moravia and Poland, and of its politico-economic hegemony in Central Europe, (2) an end to British "intrigue" in Scandinavia, (3) surrender of Britain's "pirate nests" at Gibraltar, Malta, and

Singapore, and (4) restoration of Germany's pre-World War colonies.

Lest Welles' trip should arouse undue peace hopes in Germany, Hitler in a radio broadcast of February 24 affirmed his faith in Germany's victory and his determination to wage war until the "plutocratic terror" from abroad was ended. This unleashed a Nazi press campaign calling for the complete destruction of British sea power to safeguard Germany's "living space."

**War Economy Strengthened.** Except for the activities of German submarines and a few surface raiders, Germany prosecuted the war exclusively on the economic, diplomatic, and ideological fronts from January to April 9, 1940. While the Allies contented themselves with efforts to tighten the blockade, Hitler and his aides worked to strengthen the Reich's war economy against the blockade. The labor, wealth, and resources of conquered Poland and Czecho-Slovakia were mobilized for German war industries. At the same time German diplomacy, effectively backed by the Nazi barter system, threats of invasion and well-organized "fifth column" activities, succeeded in increasing German trade and political influence in Hungary and the Balkans at the expense of Anglo-French interests.

Field Marshal Goering in January expanded his powers as Commissioner for the Four-Year Plan by assuming complete control over all German war industries and government departments concerned with the war economy. A new trade accord made with the Soviet Union on February 13 promised to supply the Reich with much-needed oil, fodder, manganese, and other war materials. By negotiations with Moscow and with Rome, marked by the Hitler-Mussolini conference at Brennero on March 18, Berlin sought to enlist Russia and Italy in a Nazi-dominated political and economic bloc powerful enough to dictate a settlement of the European conflict. Meanwhile by threatening military intervention in Norway and Sweden, Hitler prevented the Allies from seizing the opportunity presented by the Russo-Finnish War to establish a new military front in Scandinavia and cut off the Reich's vital iron ore supplies, mined in Sweden (see EUROPEAN WAR; FINLAND under *History*).

**The War of Nerves.** Throughout this period Hitler and his aides made careful military and diplomatic preparations for the renewal of the armed struggle on the Western Front. German diplomacy was successful in preventing the small neutral nations of Western and Northwestern Europe from either casting in their lot openly with the Allies or taking the precautionary steps toward military collaboration that might have saved Norway, the Netherlands, and Belgium. The neutral peoples and likewise the French and British were subjected to a "war of nerves" in which German propaganda alternately lulled them into complacent inaction and frightened them with threats of a terrible total war. Increasingly during 1940 German propaganda appropriated the revolutionary slogans and appeals of world communism to stir up class divisions, civil strife, and moral confusion among enemy and neutral peoples (see FASCISM).

In this propaganda campaign and in the closely related program of sabotage and subversion conducted by their agents and sympathizers in democratic countries, the Germans received invaluable aid from the orthodox Communist parties (see

COMMUNISM). In France, particularly, Hitler reaped large dividends in 1940 from the deal he made with Stalin in August, 1939.

**Invasion of Scandinavia.** Expertly co-ordinated, Hitler's new military and non-military techniques proved their effectiveness in warfare when the Germans on April 9 ended the military stalemate by the sudden occupation of Denmark. Simultaneously a paralyzing blow was struck at the nerve centers of Norway. An Allied expedition that was sent to Norway to bolster the kingdom's resistance was soon driven out.

The invasion of Scandinavia, made under the pretext of forestalling a similar move by the Allies, was apparently precipitated by the growing menace of the Allied blockade, which caused much hardship in Germany during the exceptionally severe winter of 1939-40. This bold venture brought Hitler important military and economic advantages that, temporarily at least, outweighed the accompanying losses. The Allied menace to Germany's northern flank was removed. Norwegian bases gave the Germans great advantages in prosecuting their naval and air war upon Britain and its overseas communications. Important supplies of food, minerals, and raw materials, a large proportion of which had gone to Great Britain, were diverted to the Reich. Replacement of these supplies from overseas placed an increased strain upon British shipping. Sweden and Finland were cut off from contact with the democratic world and by economic pressure and propaganda gradually forced into the German orbit. Germany and Nazi-dominated Europe became the only outlet for Swedish iron ore, pulp, etc., and the Reich was the only power now in a position to aid Finland and Sweden against Soviet ambitions in northern Europe. On July 9, Dr. Alfred Rosenberg, Nazi party philosopher, announced that the Germanic peoples of Norway, Denmark, Sweden, and Germany were to be united in a future "community of fate."

As against these advantages, Germany's attack on Denmark and Norway incurred the moral indignation of a large part of the world. It aroused bitter hatred in the occupied countries, expressed passively in Denmark but with increasing violence in Norway. The Norwegian Government, taking refuge in London, placed the large Norse merchant marine at the disposal of the British and organized a naval and air force to join in the struggle for recovery of Norwegian independence. The severance of the overseas trade of Denmark and Norway made them a growing economic liability to the Reich after their accumulated food and raw-material supplies were exhausted.

**The Balkan Diversion.** The German assault on Denmark and Norway coincided with a new effort to bring the Balkan countries completely within the Reich's "new order." Large numbers of German "tourists" appeared in Hungary, Rumania, Yugoslavia, and Bulgaria. "Fifth column" activities were intensified and diplomatic pressure was applied to secure police rights on the Danube and co-operative governments in the Balkan capitals. The Balkan countries, however, were not yet in a position to be intimidated, and showed growing reluctance to meet German demands for more foodstuffs and raw materials. Led by Yugoslavia, the Balkan countries took effective measures against Nazi "fifth column" activities. For the time being Anglo-French economic and financial power remained too formidable to permit a blood-

less Nazi victory in Southeastern Europe. On April 18 German military missions arrived in Italy in a new effort to enlist Mussolini's more active co-operation in the war, but neither threats nor persuasion moved Il Duce from his policy of "non-belligerency."

**Effects of Victory in West.** Italy's caution and the resistance offered to German penetration by the Danubian and Balkan States underwent a marked change as a result of the smashing German military victories of May and June in the Low Countries and France. There the tactics followed in Norway brought even more sensational success. The Netherlands, Belgium, and Luxembourg were invaded without warning on the ground that their governments had schemed with the Allies to permit an Allied invasion of the Ruhr. The Netherlands was overrun in four days. The Belgian army capitulated on May 28. The British Expeditionary Force was driven across the English Channel with the loss of all its equipment, and France's great army was battered into helplessness by the middle of June.

In his Order of the Day to the soldiers of the Western Front issued simultaneously with the opening of the offensive, Hitler declared that "the fight beginning today decides the fate of the German nation for the next 1000 years." With the collapse of France, the complete success of his great gamble appeared certain. The early capitulation of Great Britain was expected everywhere except in Britain. The Nazi leaders, confidently announcing that they would be in London before August 25, ordered a 10-day victory celebration in the Reich and immediately began the absorption of the newly conquered areas into the German "living space."

Possession of the Low Countries and of the entire French Atlantic coast gave the Germans air and naval bases for a close-range attack upon Britain and its overseas trade. It gave them the rich iron-ore mines of Lorraine and large supplies of food, war materials, and goods of all kinds captured or requisitioned in the newly occupied areas. Even from unoccupied France, trainloads of foodstuffs were taken to relieve the shortage in the Reich. More than 1,400,000 prisoners of war and hundreds of thousands of civilians from the conquered territories were sent to Germany to work in factories and fields and to replace the manpower conscripted into the German armed forces.

The strangling effects of the British blockade were thus shifted in part during the summer and winter of 1940 from the Germans to the alien peoples under their rule. At the same time part of the financial burden of supporting the Nazi military machine was transferred to the subjugated countries. The pessimism and criticism of the Nazi dictatorship in evidence in the Reich during the winter and early spring of 1940 was temporarily dissipated. In the words of an anti-Nazi German, the German people became "prisoners of Hitler's great military triumphs." He received a tremendous ovation in Berlin upon his return from the Western conquest.

The effect of these victories upon the neutral countries of continental Europe was even more striking. Italy was the first to jump aboard the German band wagon, entering the war on June 10. This forced the British to divert a larger part of their fleet and other defense forces to the Mediterranean and the Near East, leaving the British

Isles more exposed to German invasion. On June 14 the Nationalist Government of Spain abandoned neutrality in favor of a "non-belligerency" favorable to Germany, and occupied Tangier (q.v.) within artillery range of the British stronghold at Gibraltar. Turkey, although bound by alliance with Britain and France to enter the struggle on their side if Italy attacked them, continued its "non-belligerency" and on June 13 concluded a new trade pact with the Reich. Anglo-French influence collapsed throughout the Balkans. When Hitler and Mussolini met at Munich on June 18 in an atmosphere of jubilation, it appeared as though the destiny of Europe henceforth rested in their hands.

**Soviet-German Tension.** It was not long before the bright future confronting the Axis powers became shadowed. Alarmed by the Allied debacle that freed large German forces for possible service against the Soviet Union, Moscow strengthened its defenses by seizing Estonia, Latvia, and Lithuania during June 15-17. On June 26 a Soviet ultimatum was served on Rumania, which resulted in the cession of Bessarabia and Northern Bukovina. This led King Carol to place his kingdom under Hitler's protection on July 1. The Fuehrer guaranteed Rumania against further Soviet aggression. He sent German troops to protect the Soviet-Rumanian frontier, thus warning Russia that he was determined to exclude Soviet influence from the Balkans. During August and September he attached Hungary and Bulgaria to the Axis cause by forcing Rumania to cede a large part of Transylvania to Hungary and Southern Dobruja to Bulgaria. The ensuing political breakdown in Rumania enabled the Reich to occupy the remnants of the kingdom with its armed forces and to establish a completely subservient government at Bucharest.

The struggle between Soviet and German influence in the Balkans was then centered in Bulgaria and Yugoslavia, where the masses were traditionally sympathetic to Russia but where the governments gradually yielded to German pressure. By the end of 1940 Bulgaria appeared firmly if unofficially within the Axis camp, with Yugoslavia fated to follow soon. Whether the Soviet Union would peacefully accept German domination of the Balkan peninsula and eventually of the Straits was one of the most important and uncertain issues in European politics at the end of 1940.

**The War Against Britain.** Meanwhile the projected German invasion of Great Britain had been frustrated by the success of the Royal Air Force in repulsing the great German air attacks of August and September. Facing a second winter of war and increased American aid to Britain, Hitler was obliged to revise his plans and strategy. On August 17 he proclaimed a "total blockade" of the British Isles. During the remaining months of the year his air force and navy undertook to soften up Britain by continual attacks upon its cities, factories, and shipping. Japan was induced to join the Rome-Berlin Axis on September 27 on terms calculated to prevent the entrance of either the United States or Russia into the conflict on Britain's side.

In September Italy was prodded into opening offensives in Africa, with the primary objective of closing the Suez Canal. Simultaneous German diplomatic activities in the Balkans were designed to open a path for German armies across Turkey to the oilfields of Iraq, to Palestine, and the east-

ern approaches to the Suez Canal. To secure Soviet acquiescence, the Germans were variously reported to have offered Moscow Iran and part of India, or control of the Dardanelles and a portion of Turkey. Hitler's proposals were laid before the Soviet Premier and Foreign Commissar, Vyacheslav Molotov, during his visit to Berlin in mid-November, but up to the end of 1940 the Soviet Government had given no definite indication of its course.

During the latter part of October Hitler made an intensive effort to carry the war to the British in the Western Mediterranean by bringing France and Spain into the conflict on the side of the Axis. This would have opened the way for an attack upon Gibraltar and utilization of French naval and air bases in North Africa and Syria for an effort to drive the British fleet out of the Mediterranean. Hitler's conferences with General Franco at the Spanish-French border on October 23 and with Marshal Pétain on October 24 failed to convince them. Despite the reported offer of Gibraltar and French Morocco, Franco declined to enter the war or permit German troops to attack Gibraltar at that time, while Pétain insisted that French collaboration with Germany must be restricted to economic matters. See FRANCE and SPAIN under *History*.

**Year-End Setbacks to Axis.** The failure of these diplomatic efforts was attributable primarily to the rising doubt as to Germany's ability to defeat Britain, even with Italy's assistance. This doubt was greatly increased by the successive reverses suffered by Italian arms in the Mediterranean, in Greece, and in North Africa during November and December (see EUROPEAN WAR). Mussolini's abortive attempt to invade Greece at the end of October was apparently made without the previous knowledge of Hitler. Il Duce wanted to forestall the Fuehrer and reserve at least part of the Balkans for Italy. Nevertheless the Italian failure there and the subsequent defeat of Marshal Graziani's army at Sidi Barrani in Egypt was a severe blow to Axis prestige and to Hitler's plans for driving the British out of the Mediterranean. In December the Germans found it necessary to send military and air reinforcements to the Italian fronts as well as to increase their economic support of Italy's faltering economy.

Persistent British air raids on the cities of Western Germany, the recurrence of the food stringency, and the non-fulfillment of Hitler's promise of an early victory over the British meanwhile had revived pessimism and unrest in Germany. Hope of a British victory was restored throughout the conquered countries, accompanied by stronger resistance to the German program in Europe. Nevertheless Hitler on November 8 announced his "unalterable decision to continue the struggle to a clear decision." In a speech on the eve of the 17th anniversary of his abortive Munich beer-hall "putsch," he declared that no combination of powers could equal the resources and armed might of Germany and her allies and that he would reject any compromise.

In another speech to German workers on December 10, the Fuehrer declared that Germany was engaged in a struggle between "two worlds," one of which must crack up. He described it as a war between the "haves" and "have-nots," between the "plutocratic democracies" enriched by three centuries of robbery and crowded Germany and Italy, whose only riches were labor and skill

"Our capacity for work is our gold, our capital, and with it we will defeat the entire world," the Berlin office of the Associated Press quoted him as saying. He promised the "broad masses" of the German people that the Nazi world "of co-operative labor" would bring wide economic and educational benefits once the enemy was crushed.

**Relations with United States.** One of the major objectives of German diplomatic and propaganda activities during the year was to keep the United States out of the conflict and to limit its aid to the Allies. A series of White Books issued by the German Foreign Office were designed to strengthen anti-war and isolationist sentiment in America. On March 29 a White Book was published containing documents alleged to have been found in the archives of the Polish Foreign Office in Warsaw and purporting to contain accounts of conversations held between Polish and United States diplomatic representatives. These accounts represented the American ambassadors in Paris and London as "warmongers" who had encouraged Polish resistance to German demands and egged Britain and France into war with the Reich. The White Book was dismissed as propaganda by the individuals named. Secretary of State Hull stated that his department did not place the slightest credence in the allegations.

After his victory over France, Hitler in mid-June gave an interview to an American newspaper correspondent denying that the Reich had any territorial aspirations in the Western Hemisphere. President Roosevelt in reply pointed to the Fuehrer's long list of broken pledges, and took steps to prevent Germany from using the American colonies of conquered European countries as springboards for aggression in the New World (see *PAN AMERICANISM*; *UNITED STATES*).

Ensuing months witnessed an intensification of the German-American struggle for political and economic advantages throughout Latin America. The German press warned all of the American republics that they must come to terms with Hitler's "new Europe" or face the economic and other consequences. It declared that the huge U.S. gold reserve would be useless in the German-organized European economy and that free trade must give way to the German barter system. For a description of German methods and activities in Latin America, see each Latin American country under *History*; also *FASCISM*.

According to the Madrid correspondent of the *New York Times*, Hitler's effort in October to line up France and Spain with the Axis in a European bloc was designed in part to influence the American presidential election. Such a bloc, it was felt, would help to convince the United States that the Roosevelt policy of aid to Britain was destined to involve America in a disastrous war. Until after President Roosevelt's re-election, German official spokesmen and the press took the position that American aid to Britain could not affect the outcome of the war. But on December 21, the day following President Roosevelt's appointment of a four-man board to expedite production of defense materials for Britain and the United States, a German Foreign Office spokesman expressed sharp objection to Washington's policies. He warned that seizure of Axis ships in American harbors for British use would be regarded as a warlike act, and accused the United States of a policy of "pinpricks, injury, insult, challenge, and moral aggression" in the face of German "re-

straint" verging on "self-effacement." The situation, he declared, was approaching "insupportability."

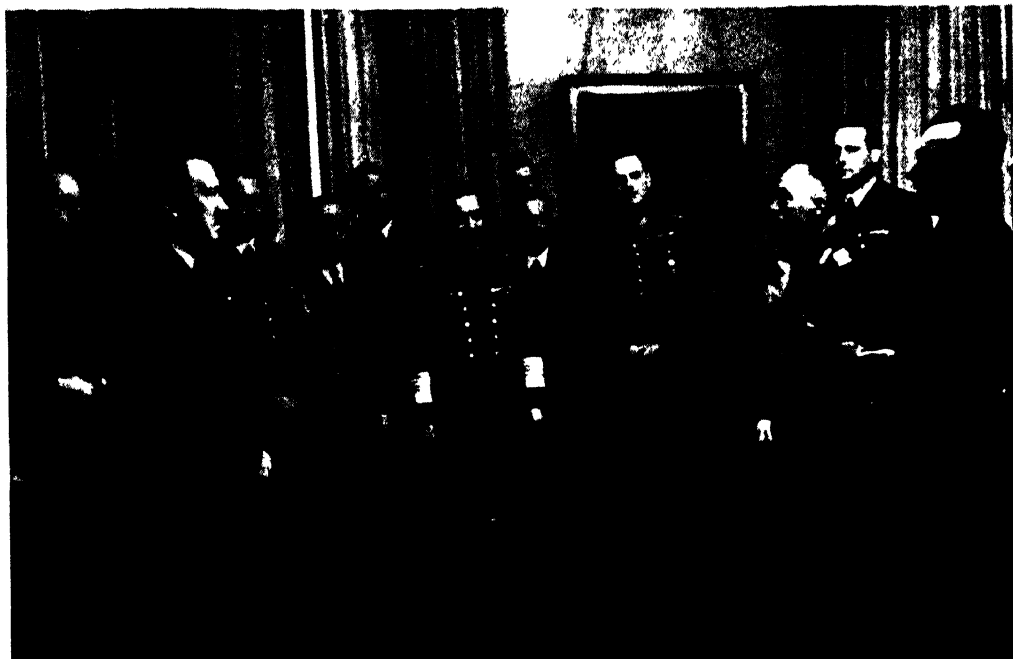
**Internal Affairs.** Judging from the available evidence, the German war economy, in process of organization since 1933, bore the strain imposed upon it during 1940 without undue difficulty. Despite continued boom conditions in war industries, wholesale prices rose only 3.7 per cent during the first year of the conflict. The employment of more than 2,000,000 war prisoners and foreign civilians in agriculture, mines, and factories enabled the Reich to maintain production at a comparatively high level. On October 18 Hitler decreed a second Four-Year Plan, reappointing Marshal Goering "to continue the work and adapt it especially to the demands of war."

However the ration system and the shortage of consumers goods caused a gradual decline in living standards. The wholesale requisitioning of foodstuffs from conquered territories during the summer of 1940 did not materially relieve the serious shortage of meat, fats, fresh vegetables, and fruits. A deficient diet left many Germans hungry a good deal of the time, and the prospect that the food situation would get worse was not conducive to the maintenance of national morale. Some increase in malingering was reported among German workers during the autumn of 1940.

During the second half of 1940 wartime expenditures were averaging about 68,000,000,000 reichsmarks annually, excluding the occupation costs imposed upon Norway, Denmark, the Netherlands, Belgium, and France. The occupation costs levied on France alone averaged 7,200,000,000 reichsmarks annually. Germany's wartime expenditures for 1940-41 (see *Finance* above) were nearly 70 per cent of the estimated current national income. Roughly one-third of all expenditures were met from taxation and the remainder from borrowing and levies on the occupied countries. The total public debt, as contrasted with the disclosed debt (see *Finance*), was variously estimated at between 100 and 150 billion reichsmarks in November, 1940. During the second half of 1940 the disclosed debt rose by 19,000,000,000 reichsmarks to 79,000,000,000. Inflation was kept latent by rigid controls over every branch of the national economy; the interest rate on State loans was even lowered during 1940.

Reports of political unrest within Germany grew more frequent toward the end of the year. A secret anti-Nazi radio station within the Reich resumed the broadcasting of attacks upon the dictatorship in October. There were frequent reports of executions and disciplinary measures. Possibly to offset mounting dissatisfaction, Chancellor Hitler on November 18 announced a scheme for the construction of some 6,000,000 homes by mass production methods in the 10 years following conclusion of the war.

Nazi controls over the State and nation were tightened up all along the line. In April the political set-up in Austria was changed (see *AUSTRIA*) and it was officially revealed that the new organization would serve as a model for the entire Third Reich. In October the army inaugurated a new system for the instruction of boys seeking careers as non-commissioned officers, opening preparatory schools to those between 13½ and 15½ years of age. A decree of October 23 authorized the employment of police force in making youths report for duty with the Hitler Youth Organization.



*International*

#### RUMANIA ENTERS THE ROME-BERLIN TOKYO AXIS

Premier Ion Antonescu of Rumania (right) is received by the German Fuehrer in Berlin as another small country virtually surrenders its independence



*Wide World*

#### HUNGARY JOINS THE THREE-POWER PACT

Count Cakany (right) signs for Hungary in the presence of von Ribbentrop of Germany and Count Ciano of Italy



*International*

MARSHAL HENRI PHILIPPE PÉTAIN (LEFT) FACES THE GERMAN FUEHRER AT THEIR CONFERENCE NEAR TOURS, FRANCE, OCTOBER 24



*International*

SPANISH DICTATOR, GEN. FRANCISCO FRANCO (RIGHT), GREETIS HITLER AT FRENCH SPANISH FRONTIER, OCTOBER 23



**Church-State Conflict.** Although the Catholic Field Bishop of the German Army on October 4 issued a pastoral letter expressing conviction that Germany was "waging a just war," there was continued friction between the Nazi State and the Catholic Church. In January a pastoral letter issued by Adolf Cardinal Bertram of Breslau indirectly denounced the action of the Nazi leaders Himmler and Hess in urging the Elite Guard to beget children in or out of wedlock.

The Vatican City radio station on September 15 charged the Hitler regime with explicit violation of the 1933 concordat in forcibly closing all Catholic colleges in the Reich and converting Catholic elementary schools into institutions for educating all youth in the principles of Nazism. It was reported at the same time that because of the war the Vatican had forbidden publication of the pastoral letter drawn up by the German bishops at their annual conference which was held at Fulda in August.

Other denunciations of German National Socialism as hostile to the Church and anti-Christian were broadcast from the Vatican on November 19 and December 19. The latter statement declared that "Catholic life and teaching have truly been extinguished in Germany." The Vatican organ *Osservatore Romano* on October 12 accused the German Government of "killing" Catholicism in Poland.

Continuation of the struggle between the State and the Protestant Confessional Synod was indicated in the announcement from Berlin on December 23 that Dr. Heinrich Grueber had been arrested by the Gestapo and taken to the Sachsenhausen-Oranienburg concentration camp, where the Rev. Martin Niemöller had been confined since 1937. Dr. Grueber had been active in assisting Christianized Jews and other victims of racial and religious persecution to leave Germany. New restrictions were placed on Jews in Germany by regulations issued August 2.

See AFGHANISTAN, ARGENTINA, BELGIUM, BOHEMIA AND MORAVIA, BOLIVIA, BRAZIL, BULGARIA, CANADA, CHILE, COLOMBIA, CONGO, BELGIAN, CZECHO-SLOVAKIA, DENMARK, ECUADOR, FINLAND, FRANCE, GREAT BRITAIN, GREECE, GREENLAND, GUATEMALA, HUNGARY, ICELAND, IRELAND, ITALY, JAPAN, LITHUANIA, LUXEMBURG, MEXICO, NETHERLANDS, NORWAY, PANAMA, POLAND, PORTUGAL, RUMANIA, SOUTH AFRICA, UNION OF, SPAIN, SWEDEN, SWITZERLAND, TURKEY, URUGUAY, and YUGOSLAVIA, under *History*; also BIRTH CONTROL; CO-OPERATIVE MOVEMENT; DIES COMMITTEE; FASCISM; INDUSTRIAL CHEMISTRY; INTERNATIONAL BANKING AND FINANCE; LABOR CONDITIONS; LIVING COSTS AND STANDARDS; MOTION PICTURES; MUSIC; NAVAL PROGRESS; REPARATIONS AND WAR DEBTS.

**GERMICIDAL LAMPS.** See ELECTRICAL ILLUMINATION.

**GIBRALTAR.** A British crown colony and fortified naval base at the western entrance to the Mediterranean. It is a peninsula and includes a long mountain commonly called the "Rock" which has an extreme height of 1396 feet. Area, 1½ square miles; total civilian population (Jan. 1, 1939), 20,339, including 17,331 fixed residents.

Gibraltar is a free port. Its staple trade is the supply of fuel, provisions, and water to shipping, and the transit of cargoes to Spain and Morocco. During 1938 a total of 4752 vessels aggregating 13,772,321 tons entered the port.

**Government. Finance (1938):** Revenue, £207,628; expenditure, £199,725; public debt, nil. A governor assisted by an executive council administers the government under Letters Patent of Sept. 12, 1922. The legislative power is vested in the governor who, in addition, is the general officer commanding the garrison. Governor, Lieut. Gen. Sir Clive Liddell (assumed office during September, 1939).

**History.** Following Italy's entrance into the European War and the surrender of France, Gibraltar played an increasingly important role in the conflict. The day Italy entered the struggle five Italian merchant ships in Gibraltar Bay were captured by the British and one was scuttled by its crew. Thereafter the fortress was subjected to intermittent long-distance Italian air raids. In July and again in September French planes from nearby French Morocco bombed Gibraltar in retaliation for British attacks upon the French fleet at Oran and the port of Dakar, French West Africa.

About 14,500 inhabitants, mostly women, children, and aged persons, were evacuated from Gibraltar to French Morocco during the first part of 1940. After the French capitulation they were transferred to Madeira, Jamaica, and the United Kingdom. The British garrison was strongly reinforced during the latter half of the year and the fortifications greatly strengthened. In anticipation of an attack from Spain, a canal was constructed across the isthmus which joins the Rock to the mainland.

See EUROPEAN WAR; GREAT BRITAIN AND SPAIN under *History*.

**GIFTED CHILDREN.** See EDUCATION; PSYCHOLOGY.

**GIFTS.** See BENEFACTIONS.

**GILBERT AND ELLICE ISLANDS.** See BRITISH EMPIRE.

**GLACIERS, Living.** See GEOLOGY.

**GLANDS, Study of.** See BIOLOGICAL CHEMISTRY.

**GLASS.** A new all-time high in production was established in 1940 by glass manufacturers, according to *The Glass Industry*, and the total manufactured value of all glass products for the year reached \$368,000,000. This is 15 per cent greater than in 1939, and 4 per cent above the previous record set in 1937.

Plate glass production amounted to 164,371,570 sq. ft., representing a 16 per cent increase over 1939, but lacking 17 per cent of equaling the 198,069,000 sq. ft. record of 1936. Window glass totaled 13,678,927 boxes, a figure that exceeds 1939 by 35 per cent. While this figure is the highest for any year since window glass figures have been publicly available, it is known that the years of the building boom actually were larger. Glass container production exceeded all previous years, including the former record high set in 1937, with 54,264,509 gross. This figure was 6 per cent greater than 1939. Stocks on hand at the close of 1940 were 9,988,210 gross, a figure that is regarded as large but by no means alarming. Miscellaneous glass products also soared to new levels, with a value of \$127,000,000. Important items included in this category are machine-made tumblers (43,600,762 dozens), machine-made table and kitchen ware (33,592,796 dozens), and illuminating ware (\$22,250,000).

Approximately 75,300 persons were employed on an average by the industry, *The Glass Industry* es-

timates, and the \$104,000,000 payroll was the largest ever paid to the industry's workmen.

Foreign trade directly reflected the war influence, and in a manner logically to be expected. Exports for the year were valued at \$14,750,000, the highest since 1920, and 41 per cent above 1939. All types of ware shared in the increase, showing the following increases over 1939: window glass 928 per cent; illuminating ware 55 per cent; plate glass 38 per cent; containers 32 per cent; and tableware 35 per cent. Canada and Latin America continue as leading outlets. In the same manner, imports dropped heavily, the total value being only \$2,312,000. This is 55 per cent below last year and the smallest since 1919. Plate glass was the only item to show an increase.

#### 1940 UNITED STATES FOREIGN TRADE IN GLASS

Kind of Glass	Exports	Imports
Plate . . . . .	\$ 1,527,000	\$ 119,000
Window . . . . .	720,000	359,000
Containers . . . . .	4,558,000	142,000
Tableware . . . . .	2,448,000	415,000
Illuminating Ware . . . . .	732,000	72,000
All other . . . . .	4,765,000	1,205,000
Total . . . . .	\$14,750,000	\$2,312,000

In sharp contrast to 1939, there were no outstanding new products of glass developed during 1940. The industry did continue to make technological advancements in the art of production, however, and this was particularly true of containers. Noteworthy among the container achievements was the extension of the new light-weight type of bottle to many new markets.

A number of factors in the industry have been attacked by the United States Government, notably the glass container, plate, and optical industries. Monopolistic practices as well as restraint of trade have been alleged. Only one of several suits have been settled however. Of vital importance to the future of the glass container industry is the government's insistence upon the dissolution of the Hartford-Empire Co. This concern holds most of the patents on glass container manufacture, and performs an engineering service for its licensees. See SCULPTURE.

JOHN T. OGDEN.

GOA. See PORTUGAL under *Colonial Empire*.

GOLD. World production of gold in 1940 exceeded in volume and value any previous annual output. The principal details, and comparison with 1939, are given in the accompanying table of world gold production, according to *Engineering and Mining Journal*. In the United States, California continued to hold first rank among the producers. The Philippines were second and Alaska (q.v.) third. Transvaal gold production was higher than in any other geographical unit, reaching a new peak of over 14,000,000 ounces, valued at \$491,000,000. The largest monthly production on record, 1,211,277 ounces, was made in October.

Throughout 1940 the United States continued to buy all gold offered, at \$35 per ounce. This was tremendously important in creating dollar exchange for the British Empire in the purchase of war supplies and munitions. All told the United States purchased four billion dollars of gold, equal to the entire domestic gold stock before revaluation of the dollar in 1934. The value of the gold in the Treasury at the close of the year was \$21,-

994,548,000 compared with \$17,697,000,000 on Dec. 31, 1939.

Considerable speculation was voiced during the year on the future of gold as a monetary metal, particularly in the event of Nazi domination of World trade. Economists were of the opinion that a victorious Germany would be in a position to use gold in international trade only so long as any of the metal remained in her Treasury, and that thereafter she might supply international business on another basis. In that event the stock of gold in the U.S. Treasury might easily become almost worthless. This contingency was, however, considered rather remote. See BANKS AND BANKING; FINANCIAL REVIEW; INTERNATIONAL BANKING.

#### WORLD GOLD PRODUCTION

[In thousands of fine ounces]

Principal gold-producing countries	1940 *	1939
North America	11,979	11,628
United States (inc. Philippines)	5,883	5,611
Canada . . . . .	5,230	5,094
Mexico	866	923
South America . . . . .	1,034	895
Colombia . . . . .	658	570
Chile . . . . .	376	325
Russala . . . . .	5,236	5,236
Africa	16,426	14,957
South Africa . . . . .	14,106	12,822
Rhodesia . . . . .	830	800
West Africa . . . . .	965	840
Belgian Congo . . . . .	525	495
Asia and Oceania	1,936	1,961
Australia . . . . .	1,655	1,646
British India . . . . .	281	315
Total principal countries	36,611	34,677
Other countries . . . . .	5,369	5,020
World Totals . . . . .	41,980	39,697

\* Preliminary

H. C. PARMELEE.

GOLD COAST. A British colony in West Africa, consisting of the Gold Coast colony (23,937 sq. mi.), Ashanti (24,379 sq. mi.), Northern Territories (30,486 sq. mi.), and Togoland (13,041 sq. mi.). Total area, 91,843 square miles; total population (1938), 3,786,659, excluding 4463 non-Africans. Chief towns: Accra (capital), 72,977 inhabitants; Kumasi, 43,413; Sekondi, 21,614; Cape Coast, 19,412; Tamale, 18,591.

Production and Trade. Chief products: Cacao, kola nuts, palm kernels, copra, rubber, maize, yams, timber, gold, manganese, and diamonds. Gold production during 1939 totaled 820,000 fine oz. In the world production of diamonds and manganese ore, the Gold Coast ranks second and third respectively. Trade (1939): Imports of merchandise, £6,948,000; exports of merchandise and bullion, £12,660,000.

Government. Finance (1938-39): Revenue, £5,185,595; expenditure, £4,871,370; public debt (Mar. 31, 1939), £11,435,000. The deficit for the year 1939-40 amounted to £226,000. Budget (1940-41): Revenue, £3,965,000; expenditure, £3,620,000. A governor, assisted by executive and administrative councils, administers the Gold Coast colony. Ashanti, Northern Territories, and (British) Togoland are administered by the governor of the Gold Coast, and their statistics for trade, etc., are included in the general total for the Gold Coast. Governor and Commander-in-Chief, Sir Arnold W. Hodson (term extended for one year from October, 1940).

History. It was announced on Feb. 22, 1940, that the British government had purchased the whole British West African cacao crop for 1939-40 in order to protect the farmers from loss

caused by the war's dislocation of various markets. The new government technical school at Takoradi and a £250,000 rehousing scheme were completed in 1940. Takoradi was a port of call in the air journey between Great Britain and the Anglo-Egyptian Sudan. The government of the Gold Coast made a gift of £100,000 and a loan of £500,000 (free of interest for the duration of the war) to the fund for the purchase of war aircraft for Great Britain. It was reported in September that battalions of the native Gold Coast Regiment had arrived in Kenya for the campaign against Italian forces in Italian East Africa (q.v.).

**GOLDEN GATE INTERNATIONAL EXPOSITION.** See FAIRS, EXPOSITIONS, AND CELEBRATIONS.

**GOLD IMPORTS AND GOLD RESERVES.** See INTERNATIONAL BANKING AND FINANCE.

**GOLD MOVEMENTS.** See FINANCIAL REVIEW under *International Capital Movements*.

**GOLF.** The elimination on a technicality of a strong contender for the national open championship was one of the biggest headlines in the 1940 history of golf. That and a record low score by Craig Wood provided about all the nervous excitement a fan would care to experience in one particular season.

The major event of the year was the national open championship, played over the Canterbury course in Cleveland. Lawson Little, former king of the amateurs, was the legally accredited winner of this classic, but not until he had disposed of Gene Sarazen in a play-off. The play-off was necessitated by a tie of 287 between Little and Sarazen, and there would have been a triple tie with Ed Oliver of Hornell, N.Y., in the running if Oliver had not been disqualified for beginning his final round before his official starting time. As it was, he finished out the round for an unofficial but genuine score of 287.

Thunder clouds hung over Canterbury that fateful day and there was a question whether the title match would be played to a conclusion. Fear of that eventuality impelled one threesome to cut short its luncheon period, rush to the first tee and drive off. Oliver's party followed the example and had made only their tee shots when they were disqualified by the United States Golf Association.

The victim of one of the toughest breaks ever accorded to man in golf, Oliver accepted the verdict without protest and went home. The following day Little and Sarazen played off over 18 holes and Little won with a score of 70, or two under par, to 73.

Extraordinary doings occurred also in the national amateur championship, which was captured by Dick Chapman of the Winged-Foot Golf Club of Mamaroneck, N.Y., over his home links. Chapman began by winning the qualifying medal and then defeated W. B. McCullough Jr. of Philadelphia, 11 up and 9 to play, in the 36-hole final, the most one-sided score in the final since 1895. In the quarter-finals of this tournament, the titleholder, Marvin (Bud) Ward faded out, defeated, 4 and 3, by Ray Billows of Poughkeepsie, whom Ward had vanquished the year before. Chapman in this round outplayed John Burke, the Metropolitan titleholder, 5 and 4; Wilford Wehrle defeated George Dawson of Chicago, 6 and 5, and McCullough wrested victory from the former champion, Johnny Fischer, 5 and 4.

Billows took the long end, 5 and 3, to McCul-

lough after being 4 down at the end of the first 18 holes. Chapman rubbed out Wehrle, 3 and 2, in a surprising match. Requiring 42 for the first nine holes of the 36-hole semi-final round, Chapman found himself 5 down. Then he came back in 34 while Wehrle was using 40. The result was that Chapman was 1 up at the end of the round.

Although McCullough got off to a fine start in the final, Chapman overtook him and was 3 up at the end of the morning round. In the afternoon McCullough's game went completely berserk. He lost eight of the next nine holes. His best showing was at the fifth, where he got a half.

The national P.G.A. title was annexed by Byron Nelson, the hero of the 1938 open championship. The national women's tournament was held in California and Miss Betty Jameson successfully defended her championship of this division. In the final she defeated Miss Jane Cothran of Greenville, S.C., by 6 and 5.

**GOUGH ISLAND.** See BRITISH EMPIRE.

**GRAHAM LAND.** See FALKLAND ISLANDS.

**GRAND COULEE DAM.** See DAMS.

**GRAPE BERRY MOTH.** See ENTOMOLOGY, ECONOMIC.

**GRAPHIC ARTS.** See PRINTS.

**GRASSHOPPERS.** See ENTOMOLOGY, ECONOMIC; FARM MACHINERY AND EQUIPMENT.

**GREAT BRITAIN.** Official designation for the political union embracing England, Scotland, and Wales. Capital, London. Sovereign in 1940, George VI, who succeeded to the throne upon the abdication of Edward VIII on Dec. 10, 1936, and was proclaimed King on Dec. 12, 1936. Great Britain, together with Northern Ireland, the Isle of Man, and the Channel Islands, forms the United Kingdom of Great Britain and Northern Ireland. For statistical purposes, the Isle of Man, the Channel Islands, and in some cases Northern Ireland, are included under Great Britain. See BRITISH EMPIRE; IRELAND, NORTHERN.

**Area and Population.** The area of Great Britain, the census population of Apr. 27, 1931, and the estimated population on Jan. 1, 1939, are shown by political divisions in the accompanying table.

GREAT BRITAIN. AREA AND POPULATION

Divisions	Area in sq. miles	Population	
		1931	1939
England .....	50,874	37,794,003	41,300,000
Wales .....	7,466	2,158,374	
Scotland .....	30,405	4,842,980	5,002,000
Isle of Man .....	221	49,308	145,000
Channel Islands .....	75	93,205	
Total ..	89,041	44,937,444	46,447,000*

\* Including Monmouthshire. <sup>b</sup> Including Northern Ireland the total population (1939) is 47,737,000

Live births in 1939 were provisionally numbered 620,257 (15.5 per 1000); deaths, 499,192 (12.1 per 1000); marriages, 437,406. Corresponding numbers for 1938 were 621,627 (15.1); 478,927 (11.6); and 360,339 (8.7) respectively. Estimated populations of the chief cities in 1937 (except when otherwise indicated) were: Greater London, 8,655,000; County of London, 4,141,000 (1936); Glasgow, Scotland, 1,126,000 (1938); Birmingham, 1,029,700; Liverpool, 836,300; Manchester, 736,500; Sheffield, 518,200; Leeds, 491,880; Edinburgh, Scotland, 468,500 (1938); Belfast, Northern Ireland, 438,112; Hull, 319,400; Bradford, 289,510; Newcastle-on-Tyne, 290,400; Stoke-on-Trent, 272,800; Nottingham, 278,800; Leicester, 262,900; Portsmouth,

256,200; Croydon, 242,300; Cardiff, Wales, 224,850; Plymouth, 210,460; Salford, 201,800.

**Education and Religion.** For the school year 1937-38, there were in England and Wales 21,678 elementary schools with an average attendance of 4,526,701; in Scotland, 2898 primary schools, with an average attendance of 567,220. For secondary education, there were in England and Wales 1393 grant-aided schools with 466,245 pupils; in Scotland, 252 secondary schools with 151,988 students. Attendance at industrial and commercial schools in England and Wales was: Full time, 49,057; part time, 1,157,179. The 11 universities in England had 37,284 students in 1939-40; the four Scottish universities, 9413; and the University of Wales, 2485 students.

The Church of England (q.v.), with an Episcopal form of government, and the Church of Scotland (Presbyterian) are the "established religions" in England and Scotland, respectively. Recent statistics of "full members" of leading denominations in England and Wales were: Anglican, 2,294,000; Methodist, 1,250,589; Congregational, 494,199; Baptist, 392,535; Calvinistic Methodist, 261,287. The number of Roman Catholics was estimated at 2,361,504 in 1937. The Church of Scotland had 2536 congregations and 1,286,509 full members on Dec. 31, 1938; the Roman Catholic Church in Scotland, 614,021 adherents.

**Agriculture.** In 1939 arable land totaled 11,923,000 acres, including the Isle of Man; permanent pasture, 17,355,000 acres; orchards and small fruit, 312,149 acres. The value of agricultural production in England and Wales in 1937-38 was £223,500,000 (livestock and products, £154,400,000; farm crops, £35,300,000; fruit, vegetables, and miscellaneous crops, £33,800,000). Yields of chief crops in 1939 in the United Kingdom were (in metric tons): Wheat, 1,680,000; barley, 903,300; oats, 1,760,800; potatoes, 5,197,100 (1938); beet sugar, 494,100; hops, 13,100 (1938). Livestock statistics for 1939 in Great Britain (exclusive of the Isle of Man and the Channel Islands) were: Cattle, 8,118,788; sheep, 25,992,793; swine, 3,767,365; horses, 987,415; poultry (including Northern Ireland), 69,119,000. The wool clip as in the grease was about 108,700,000 lb. in 1938.

**Mining and Manufacturing.** Because of the war, figures on industry are incomplete. Mineral and metallurgical production of the United Kingdom in 1938 (except where otherwise indicated) was (in metric tons): Coal, 231,875,000; iron ore, 3,615,000; pig iron and ferro-alloys, 6,871,000; steel ingots and castings, 10,561,000; copper, 7200; aluminum (smelter production), 25,500 (1939); tungsten ore, 154; lead ore, 30,200; zinc (smelter production), including some secondary metal, 50,400 (1939). The production of alcoholic spirits was 58,011,000 U.S. gal.; beer, 1,066,775,000 gal. Vessels (of 100 or more tons) launched in 1938 aggregated 1,030,000 gross tons. A total of 447,561 motor vehicles were manufactured in 1938 (342,390 passenger cars and 105,171 trucks and buses). Rayon manufacture was 54,450 metric tons in 1939.

**Fisheries.** During 1938 the fisheries of England and Wales landed 776,635 tons of non-shell fish valued at £12,233,209 and those of Scotland 269,028 tons valued at £3,826,671. Great Britain's shell-fish catch was valued at £488,490.

**Foreign Trade.** Recent trends in British foreign trade are shown in the table at the top of the next column.

BRITISH FOREIGN TRADE \*  
[In thousands of pounds sterling]

Calendar year	Imports <sup>b</sup>	Exports British products <sup>a</sup>	Re-exports (imported merchandise) <sup>a</sup>	Total exports <sup>a</sup>	Excess of imports
1929	1,220,765	729,349	109,702	839,051	381,714
1932	701,670	365,024	51,021	416,045	285,625
1937	1,027,824	521,391	75,134	596,525	431,299
1938	920,438	470,883	61,608	532,491	387,946
1939	885,944	438,806	45,925	484,731	401,213
1940	1,099,900	413,100	26,200	439,300	660,600

\* Not including bullion and specie movements <sup>b</sup> Cif value Fob value

Food, drink, and tobacco accounted for £399,460,000 of Great Britain's purchases in 1939, other leading imports being. Non-ferrous ores, scrap, and manufactures, £56,590,000; scrap iron and iron and steel manufactures, £27,315,000; oils and fats and derivatives, £77,865,000; machinery, £24,531,000; wood and timber, £37,064,000; cotton and wool, £74,854,000. The chief exports were: Cotton and wool manufactures, £124,825,000; machinery, £47,340,000; vehicles, including ships and aircraft, £39,086,000; coal and other mining products, £38,259,000; iron and steel manufactures, £32,844,000. For distribution of trade see 1939 YEAR BOOK, p. 328.

**Finance.** Budget operations for the fiscal years ending March 31 are shown in the accompanying table.

UNITED KINGDOM BUDGET OPERATIONS

Years ending March 31	Receipts	Expenditures	Balance
1937-38	£872,580,000	£908,661,000	- £36,081,000
1938-39	927,285,000	1,061,049,000	- 140,764,000
1939-40	1,049,189,000	1,816,000,000	- 767,684,000
1940-41*	1,360,191,000	3,466,790,000	- 2,106,599,000

\* Estimates

Of the 1940-41 expenditures, £2,800,000,000 were earmarked for defense; £419,790 for the civil services; and £247,000 for national debt and other consolidated fund services. Rises in income, customs, and excise taxes were principally responsible for the increased revenue. The growth of the total national debt is indicated in the following table:

PUBLIC DEBT OF THE UNITED KINGDOM

Date	Funded £	Floating £
Aug. 1, 1914	638,000,000	16,000,000
Dec. 31, 1919	6,683,000,000*	1,350,000,000
Mar. 31, 1938	7,184,000,000*	842,000,000
Mar. 31, 1939	7,243,000,000	920,000,000
Mar. 31, 1940	7,453,000,000*	1,489,000,000
Sept. 30, 1940	7,969,000,000*	2,137,000,000

\* Including external debt of £1,357,000,000 in 1919 and £1,032,000,000 since then, chiefly owed to the United States

The average free exchange value of the pound sterling was \$4.8894 in 1938, \$4.4354 in 1939, \$3.83 in 1940.

**Shipping.** The size of Great Britain's merchant marine fluctuated during 1940. Sinkings by German naval craft were partially offset by construction of new ships and the acquisition of the fleets of countries overrun by the Nazis, such as Norway, Holland, Belgium, and Denmark. Semi-official advices in London on November 1 estimated the total shipping available to the British on that date at 21,000,000 tons. The British merchant marine on June 30, 1939, aggregated 21,001,925 gross tons. It consisted of 7203 vessels of 17,781,000

gross tons on June 30, 1938. The national income from shipping in 1939 was estimated at £100,000,-000 (£90,000,000 in 1938).

**Railways, etc.** There were 20,162 miles of railway line open in Great Britain on Jan. 1, 1939 (51,000 miles of track). Net revenue for the year was £28,984,000. Roads and highways in the United Kingdom totaled 180,527 miles in 1940. The total length of British home and overseas civil air routes was 30,624 miles in August, 1939. Some were suspended for the duration of the war. Twice-a-week service between London and Lisbon, Portugal, was inaugurated on June 4, 1940. By the end of the year, more than 400 passengers had used the route. Civil aircraft flew a total of 5,000,000 miles and carried nearly 30,000,000 airmail letters during 1940.

**Government.** The United Kingdom of Great Britain and Northern Ireland is a limited monarchy, with an unwritten constitution, under which final legislative, judicial, and administrative authority is vested in a Parliament of two houses, acting through a cabinet drawn from its members. The House of Commons consists of 615 members, elected by universal male and female suffrage on the basis of one member for every 70,000 of population. The House of Lords in 1940 had 788 members, including 24 minors not seated, who are variously selected—by heredity, appointment, by virtue of office, and by election.

The elections of November, 1935, gave the National Government 431 out of the 615 seats in the House of Commons. The standing of the government parties at the end of 1940, modified slightly by by-elections, was as follows (names of leaders in parentheses): Conservatives (Winston Churchill), 374; Labor (Clement R. Attlee), 164; Liberal National party (Viscount Simon), 32; Liberals (Sir Archibald Sinclair), 18; Independents, 11; National Labor party (Malcolm MacDonald), 7; Nationals, 5; total, 611. The Opposition consisted of 3 Independent Laborites (leader, James Maxton) and 1 Communist. See YEAR BOOK, 1939, p. 328, for the members of Prime Minister Neville Chamberlain's war government formed Sept. 3, 1939. For changes during 1940, see *History* below.

#### HISTORY

The year 1940 opened with Anglo-French armies holding the Germans in check behind the Maginot Line and with the bulk of the British people confidently awaiting the strangulation of the Reich's military ambitions by the naval blockade. Meanwhile the complacent Chamberlain Government continued, as in 1939, to prosecute the war under the slogan of "business as usual."

The year ended with Britain fighting a desperate last-ditch struggle for survival and with her great empire in imminent peril of dismemberment and dissolution. Adolf Hitler's tremendous military machine had crushed France, driven the B.E.F. back across the English Channel, appropriated the military and economic resources of virtually the entire European Continent, and spread ruin among the cities, the industries, and the commerce of the British Isles. Italy had taken up arms on the German side. Japan and various lesser powers had allied themselves with the Reich in the hope of sharing in the rich spoils of the British and French empires.

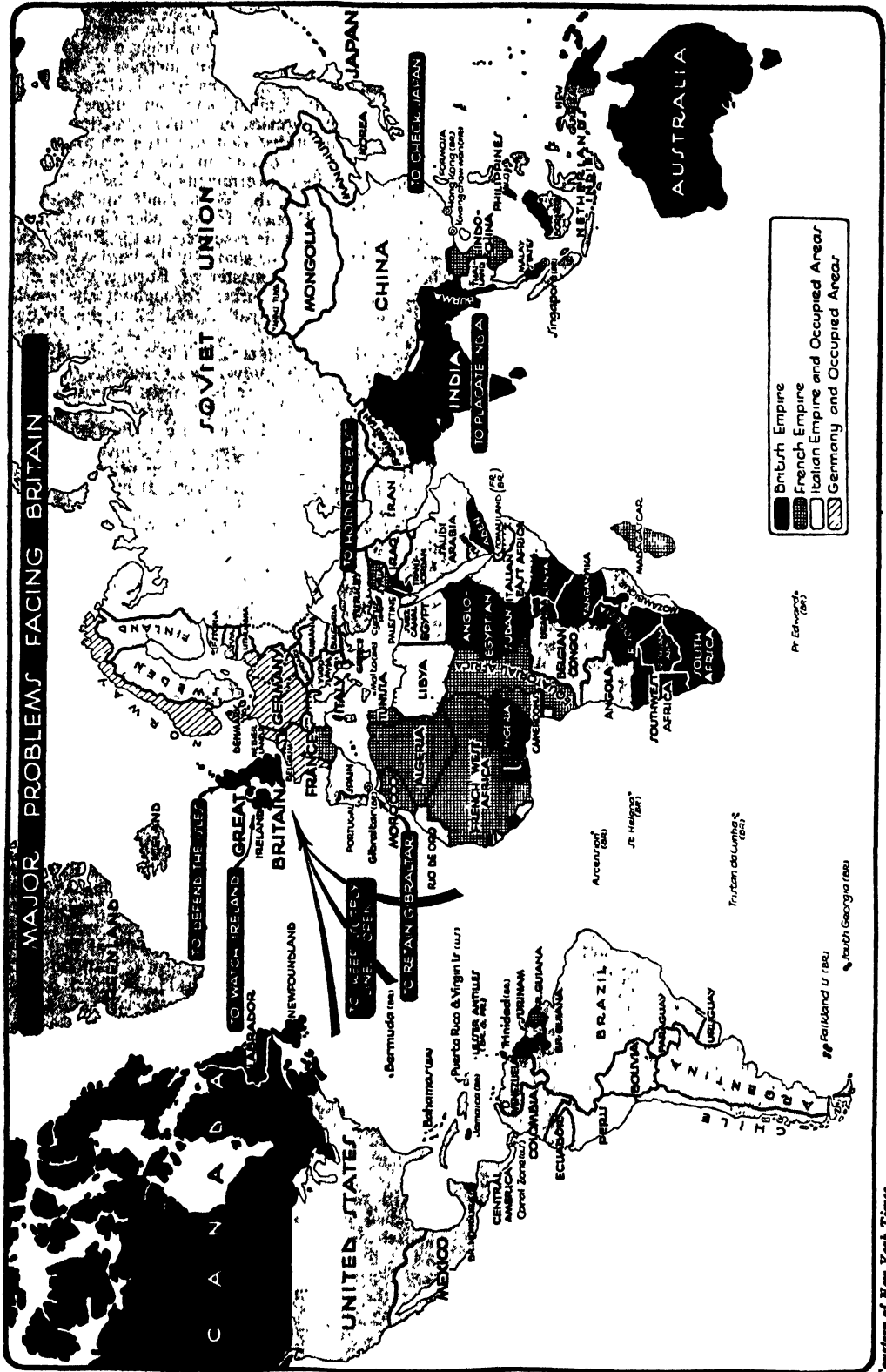
Britain and her Dominions, rejecting all thought of capitulation, were fighting a tenacious uphill struggle. Neville Chamberlain was dead. His poli-

cies and methods were discarded months before he died with German bombs sounding a requiem. The British people had found an inspired new leader in Winston Churchill. An increasing flow of planes, arms, and munitions was reaching British forces from the United States and more aid was promised. The Greeks, in repulsing an Italian invasion, had bolstered Britain's strength and given her a military foothold in the Balkans and in Crete. The exiled governments of Poland, Czechoslovakia, Norway, the Netherlands, and Belgium, and the "Free French" forces under Gen. Charles de Gaulle added their resources to the British war effort. But the major share of the burden of combating the military master of Europe, while mobilizing opposition forces throughout the world for his eventual defeat, rested upon the British people.

**Prelude to Disaster.** While rebuffing Hitler's peace feelers, the government during the first quarter of 1940 stubbornly resisted Opposition demands for more drive and leadership in the conduct of the war. There were exhortations for economy and sacrifice from key cabinet Ministers. But Prime Minister Chamberlain rejected Opposition proposals for mobilizing British economic resources under a single director with wide powers. Likewise he deprecated David Lloyd George's demand for a more intensive food-growing program to relieve the strain on British shipping. War Minister Leslie Hore-Belisha was forced to resign on January 5 for reasons that remained obscure. Chamberlain's appointment of Oliver Stanley as Hore-Belisha's successor was widely criticized as adding nothing to the cabinet's stature or vigor. Yet a poll of public opinion taken toward the end of January showed 52 per cent of British voters as favoring Chamberlain's continuance in office, while 30 per cent wanted Winston Churchill at the head of the government.

A few positive steps were taken during this period. The Admiralty assumed complete charge of the operation, repair, and enlargement of the merchant marine on February 1. As First Lord of the Admiralty, Winston Churchill on January 20 appealed to the small neutral countries of Europe to support the Allied cause, but his warning that neutrality was a trap menacing their independence and security was rejected with some warmth by the press in all of the neutral States of western and northwestern Europe. Rationing of meat was introduced March 11. Political debate centered on such issues as the government's guarantee of a minimum return of 3.3 per cent on the capital of the railways (maximum, 4.7 per cent); the government subsidy of about £1,000,000 a week for checking the rise of retail food prices, which were already 19 points above the prewar level; the financing of the war; restoration of compulsory education; and the return to the great cities of mothers and children evacuated to the country the preceding September.

**Aid to Finland.** The government meanwhile watched the course of the Russo-Finnish war with apprehension, fearing a Finnish defeat might lay all of the Scandinavian peninsula open to Russian and German armies. London announced January 1 that the French and British Governments were sending planes, anti-tank and anti-aircraft guns, gasoline, and ammunition to Finland. On February 14 the House of Commons repealed the law barring British subjects from volunteering for service in the Finnish and other foreign armies. But



both the government and the Opposition were reluctant to run the risk of forcing Russia into closer alliance with Germany by intervening officially on the side of the Finns. Thus the opportunity to outflank Germany by sending an Allied army into Finland was allowed to pass. The Allied Supreme War Council made preparations—later shown to be quite inadequate—for sending such a force, but the enterprise was dropped when Norway and Sweden refused permission for the transport of these troops across their territories. See EUROPEAN WAR; FINLAND, NORWAY, and SWEDEN under *History*.

**Blockade Tightened.** The Allies during this period had been steadily tightening their pressure on the neutral countries of Europe in an effort to make the blockade more effective. A series of war trade agreements were concluded with Norway, Sweden, Iceland, Belgium, the Netherlands, Denmark, Spain, Greece, and Turkey, all of which curtailed exports of fats and other domestic products of these countries to Germany. On February 15, in response to retaliatory German measures against neutral shipping submitting to the British blockade, the London Government offered to convoy all neutral ships passing through contraband control stations. Norway was pressed to restrict the passage of German ships through its territorial waters in evasion of the blockade. On February 17 the British destroyer *Cossack* entered Norwegian waters to seize the German prison ship *Altmark*, from which 300 British war prisoners were rescued. See NORWAY under *History*.

At the end of March the Allied Supreme Council undertook a further tightening of the blockade and wider application of Anglo-French economic power against the Reich. The British Ministry of Economic Warfare undertook the purchase of all surplus crops, oil, minerals, and other exportable products from the Balkan countries in order to leave as little as possible for shipment to Germany. Rumania, which under heavy German pressure had resisted Allied demands, was brought into line in February when the Allies suspended licenses for the export of raw materials to Rumania and cut off shipments of rubber and other imports reaching Rumania via the Mediterranean. The British Government also threatened to withdraw its guarantee of Rumania's independence and territorial integrity. Italy, which in mid-February refused to conclude a deal exchanging Italian airplane engines and other armaments for British coal, was penalized in March. The British seized a number of Italian colliers carrying German coal to Italy through the English Channel, and this traffic was diverted to the heavily taxed German and Italian railways.

The Allies also sought to cut to a minimum German imports of Swedish iron ore. The British-Swedish trade agreement provided for the shipment of a large share of Sweden's output to Britain via the Norwegian port of Narvik. On April 7 British vessels sowed mines at three points in Norwegian territorial waters, primarily to stop German freighters from carrying iron ore from Narvik to the Reich under the protection of Norwegian neutrality (see NORWAY under *History*). British agents, arrested in Sweden, were charged with plotting to blow up railway bridges in order to prevent ore shipments from the Kiruna iron mines to Germany by way of the Swedish Baltic ports. Russia remained the major leak in the Allied blockade. Nevertheless at the beginning of April,

the blockade was estimated to be about 90 per cent effective in cutting Germany off from overseas sources of supply.

**Cabinet Reshuffled.** Further intensification of Allied efforts on the economic and military fronts was presaged by the replacement of Premier Daladier by Reynaud in France and the subsequent reorganization of the Chamberlain Government (April 3). Winston Churchill, while remaining as First Lord of the Admiralty, received added powers in formulating war policies. Lord Chatfield was dropped as Minister for Coordination of Defense, reducing the war cabinet from nine members to eight. Sir Kingsley Wood, Minister for Air, and Sir Samuel Hoare, Lord Privy Seal, exchanged posts. Sir John Simon, Chancellor of the Exchequer, assumed general direction of economic strategy. Lord Woolton replaced William S. Morrison as Minister of Food, Robert S. Hudson became Minister of Shipping, and a number of other minor changes were made. The reorganization aroused little enthusiasm, the public feeling being that much more new blood was needed in the government.

**Setback in Norway.** The tightening of the blockade apparently was a major factor behind the sudden German attack upon Denmark and Norway on April 9. This bold move, which brought the British navy into immediate action, failed to disturb British complacency. The Prime Minister on the same date told the House of Commons that "this rash and cruel act of aggression will redound to Germany's disadvantage and contribute to her ultimate defeat." Winston Churchill on April 12 reported that "we are greatly advantaged by what occurred (in Norway) providing we act with unceasing and increasing vigor to turn to the utmost profit the strategic blunder into which our mortal enemy has been provoked." British forces were landed in the Faroe Islands and Iceland to forestall German occupation of these strategic points.

A hastily assembled and poorly organized Allied expeditionary force was sent to Norway in response to an appeal from the Norwegian Government. The reverses suffered by these troops and the abandonment of all southern Norway to the Germans in May unloosed a storm of criticism. When Parliament reconvened on May 2, the Prime Minister defended the small scope of the military measures taken in Norway by stating that Hitler was prepared to invade the Low Countries and that the government was not going "to be trapped into such dispersal of our forces as would leave us dangerously weak at a vital center." The British press and many Conservatives refused to accept the explanations of Chamberlain and his chief Ministers. On May 8 the government escaped defeat by a margin of only 81 votes on a motion to adjourn, as contrasted with a majority of 222 that the government received in support of its foreign policy following the Munich Conference in September, 1938. The demand for new leadership was echoed in most of the Dominions.

**Churchill Forms Cabinet.** Chamberlain sought to strengthen his ministry by bringing Labor party representatives into a national government. The Labor leaders, however, bluntly informed him they would not serve under him. The Prime Minister's long control of British public affairs was already doomed when the Germans on May 10 launched their invasion of the Low Countries. That same evening Chamberlain presented the resignation of his government to the King, who called upon



Churchill to form a new ministry. (Foreign Secretary Halifax was said to have been favored by the retiring Prime Minister for the post.)

The War Cabinet, sworn in on May 12, was reduced from eight to five members, and four of the five were freed of departmental responsibilities in order that they might concentrate upon the broader problems of the war. Besides Prime Minister Churchill, who also assumed charge of the Ministry of Defense, the War Cabinet included Mr. Chamberlain as Lord President of the Council; Viscount Halifax, who continued on as Foreign Secretary; Maj. Clement R. Attlee, leader of the Labor party, who became Lord Privy Seal; and Arthur Greenwood, deputy leader of the Labor party, named Minister without Portfolio. On May 18 the Prime Minister designated Attlee as deputy leader of the government in the House of Commons.

It was May 16 before the list of other Ministers, Under-secretaries, and occupants of junior posts was completed. The final list showed 46 Conservatives, 15 Laborites, 5 Liberal Nationals, 3 Liberals, and 2 National Laborites. All of the principal parties, controlling 611 of the 615 seats in the House of Commons, were thus included in the government coalition (see SOCIALISM for the Labor party's attitude). There remained in Opposition only three Independent Laborites, led by James Maxton, and one Communist.

The Ministers not included in the War Cabinet, with their party affiliations (C = Conservative), were: Chancellor of the Exchequer, Sir Kingsley Wood (C); War, Anthony Eden (C); Air, Sir Archibald Sinclair, leader of the Liberal party; Admiralty, A. V. Alexander (Labor); Lord Chancellor, Viscount Simon, leader of the Liberal National party; Aircraft Production, Lord Beaverbrook (C); Home Secretary and Minister of Home Security, Sir John Anderson (C); Dominions, Viscount Caldecote (C); India and Burma, L. S. Amery (C); Colonies, Lord Lloyd (C); Chancellor of the Duchy of Lancaster, Lord Hankey (C); Scotland, Ernest Brown (Liberal National); Trade, Sir Andrew Duncan (Liberal National); Education, Herwald Ramsbotham (C); Health, Malcolm MacDonald (National Labor); Labor and National Service, Ernest Bevin (Labor); Supply, Herbert Morrison (Labor); Agriculture and Fisheries, Robert Hudson (C); Transport, Sir John Reith (C); Food, Lord Woolton (C); Information, Alfred Duff Cooper (C); Economic Warfare, Hugh Dalton (Labor); Shipping, Ronald Hibbert Cross (C); First Commissioner of Works, Lord Tryon (C); Postmaster General, W. S. Morrison (C); Attorney General, Sir Donald B. Somervell (C); Lord Advocate, T. M. Cooper (C); Solicitor General, Sir William Jowitt (Labor); Financial Secretary to the Treasury, Capt. H. Crookshank (C); Pensions, Sir Walter Womersley (C); Paymaster-General, Viscount Cranborne (C).

**The New Leadership.** While Churchill was organizing his government, the Germans overran the Netherlands. By the end of May they had crushed Belgium and driven the defeated B.E.F. out of Dunkirk, with the loss of all of its mechanized equipment. Then in June followed even greater disasters—the defeat of France, the entry of Italy into the war, and Marshal Pétain's capitulation to Hitler notwithstanding strenuous British efforts to keep France in the war (see FRANCE under History). Not since the Napoleonic wars

had Britain been so isolated and in such imminent danger of invasion. The early collapse of British resistance was taken for granted in virtually all of the world capitals except London.

In this great emergency, Winston Churchill quickly established his position as one of the greatest war leaders in Britain's long history. Under the stimulus of his purposeful action, dogged determination and stirring oratory, the empire shook off its lethargy and threw its energies and resources into the struggle with a reckless bravery that won admiration even in Berlin.

"I have nothing to offer," Churchill told the House of Commons on May 13, "but blood, toil, tears, and sweat." He said his policy was "to wage war by land, sea, and air . . . with all our might" and that the government's aim was "victory at all costs—victory in spite of all terrors—victory however long and hard the road may be, for without victory there is no survival." The House, which had met secretly to avoid a possible Nazi bombing raid, approved the new government, 380 to 0.

In a radio address on May 19 the Prime Minister warned his people that soon the "hideous apparatus of aggression . . . will be turned upon us." He called for ever-increasing quantities of arms and munitions and declared that the interests of property and hours of labor must alike be sacrificed in the national defense. King George's Empire Day broadcast on May 24 carried a similar warning. "The issue is now plain," he said. "It is the issue of life or death for us all. Defeat will not mean some brief eclipse from which we shall emerge with strength renewed—it will mean destruction of our world as we have known it and the descent of darkness upon its ruins."

Announcing the surrender of the Belgian army by King Leopold, Churchill concluded his short speech in the House of Commons on May 28 as follows:

I have only to add that nothing which can happen in this battle can in any way relieve us of our duty to defend the world cause to which we have bound ourselves, nor can it destroy our confidence in our power to make our way—as on former occasions in our history—through disaster and grief to ultimate defeat of our enemy.

On June 4, describing to the hushed House of Commons the disaster that had overtaken the British Expeditionary Force in Belgium and France and the evacuation from Dunkirk, the Prime Minister likened Hitler to Napoleon waiting with his fleet of flatbottomed boats at Boulogne for a favorable wind that never blew. He continued defiantly:

We shall go on to the end. We shall fight in France, we shall fight on the seas and oceans; we shall fight with growing confidence of strength in the air; we shall fight on beaches; we shall fight on landing grounds, we shall fight in fields, streets and hills. We shall never surrender and even if—which I do not for a moment believe—this island or a large part of it is subjugated and starving, then our empire beyond the seas, armed and guarded by the British Fleet, will carry on the struggle until in God's good time the New World, with all its power and might, steps forth to the liberation and rescue of the Old.

Following Marshal Pétain's capitulation to the Germans, Churchill told the House of Commons that Britain would fight on "if necessary for years, if necessary alone." He declared the empire's forces and resources offered "good and reasonable hope of final victory," but that if they failed "the whole world, including the United States and all that we have known and cared for," would sink into the abyss of another dark age. German occupation of the Channel Islands on June 30 and





*Acme*

THE BRITISH KING, QUEEN, AND PRIME MINISTER CHURCHILL

at the close of the year were that the number fed in the Corn Belt would be 11 per cent higher than a year earlier, and that the total number of cattle on feed during the 1940-41 season would be somewhat above the 1939-40 level with increased feeding operations in several of the western States. Late reports from the Range States showed generally good supplies of winter grass and forage with cattle going into the winter in the best condition in several years. Market prices for slaughter cattle showed a marked upward trend throughout 1940. Prices received by farmers for beef cattle in mid-December were the highest for that season since 1929 and 10 per cent higher than a year earlier.

The 1940 lamb crop of about 32,700,000 head was the largest on record and 3 per cent larger than that of 1939, with Texas accounting for the major part of the increase. Total Federal inspected slaughter of sheep and lambs in 1940 was 17,351,157 head, less than 1 per cent above that of 1939. Movements of feeder lambs into the Corn Belt from July through November were of record proportions with evidence that the total numbers of lambs fed during the 1940-41 season would be 6 per cent larger than a year earlier. Feeding operations outside the Corn Belt were about 3 per cent higher. Prices of slaughter lambs in 1940 were generally above the 1939 level with mid-December prices on the farm averaging \$7.88 per 100 lb. or 50 cents higher than a year earlier. Improvement in the domestic demand for meat during the last half of the year gave less support to lamb prices than to prices of other livestock. December stocks of frozen lamb and mutton exceeded 5 million pounds, about 4 per cent above the preceding 5 year average.

Meat consumption in the United States during 1939 totaled 17.2 billion pounds, equivalent to 131 lb. per capita, while that of 1940 was nearly 17 per cent above this previous record high. Commensurate with this increase in consumption, the meat-packing industry paid about \$100,000,000 more for livestock in 1940 than in 1939.

marked stimulus to horse and mule production in this country.

**International Conditions.** Fragmentary information from Europe permits only a general appraisal of the livestock and meat situation there during 1940. In 27 European Countries, exclusive of the Soviet Union, at the beginning of the present war, total numbers of hogs, cattle, and sheep reached 82,300,000; 110,768,000, and 128,751,000 respectively, increases of 3, 7, and 8 per cent over 1931-35 averages. During the World War (1914-1918) numbers of hogs, cattle, and sheep, respectively, declined approximately 8, 2, and 2 per cent during the first year of the conflict and 29.3, 7.5, and 13.1 per cent for the entire period which suggests the possible effect of the present war on European livestock populations. Data on livestock numbers during 1940 were not generally available but known shortage of feed supplies pointed to heavier-than-normal slaughter in most areas.

Except in Belgium and France, pork supplies in Continental Europe at the end of 1940 appeared to be above normal. Rationing of meat at that time was fairly common in most of the countries. Both Germany and Italy were obtaining substantial quantities of live hogs, pork, and lard from countries in the Danube Basin under 1940 agreements. All meat and livestock exports of Denmark and neighboring countries, much of which formerly went to Great Britain, were going to Germany. In September, 1940, the Italian Government placed the buying and selling of beef cattle for civilian consumption under government control and indicated that hogs would be handled similarly. All meats were strictly rationed.

With imports from Continental Europe cut off, the United Kingdom was rationing bacon and hams at about one-half normal consumption, consistent with domestic supplies plus imports of Empire products. Domestic production of hogs along with poultry was sharply curtailed as the volume of imported feedstuffs declined. Production of cattle and sheep was less affected because of fairly abundant forage supplies. Since January, 1940, all livestock

MEAT SLAUGHTERED UNDER FEDERAL INSPECTION IN THE UNITED STATES

	<i>Cattle</i>	<i>Calves</i>	<i>Hogs</i>	<i>Sheep, lambs</i>
<b>Number Slaughtered</b>				
1940 . . . . .	9,756,130	5,358,695	50,397,861	17,351,157
1939 . . . . .	9,446,303	5,264,058	41,367,825	17,241,037
5-year average* . . . . .	9,985,848	5,757,192	34,261,739	17,486,281
<b>Total Dressed Weight of Slaughtered Animals</b>				
1940—lbs . . . . .	4,971,070,000	568,045,000	8,709,524,000	702,120,000
1939—lbs . . . . .	4,803,161,448	559,354,696	7,296,299,659	693,945,331
5-year average—lbs . . . . .	4,836,243,992	614,387,358	5,881,847,928	695,579,318
<b>Exports</b>				
1940—lbs . . . . .	16,654,000 <sup>b</sup>	•	295,148,000 <sup>c</sup>	615,000
1939—lbs . . . . .	15,163,000 <sup>b</sup>	•	406,815,000 <sup>c</sup>	486,000
5-year average—lbs . . . . .	13,764,000 <sup>b</sup>	•	254,639,000 <sup>c</sup>	522,000
<b>Per Capita Consumption</b>				
1940—lbs . . . . .	42.15 <sup>b</sup>	•	61.37 <sup>c</sup>	5.32
1939—lbs . . . . .	41.31 <sup>b</sup>	•	52.09 <sup>c</sup>	5.28
5-year average—lbs . . . . .	42.84 <sup>b</sup>	•	44.08 <sup>c</sup>	5.38

\* Average for 1935-36-37-38-39. <sup>b</sup> Beef and Veal. <sup>c</sup> Pork and Lard.

The downward trend in numbers of horses and mules on farms and the low price of work stock in relation to that of all farm products persisted, while the number of tractors on farms continued to increase. Horses and mules on farms in 1920, 1930, and 1940 numbered approximately 26, 19, and 15 millions respectively. There was little evidence that European War conditions would provide any

marketed in the United Kingdom must be sold to the Government at fixed prices, consistent with farm costs. A British-Canadian agreement of January, 1940, providing for the export to Great Britain of 4,480,000 lb. of Canadian bacon and ham weekly was replaced by a new agreement of November, 1940, which provided for British purchases of not less than 8,185,000 lb. weekly. The stimulus

July 1 emphasized the gravity of the situation.

**Counter-Invasion Measures.** The Prime Minister's eloquent oratory and blunt warnings of the dangers confronting the British people were matched by the vigor and effectiveness with which government and people prepared to repulse the expected German invasion. These measures took three main forms—the mobilization of human and material resources for greater war production, the suppression of subversive elements, and military precautions. For the military measures, see EUROPEAN WAR under *The Battle of Britain*.

To speed the re-equipment of the British defense forces, Parliament on May 22 passed the Emergency Powers Defense Act after less than three hours debate. Far more drastic than the emergency legislation of the World War, this Act authorized the government to (1) control all persons and property, (2) conscript labor and regulate conditions of employment, (3) control banks and the financial system, and (4) impose an excess profits tax of 100 per cent. The objective was the re-organizing and nationalizing of war industries and the mobilization and redistribution of labor power. The Act was cheerfully accepted and supported by virtually all classes of the population and all branches of industry and labor. It led to a notable increase of the nation's war efforts.

**Increase of War Production.** An Order-in-Council of May 25, issued under the Emergency Powers Defense Act, authorized the Ministry of Supply to designate as "controlled undertakings" all enterprises of actual or potential value in producing arms and munitions. These undertakings became completely subject to government control. Government officials prescribed the articles to be produced, hours of work, the amount and kind of labor employed, and the prices of the products.

Responsibility for recruiting labor and prescribing wages and conditions of work was placed upon Minister of Labor Bevin. He established a national Labor Supply Board, functioning through Labor Supply Committees in each important local area. Inspectors of Labor Supply were appointed to insure the most advantageous employment of skilled workers. Facilities for training labor for jobs in war production were greatly expanded. By a decree of June 5, Minister Bevin outlawed strikes and lockouts, substituting compulsory arbitration of all labor disputes. Employment of coal miners and farm workers in other industries was prohibited. War industries were placed on a seven-day week basis. Drastic restrictions were placed upon production of many non-military articles in common use in order to free more workers for war industries.

On June 8 exemptions under the military conscription act were revised to permit skilled industrial and other workers to choose between service in the armed forces and in war industries. On June 22, Minister of Supply Morrison instituted the compulsory collection of ordinary waste materials usable in war production. The wages of agricultural workers were raised and they were forbidden to leave their occupation. The sugar, butter, and bacon rations were cut on May 27. Aircraft production was completely reorganized under the direction of Lord Beaverbrook. As a result of these and related measures, the number of registered unemployed declined by December 9 to 715,279, the lowest figure since 1921. Substantial increases in the output of planes, tanks, artillery, and other heavy weapons were reported before the end of

June, and this increase was understood to have continued during the rest of the year despite interruptions from German air raids.

**"Fifth Column" Curbed.** Meanwhile the government took energetic measures to nip in the bud the activities of spies, saboteurs and other subversive elements. Profiting from the experience of Norway, Belgium, and the Netherlands, the police on May 12 began the internment of enemy aliens. Restricted areas were established covering all the east coast and the major southeast ports, from which enemy aliens were excluded and other male aliens were obliged to report daily in person to the police. Guards were posted at all strategically important points. Possession of firearms by aliens was forbidden (May 20) and all stocks of gunsmith's shops in certain areas were seized.

Parliament on May 23 authorized the death penalty for serious cases of espionage and sabotage and severe penalties for anti-war propaganda. The police on the same day raided the headquarters of the British Union of Fascists and arrested Sir Oswald Mosley, leader of the Fascist movement, and many of his adherents. Others imprisoned included Capt. Archibald H. M. Ramsay, a Conservative member of Parliament. A clerk employed in the American Embassy in London was arrested and later convicted on espionage charges. A curfew law required all aliens to be in their "ordinary places of residence" from 10 30 p.m. to 6 a.m., effective June 3. A number of German spies, posing as refugees and equipped with radio sending sets, were captured and three of them were executed late in the year. On December 17 a British housewife in the German espionage service was sentenced to death.

The Irish Republican Army had been charged with responsibility for further bomb outrages in London in February in which 28 persons were injured (see IRELAND under *History*). Consequently suspected members of this organization felt the heavy hand of the police during the drive against subversive elements. On June 8 drastic passport regulations were established covering all passage between Great Britain and Ireland. The drive against British Fascists and pro-Nazis was marked by the arrest of Admiral Sir Barry Domville and his wife on July 8 and the dropping of the Duke of Buccleuch, rich Scottish landowner, from his post as Lord Steward of the Royal Household on May 10. The Home Secretary on July 11 banned meetings of the British Union of Fascists and forbade contributions to the movement.

By August the police and government officials expressed confidence that all except a few unimportant members of the Nazi-organized "fifth column" in Britain had been jailed or otherwise rendered harmless. Thereafter the authorities, under pressure of criticisms voiced in the House of Commons, gradually released those enemy aliens whose anti-Axis sentiments were established. At the end of September, 1381 suspected "fifth columnists" were being detained and 248 had been released. Toward the end of the year demands were voiced in Parliament for either the trial or release of Sir Oswald Mosley and several hundred of his Fascist adherents, who were being held without facing a court of law.

**Democratic Rights Maintained.** This disregard of the usual civil rights and liberties was restricted to individuals suspected of direct connivance with the enemy. Parliament, the press, and private individuals remained free to criticize the

government. The activities of Lord Swinton's secret parliamentary committee, appointed to co-ordinate the work of various agencies engaged in the drive against spies and "fifth columnists," led to a bitter squabble in the House on August 15 when Prime Minister Churchill refused to answer questions from Liberal and Labor members about the committee's work. The defense regulations issued by the Home Secretary and the censorship over military information exercised by the Minister of Information also came in for repeated criticism in Parliament and the press. On July 24 Prime Minister Churchill agreed to an immediate review of jail sentences and fines imposed for careless gossip and public expression of defeatist sentiments. He said the government welcomed free discussion of the war provided official secrets, troop positions, and future operations were not revealed.

**"Stop the War" Movement.** The anti-war agitation by Communists and pacifists continued throughout the year, with only minor restrictions. During the early spring they appeared to be making considerable headway among labor and left-wing groups, but as Britain's peril increased the influence of the "stop the war" movement waned. A move in Parliament to outlaw the Communist party gained relatively little support. Leaders of the Labor party and of the Trades Union Congress fought the Communist propaganda. Sir Walter Citrine and other Trades Union Congress leaders were awarded libel damages of £1400 on May 6 against Edward Richard Pountney, owner of *The Daily Worker*, organ of the British Communist party. On May 11 the Minister of Information prohibited the sending abroad of *The Daily Worker* and of Mosley's Fascist publication *Action*.

Communist activities in December led the government to warn Moscow to stop its alleged efforts to sabotage Britain's war efforts. Scotland Yard on December 16 reported discovery of a Communist plot to spread discontent among British workers. About the same time the People's Convention, an organization of Communists and other extreme left-wingers, called a conference for Jan. 11-12, 1941, in Manchester to further its program of "a people's peace" and friendship with Russia. The government ignored demands in Parliament that the conference be banned.

The ineffectiveness of Communist and pacifist anti-war propaganda was demonstrated by the overwhelming majorities by which their candidates were rejected by working class constituencies in several by-elections during the year. On December 5 the House of Commons rejected 341 to 4 a motion by the Independent Labor party leader, John McGovern, condemning the government's failure to open the door to peace talks with Hitler.

**Other Defense Measures.** In addition to turning Britain into an armed fortress and crushing subversive activities, the government took various other steps in preparation for the German assault. On June 2 some 50,000 school children, evacuated from large cities to East Coast areas in 1939, were again transferred—this time to rural districts in the Midlands and Wales. Beginning June 13, 120,000 children were moved from London to areas less exposed to German bombing raids. On June 19 the government announced that some 20,000 children would be sent to the Dominions and the United States for the duration of the war. Parents of about 200,000 children sought to send them to homes offered overseas, but the government halted

the exodus on October 2 following the sinking by a German submarine of the *City of Benares* in which 79 of an escorted party of 90 child evacuees lost their lives. Up to that time, only 2650 children had been sent overseas.

Elaborate precautions were taken to decentralize production and defense so that a German blow at London would not paralyze the country. Britain was divided into 13 regions, each in charge of a commissioner authorized to assume dictatorial powers in the event of invasion. Stores of food and other vital supplies were distributed throughout the kingdom for emergency use. Every community was organized to meet the military shock and economic dislocation of attack.

**Diplomatic Moves.** In addition to these measures for home defense, Prime Minister Churchill late in May moved to restrict the advance of German influence in Europe by sending Ambassadors to Russia and Spain and an economic expert to Italy. Sir Stafford Cripps, Left-wing leader in the Labor party, went to Moscow and Sir Samuel Hoare, long one of the so-called "appeasers" in the Chamberlain Government, was sent to Madrid to try to prevent Spain's entrance into the war on the side of the Reich. Sir Wilfred Greene met with complete failure in his effort to keep Italy neutral by ironing out Italo-British differences over the blockade.

**Britain under Assault.** During the great German air attack that began with raids upon Channel shipping and ports in July and August and developed into "all-out" assaults upon London and other great cities commencing September 7, the Churchill Government and the British people generally displayed unshakable morale and a growing determination to carry on the war to victory (see EUROPEAN WAR under *The Battle of Britain* for a full account). Parliament continued to meet as usual. The expansion of armament and munitions industries was speeded up. The training and strengthening of the armed forces continued at top speed. And in the face of the continuous threat of a German attempt to cross the Channel, considerable forces with new airplanes, tanks, etc., were dispatched by sea to reinforce Britain's army in Egypt. British naval forces in the Mediterranean were also heavily reinforced.

Meanwhile Prime Minister Churchill continued to stiffen and inspire his countrymen by regular statements in Parliament on the course of the conflict. On September 12 he reported that the German effort to secure daylight mastery of the air over England, which he described as "the crux of the whole war," had so far failed conspicuously and "has cost them very dear." Referring to the bombing of London and other British cities, he said:

He (Hitler) has lighted a fire which will burn with a steady and consuming flame until the last vestiges of Nazi tyranny have been burned out of Europe and until the Old World and the New can join hands to rebuild the temples of man's freedom and man's honor upon foundations which will not soon or easily be overthrown.

On October 8 the Prime Minister described the decline in air raid casualties resulting from improved shelters and other precautionary steps. He announced that a bill for nation-wide compulsory insurance against enemy damage to property would be introduced in Parliament (it was introduced on December 11), and called for additional steps to "organize our lives and the lives of our cities based on dwelling under fire." He closed with a warning

that "it is only by supreme and superb exertions, unwearied and indomitable, that we shall save our souls alive." In line with this speech, unemployment assistance pay was increased in November; heavy penalties were imposed to curb an outbreak of looting of bomb-damaged premises; thousands of women and children were evacuated from the battered cities at government expense; and successful measures were taken to safeguard the health of the population.

By the end of October the R.A.F. had demonstrated its ability to fend off the German daylight air attacks. A poll taken by the British Institute of Public Opinion toward the end of that month showed that 80 per cent of those questioned believed it impossible for the Germans to win the war by air attacks alone. Night air raids continued to inflict great material damage, as was demonstrated by the destruction of Coventry on the night of November 15 and by the fire bomb raid on the ancient City district of London on the night of December 29, which started a conflagration comparable to the Great Fire of 1666 and wiped out countless historic landmarks including the famous Guildhall.

However Churchill, in his report to the House of Commons on November 5, stated that "more serious than the air-raiding has been the recent recrudescence of U-boat sinkings in the Atlantic approaches to our island. The fact that we cannot use the South and West Coast of Ireland to refuel our flotillas and aircraft and thus protect trade by which Ireland, as well as Great Britain lives, . . . is a most heavy and grievous burden and one which should never have been placed upon our shoulders, broad though they may be." This growing danger to British shipping (see EUROPEAN WAR under *The Battle of Britain*) led to unsuccessful negotiations with the Dublin Government for the use of the bases that Britain had returned to Irish control in 1938 (see IRELAND under *History*). To offset sinkings, the British Government during the last quarter of 1940 placed large orders for ships in the United States and greatly expanded construction in its own yards.

The growing shortage of merchant vessels forced the Food Minister in December to announce smaller meat and other food rations for 1941 although he said there were sufficient stocks of all essential food commodities to prevent resort to "no rations." On December 10 the government flatly rejected the proposal of ex-President Herbert Hoover that food from America be passed through the British blockade to sustain the civil populations in German-occupied countries. The government contended that such shipments would enable Germany to appropriate more foodstuffs from the occupied countries for conversion into essential war materials. However it offered to permit shipments of American medical supplies to the occupied countries and to unoccupied France.

Thus by the end of the year, the air and sea struggle between Britain and Germany had developed into a war of attrition, with neither side in imminent danger of collapse. This stalemate was in danger of being broken at any time by a German attempt to land troops in Britain. Meanwhile in November and December the British position on other fronts had improved substantially as a result of Greek and British victories in Greece, Albania, the Mediterranean, and Africa (see EUROPEAN WAR).

**Rising Cost of War.** When Sir John Simon,

as Chancellor of the Exchequer, presented his estimates for the 1940-41 budget to Parliament on April 23, they were attacked by both Parliament and the press as inadequate for the vigorous prosecution of the war. His estimate for expenditures was £2,667,000,000. On July 9 the new Chancellor of the Exchequer, Sir Kingsley Wood, obtained an additional £1,000,000,000 from Parliament, without a dissenting vote, to meet rising war costs. On July 22 he presented a new emergency budget calling for the expenditure of £3,467,000,000, or 60 per cent of the estimated peacetime income of the nation. The cost of the war rose steadily from an estimated £7,500,000 daily early in July to nearly twice that figure by the end of the year. Of the 1940-41 expenditures, it was estimated that heavily increased taxes would bring in only about £1,500,000,000. Government loans accounted for another £1,140,000,000, the Treasury realized £500,000,000 from the sale of gold securities called in from private citizens; and another £300,000,000 was estimated to have been secured through inflation of the currency. See *Finance* above.

**Political Developments.** Throughout this period of staggering financial drain, of heavy civilian casualties and huge material losses, the political stock of Prime Minister Churchill and his government steadily mounted. A poll of public opinion taken in August showed that 88 per cent of the voters approved of Churchill's leadership and 7 per cent disapproved. In mid-November a similar test indicated that 89 per cent approved and 6 per cent disapproved, with the remaining 5 per cent undecided.

The rising popularity of the Churchill Government was accompanied by mounting criticism of the preceding administration. Chamberlain and his close associates were bitterly attacked in a secret session of Parliament on June 20 for their inept handling of foreign affairs and for failing to awaken the British people to their peril and responsibilities. Some Labor leaders and other critics of Chamberlain's Government demanded his resignation from Churchill's War Cabinet, charging that he was still an appeaser at heart and that his presence in the government impaired the national war effort. Mr. Chamberlain denied that he desired peace with Germany in a world radio broadcast on June 30 and Foreign Secretary Halifax, who came in for an equal share of criticism, did likewise on June 22. Halifax declared that an unbridgeable chasm separated the philosophies of life of Nazi Germany and democratic Britain and that the war must continue "until freedom for ourselves and others is secured."

These assurances did not halt the agitation for the resignation of the "men of Munich" but Churchill firmly resisted it in the interests of national unity until Chamberlain, weakened by an operation, decided to retire early in October. On August 2 Churchill brought Lord Beaverbrook, Minister of Aircraft Production, into his War Cabinet. On October 3, announcing Chamberlain's resignation, the Prime Minister reshuffled his Ministry. Sir John Anderson replaced Chamberlain as Lord President of the Council and was succeeded as Home Secretary and Minister of Home Security by Herbert Morrison. Anderson, Morrison, Minister of Labor Ernest Bevin, and Sir Kingsley Wood, Chancellor of the Exchequer, were brought into the War Cabinet, increasing the membership to eight. Sir Andrew Duncan succeeded Morrison as Minister of Supply and Capt. Oliver Lyttelton

succeeded Sir Andrew as President of the Board of Trade. Lieut. Col. J. T. C. Moore-Brabazon replaced Sir John Reith as Minister of Transport and Sir John became Minister of Works and Public Buildings.

The day after this shake-up in the government, Chamberlain resigned as leader of the Conservative party. Churchill was elected to the vacant post without opposition on October 9. Exactly a month later Neville Chamberlain (see *NECROLOGY*) passed away at Heckfield House in rural Hampshire. With leaders of all the Allied nations in attendance, his ashes were buried in Westminster Abbey on November 14.

The elevation of Minister of Labor Bevin to the War Cabinet attracted further attention to this energetic labor leader, whose success in mobilizing the British working classes behind Churchill's war effort had won wide commendation. He was frequently mentioned as a likely successor to Churchill if and when the latter retired as Prime Minister. Within the War Cabinet, Bevin made himself a leading exponent of the Labor party's demand for the further democratization and socialization of the country as a reward for labor's contribution to the nation's war effort. On October 9 he told a Trade Union Congress meeting in London that any reconstruction of the postwar world "must be through harnessing of the rising masses of labor to whom the future really belongs." In a call to British workers to increase the production of war materials, he declared on October 26 that victory would bring a revolutionary and a "just order in Europe that will not tolerate masses of unemployed or poverty or privilege."

The more conservative elements in the government and in the country at large were not enthusiastic about labor's demand for a socialized Britain. It was partly to avoid dissension among the widely different elements within the government and among Britain's Allies that Prime Minister Churchill on October 15 rejected demands from all sides of the House of Commons for a more explicit statement of the government's war aims. He said that when Britain's capacity to survive was more generally recognized throughout the world, "then we will be in a good position to take a further view of what we will do with the victory when it is won."

On November 21 Parliament's second wartime session was opened with traditional pomp and ceremony. The Prime Minister reminded the members that Britain still had "a long road to travel" and that "deeds and not words" were expected. Further pressure from Laborites failed to extract from him a more detailed statement of war aims. However in inaugurating the session he proclaimed "our resolve to keep vital and active, even in the midst of our struggle for life, even under the fire of the enemy, those parliamentary institutions which have served us so well, which the wisdom and civic virtues of our forbears shaped and founded, and which have proved themselves to be the most flexible instruments for securing, amid unceasing change and progress, that while they throw open the portals of the future, they carry forward also the traditions and glories of the past."

Further changes in the government were made December 23, coincident with the announcement of the appointment of Lord Halifax to succeed the late Lord Lothian (see *NECROLOGY*) as Ambassador to the United States. Anthony Eden succeeded Lord Halifax as Foreign Secretary and member of the War Cabinet—thus regaining the

post he resigned on Feb. 20, 1938, in protest against Chamberlain's appeasement policies. Capt. David Margesson, formerly Chief Government Whip in the House of Commons, replaced Eden as Minister of War.

**Empire Relations.** Previous to the Anglo-French disasters in Norway and the Low Countries, the British Dominions had proceeded with preparations for the economic and military support of the Mother Country in a long war of attrition. But their efforts were short of potentialities due largely to the failure of the Chamberlain Government to explain the urgency of the military situation or to place sufficiently large orders to encourage maximum expansion of the Empire's war industries.

The collapse of the Anglo-French armies in the Low Countries and France, Italy's entrance into the war, and later Japan's adherence to the Axis, awakened the Dominions to a realization of their danger and shocked them into a far more effective war effort. Without any suggestion of capitulation, except from small Communist and pacifist minorities, the people of Australia, Canada, and New Zealand rallied immediately to meet the emergency. Prime Minister Smuts' South African Government did likewise, in spite of continued obstruction by a large minority, composed mainly of Afrikaners, which demanded immediate withdrawal from the war.

The leaders of the All-India National Congress declined to take violent advantage of Britain's desperate mid-year plight, although refusing to delay their demand for immediate independence. However the native Princes and many other influential elements in India loyally supported the British cause with both military and financial contributions. The industries that gave India seventh place among the world's industrial producers were geared into the British war effort and proved an invaluable source of supply to the British armies in Africa and the Near East. In October units of the British Empire throughout the Middle and Far East sent representatives to a conference at New Delhi, India, where plans were laid for coordinating their productive facilities and increasing the flow of war supplies to the various war fronts. Meanwhile the Commonwealth Air Training Plan was speeded up; the first graduates of the Canadian advanced training schools arrived in Britain late in November.

The colonies without exception joined in contributing native volunteers and materials to the Empire's war effort, as well as gifts for the relief of bomb-shattered cities in Britain. Even the British West Indies, where a sick economy and bad social conditions had given rise to political agitation and disturbances, offered staunch support of Britain in its time of peril. Notwithstanding the war, the British Government proceeded to carry into effect the recommendations of the Moyne Commission, calling among other things for a £500,000 annual expenditure over a 10-year period for economic rehabilitation of the West Indian and other colonies. See *BRITISH WEST INDIES* under *History* for details.

British Malaya, with its great economic nerve center and naval base at Singapore, became of crucial importance in the Empire's struggle for survival when Japan joined the Axis and bared its designs upon Southeastern Asia and all of Malaya. The Singapore garrison and air force was heavily reinforced, and on November 13 it was announced

that Air Chief Marshal Sir Robert Brooke-Popham had been appointed to the newly created post of Commander in Chief in the Far East, with headquarters at Singapore. See *BRITISH EMPIRE* and the separate article on each Dominion and colony, under *History*.

**Relations with United States.** Despite the rapid expansion of Empire war industries, the slow undermining of Britain's productive power by German air raids and sea warfare made it increasingly clear by the end of 1940 that only the industrial power of the United States could furnish war equipment and supplies on the scale needed by Britain to meet Germany on an even basis. The repeal of the arms embargo provisions of the U.S. Neutrality Act on Nov. 4, 1939, enabled Britain and France to place large war orders in America. However deliveries to Britain were far short of those required to meet the emergency created by the collapse of France.

The re-equipment of the British forces in preparation for the expected German invasion was greatly facilitated by the U.S. Government in June. Through private American intermediaries, it transferred to the British Government some 600,000 rifles, 80,000 machine guns, 800 75-mm field guns, and a large quantity of ammunition—all taken from surplus World War stocks stored by the U.S. Army.

On September 2 a deal was concluded for the transfer to Britain of 50 over-age American destroyers in return for leases on naval and air bases in Newfoundland, Bermuda, the Bahamas, Jamaica, Antigua, St. Lucia, Trinidad, and British Guiana (see each colony under *History*). The colonial legislative and governmental authorities were consulted previous to conclusion of the agreement, and they received assurances that no change of sovereignty was contemplated. The leases were to run for 99 years. The delivery of the American vessels more than replaced 30 British destroyers lost in action up to that date. Coming soon after the establishment of the Canadian-American Joint Defense Board, the destroyer-for-bases agreement was hailed by Prime Minister Churchill as an indication of still closer Anglo-American collaboration in the future. It was followed by conversations among the British, Australian, New Zealand, and United States governments looking toward the co-ordination of their Pacific defenses.

Washington authorities also authorized the sale to Britain by private American interests of 132 merchant ships (from Sept. 1, 1939, to Dec. 23, 1940), and allocated to Britain a growing proportion of American facilities for the manufacture of airplanes, machine tools, and other vitally necessary defense articles. After his re-election in November, President Roosevelt announced a "rule-of-thumb" arrangement whereby Britain would be permitted to buy about 50 per cent of the fighting planes turned out by American factories.

Upon his return to the United States from a visit to London, Lord Lothian, the British Ambassador, announced on November 23 that British funds available for the purchase of war materials in America were nearing exhaustion and that American financial aid would be needed in 1941 if the purchases were to continue. It was estimated that the British Purchasing Commission in the United States up to that time had let contracts for more than \$4,000,000,000 worth of arms, munitions, and other materials. Shortly afterward Sir Frederick Phillips, British Under-Secretary of the

Treasury, was sent to the United States to present a detailed explanation of Britain's financial needs in the United States and the resources available for meeting them.

On December 18 it was announced in Washington that the British Government had been advised to proceed with approximately \$3,000,000,000 worth of new war orders without worrying too much about payment. On the preceding day, President Roosevelt advanced his proposal for lending or leasing war materials to Britain and other countries resisting aggression. The continuance of British armament purchases in the United States was thus dependent at the year's end upon the acceptance of the proposal by Congress. This situation represented a marked evolution in U.S. policy since the beginning of 1940, when Washington was engaged in controversy with London over restrictions imposed by the British blockade upon American commerce in the Mediterranean area. See also *CURAÇAO* under *History*; *UNITED STATES* under *Foreign Affairs*.

**Trade Drive in Latin America.** The undeclared Anglo-American alliance in effect at the end of 1940 appeared unaffected by a concerted British effort to establish new markets in Latin America for those lost through German conquest on the European Continent. A large British economic mission, headed by Lord Willingdon, was touring South America at the year's end. Both British and U.S. commerce with Latin American countries reaped advantages from the elimination of German trade through the British blockade. See *ARGENTINA*, *BRAZIL*, etc., under *History*.

**Anglo-Russian Negotiations.** Relations between the Allied powers and the Soviet Union appeared to be near the breaking point early in 1940 as a result of the German-Soviet pact and Allied assistance to the Finns. A *New York Times* dispatch from London on March 24 stated that the Allies were prepared to fight Russia rather than permit German-Soviet control of Rumania. On April 5 the British Government warned Norway and Sweden that any further Soviet aggression upon Finland would prejudice the Allied war effort and might have to be met by military action.

Nevertheless the Anglo-Soviet trade talks, interrupted by the Russo-Finnish war, were resumed early in April. They were again interrupted on May 23 when Moscow refused to discuss British demands for restriction of Soviet trade with Germany. Sir Stafford Cripps resumed the negotiations when he arrived in Moscow as Britain's new Ambassador in June. In addition to the issue of German-Soviet collaboration, controversies had developed over the Soviet claim to some \$4,000,000 of gold and securities owned in the Baltic States and frozen in London when the Soviet Union annexed those territories. Britain advanced a counter-claim against Moscow for some £5,500,000 of British investments in the Baltic States.

The Russians also demanded the release of 30 Estonian, Latvian, and Lithuanian vessels held in British ports after Russia's absorption of those three States. On October 16, 10 of these ships were requisitioned by the British Government. On October 29 Britain protested as unneutral Russia's decision to join with Germany, Italy, and Rumania in negotiations for a new Danube Commission. The protest was bluntly rejected by Moscow. The British Government on October 22 was reported to have offered Russia the following inducements for a "more benevolent attitude": A guarantee against

any British association in an attack upon the Soviet Union, a pledge to permit Soviet participation in any peace settlement at the end of the war, and *de facto* British recognition of the annexation of the Baltic States by Moscow.

To this offer the Soviet Government made no reply other than to send Premier Molotov to Berlin. The Anglo-Soviet negotiations thus remained deadlocked at the end of the year. However the growing tension between Germany and the Soviet Union in the Balkans aroused hope in London that the British effort to insure Soviet neutrality and possibly bring Russia into the war on the Allied side might meet with more success in 1941.

**Balkan Situation.** After the debacle in the Low Countries and France, Britain lost ground to Germany economically and diplomatically in all of the Balkan States (q.v.) except Greece and Turkey. Greece was driven into armed conflict on Britain's side by the Italian invasion of October 28. In response to a Greek appeal, the British fulfilled their guarantee of Apr. 13, 1939 (see YEAR BOOK, 1939, p. 329) and provided naval and air support for the Greek armies. In return, Greek ports were placed at the disposal of the British fleet. The strategically situated island of Crete was converted into a British air base. And the British Government obtained control, through the Greek Shipping Committee in London, of most of the Greek merchant marine—a fleet of some 550 ships. Turkey maintained its 1939 alliance with Britain, although when Italy declared war the Turks, apparently with British consent, did not fulfill their obligation to aid their ally.

**The Clash with Italy.** During the first part of the year, the British did their best to keep Italy neutral while at the same time seeking by trade negotiations and by the gradual tightening of controls over Italian overseas trade to reduce the flow of war materials reaching Germany through Italian ports. After Germany's success in Norway, the attitude of the Italian Government became so threatening that on April 30 British merchant ships were ordered to keep out of the Mediterranean. On May 16, when the German drive in the Low Countries was only six days old, Prime Minister Churchill sent a personal appeal to Mussolini to "stop a river of blood from flowing between the British and Italian peoples" by staying out of the conflict. Il Duce replied on May 18, reminding Churchill of British sanctions against Italy in 1935-36 during the Ethiopian War and asserting that "the same sense of honor and of respect for engagements assumed in the Italian-German treaty (of alliance) guides Italian policy today and tomorrow in the face of any event whatsoever."

When Italy declared war, the British blockade was clamped down at Gibraltar and Suez and the British navy drove Italian shipping from all except the central waters of the Mediterranean. In August or September Churchill's War Cabinet authorized the diversion of ships and troops for a major offensive against Italy and its African possessions. This daring decision bore fruit later in the year in the shattering blows struck by air, land, and sea (see EUROPEAN WAR). While Italian morale was badly shaken by successive defeats, Churchill on December 23 broadcast an appeal to the Italian people to overthrow Mussolini and conclude peace before their African empire was torn "to shreds and tatters" and Mussolini was forced "to call in Attila over the Brenner Pass . . ."

**Britain's Dilemma in Spain.** As in the case

of Italy, the Allies during the first stage of the war sought to keep Spain neutral by permitting it access to overseas sources of supply. Despite the danger of strengthening a potential enemy, an Anglo-Spanish treaty was signed March 18 under which Spain obtained much-needed supplies of wheat, rice, coal, machinery, and other products. In return Britain obtained Spanish minerals for her war industries.

Upon the collapse of France, the Franco Government abandoned its neutrality for a "non-belligerency" favorable to the Axis. It occupied Tangier (q.v.), started a press campaign for the return of Gibraltar, and gave every indication of entering actively into the conflict as soon as an Axis victory over Britain appeared imminent. To prevent this the Churchill Government late in July took the dangerous step of extending the blockade to Spain and Portugal. At the same time, shipments of oil and other vital war supplies reaching Germany through Spain and occupied France were cut off. The ensuing critical food shortage in Spain was a major factor in General Franco's rejection of the proposals advanced by Hitler in October for a German attack upon Gibraltar through Spain (see GERMANY under *History*).

After repeated protests at the blockade, the Franco Government late in August agreed to accept the British regulations in return for permission to import limited amounts of gasoline and other essential commodities. Guarantees were given that none of the imported materials would be turned over to Germany. The blockade was further relaxed in December, after a month of negotiation. On December 2 a payments accord was signed in Madrid giving Spain the right to use frozen credits totaling several hundred thousand pounds for purchases in the United Kingdom and other parts of the sterling area. On December 3 the British agreed to permit the importation into Spain of a million tons of wheat, and to issue additional navicerts as soon as the Franco Government obtained American credits for purchases of other supplies. In this and other ways the British had Washington's co-operation in applying economic pressure to keep Spain neutral. Britain consented on December 8 to permit the importation into Spain of 6000 tons of manganese ore and a large quantity of jute from India. Up to the end of 1940, this policy had sufficed to keep Spain on the fence and protect Gibraltar, but the German-British struggle in Spain was by no means ended. See SPAIN under *History*.

**Policy Toward Japan.** In the Far East Britain pursued a somewhat similar policy of economic pressure, concessions, and military threats in an effort to keep Japan neutral and to limit its expansion into Malaya and Southeastern Asia. There again it enjoyed the collaboration of the United States and of the Dutch authorities in the Netherlands Indies. For a full account, see BRITISH MALAYA, CHINA, JAPAN, NETHERLANDS INDIES, and THAILAND, under *History*.

**Other Events.** Other events of the year included the appointment of the Duke of Windsor as Governor of the Bahama Islands on July 9, and the merging of all non-Anglican Protestants in the United Kingdom in a central organization known as the Free Church Federal Council on September 15.

In addition to the cross references in this article, see AUSTRALIA, BELGIUM, BULGARIA, BURMA, CANADA, CONGO, BELGIAN, DENMARK, EGYPT,



FRANCE, FRENCH INDO-CHINA, FRENCH WEST AFRICA, GERMANY, GREECE, GUATEMALA, ICELAND, INDIA, IRAN, IRAQ, ITALIAN EAST AFRICA, LITHUANIA, LUXEMBURG, NETHERLANDS, POLAND, PORTUGAL, RUMANIA, SOUTH AFRICA, SWITZERLAND, TANGIER, TURKEY, URUGUAY, VATICAN CITY, and YUGOSLAVIA, under *History*; also AERONAUTICS; BIRTH CONTROL; CO-OPERATIVE MOVEMENT; FASCISM; FINANCIAL REVIEW; INDUSTRIAL CHEMISTRY; INTERNATIONAL BANKING AND FINANCE; LABOR CONDITIONS; LIVING COSTS; MOTION PICTURES; MUSIC; NAVAL PROGRESS; REPARATIONS AND WAR DEBTS; SOCIALISM; WAR RELIEF.

**GREECE.** A Balkan kingdom Capital, Athens. Greece has an area of 50,270 square miles (mainland, 41,652; islands, 6818), and a population estimated at 7,108,000 in 1939. The 1928 census showed 6,204,684 inhabitants (urban, 2,058,510). Living births in 1939 numbered approximately 168,200 (23.5 per 1000); deaths, about 92,800 (13.0 per 1000); marriages in 1937 totaled 45,833 (6.6 per 1000). Estimated populations of the chief cities in 1939 were: Athens, 392,781; Piraeus, 198,771; Salonika (Thessaloniki), 236,524; Patras, 61,278; Kavalla, 49,980; Canea, 26,608; Corfu (Kerkyra), 32,221.

**Religion and Education.** School attendance in 1936-37 was: Elementary, 967,588, secondary, 90,709; university, 10,561. Illiteracy is high. The 1929 census returns showed 5,961,529 members of the Greek Orthodox Church, 126,017 Moslems, 72,791 Jews, 35,182 Roman Catholics, and 9003 Protestants.

**Production.** Approximately 54 per cent of the working population are supported by agriculture and fishing, 16 per cent by industry, and 8 per cent by commerce. There were 6,087,000 acres of cultivable land in 1938. Yields of some of the chief crops in 1940 were estimated as follows (in metric tons unless otherwise specified): Wheat, 800,000; barley, 205,000; oats, 134,000; rye, 53,000; cotton, 52,000; currants, 114,000 tons; raisins, 30,000 tons; olive oil, 105,000 tons; figs (exportable crop), 22,000 tons; tobacco, 40,000 tons. Other production (in 1939) in metric tons was: Potatoes, 163,300; corn, 261,500; wine, 5,000,000 hectoliters.

Factory production in 1938 (excluding wine, olive oil, and wheat products) was valued at 13,552,000,000 drachmas. In 1939, 318 metric tons of rayon were produced; silk production in 1938 totaled 250 metric tons. Mineral output (in metric tons) in 1938 except as otherwise indicated was: Iron ore, 165,000; pyrites, 120,000; bauxite, 179,900; sulphuric acid, 43,000; chrome ore, 19,900 (1937); zinc, 10,900 (1937); lead (smelter), 9200 (1937); lignite, 131,000 (1937); nickel, 1000 (1937).

**Foreign Trade.** During the first eight months of 1940, imports were valued at 9,267,162,000 drachmas as compared with 9,091,989,000 in the same period of 1939; exports were 6,895,528,000 drachmas, as against 4,890,189,000 in the first eight months of 1939. Total imports in 1939 were valued at 12,275,000,000 drachmas (14,761,000,000 in 1938); total exports aggregated 9,200,000,000 drachmas (10,149,000,000 in 1938). For distribution of trade see *YEAR BOOK*, 1939, p. 333. Also see *TRADE, FOREIGN*.

**Finance.** Budget estimates for the fiscal year ending Mar. 31, 1941, provided for expenditures of 15,514,000,000 drachmas (15,940,000,000 in 1939-40) and revenues of 14,851,000,000 drachmas (14,999,000,000 in 1939-40). In the latter part of the year, budget estimates were revised to cover the

cost of the war with Italy. Military appropriations constituted more than 25 per cent of the total estimated expenditures in the original 1940-41 budget. The total public debt on Jan. 31, 1940, was 52,874,700,000 drachmas, of which 37,373,000,000 drachmas represented obligations to foreign countries. The average exchange rate of the drachma was \$0.0091 in 1937, \$0.0090 in 1938, and \$0.0082 in 1939.

**Transportation.** The length of railway lines in operation on Mar. 31, 1939, was 1864 miles. During the year ending Mar. 31, 1939, railways carried 31,434,700 passengers and 2,452,261 metric tons of freight. Gross revenues were 926,428,000 drachmas. During the year the Athens-Piraeus-Peloponnesus Railway, the second most important line in Greece, was taken over in receivership by the Greek Government. Highways extended 8440 miles in 1940. The Greek merchant marine on June 30, 1939, consisted of 607 vessels (of 100 tons or over) with a gross tonnage of 1,780,666. Also see *History* below.

**Government.** Premier John Metaxas ruled as dictator of Greece from Aug. 4, 1936, through 1940. (He died Jan. 29, 1941.) The government remained, none the less, a monarchy in form, under King George II, who had been restored to the throne, Nov. 25, 1935, in accordance with a plebiscite, to rule under the monarchic constitution of 1911. King George himself gave Metaxas as dictator a color of legitimacy by issuing the decrees of 1936, which suspended constitutional guarantees, dissolved the Parliament, abolished political parties, and imposed subjection on the press. All legislation is effected by royal decree.

**History.** The main concern of Greece in 1940 was to surmount the perils that the European War brought to the national existence and the livelihood of the population. The onset of the Axis powers shifted largely to southeastern Europe after the middle of the year; the shift indeed had been prepared in 1939, by Italy's seizure of Albania, which put an Italian army on the Greek northwestern border. The collapse of armed resistance to Germany in the western part of the European Continent gave Germany and Italy the opportunity to advance through the Balkans, after June, without risk of adequate military opposition from stricken adversaries. Italy accordingly invaded Greece on October 28 with forces supposedly almost double those that Greece could put into the field, and equipped with such modern fighting tools as the Greeks could not at all rival. For the course of the Italo-Greek campaign, see *EUROPEAN WAR*, under *Italo-Greek War*. The campaign of 1940 had the astonishing outcome of disaster for the Italian forces, which lost a great part of Albania and failed throughout to withstand the Greek advance. The Greek forces, despite phenomenal success, stood at the end of the year in the uncomfortable position of having yet to deal with German troops if these should come to the Italians' aid in 1941.

In the first half of 1940 the country's situation, in the disordered state of Europe, seemed comparatively secure. A guarantee of British protection against invasion still provided a deterrent against invasion, and Italy had not yet joined Germany against the British and French. The Balkan entente still functioned: the representatives of its members—Greece, Rumania, Turkey, and Yugoslavia—met early in February and adopted harmonious if vague resolutions to "remain in close contact" and continue a "resolute pacific policy."

They undertook to meet again in 1941. Their tenuous accord benefited Greece, so long as the four might hope for vigorous British and French support if Greece were attacked. The Greek provision for the defense of the Thracian border gained greatly by the completion on May 5 of a new railroad line from Salonika to the Bulgarian line.

The Franco-British disaster of May and June forced the Greek Government to seek the good will of Germany. On June 28 was announced the conclusion of a Greco-German commercial treaty letting the Reich receive ore, for which Greece in turn was to get German coal; and providing also for German access to other Greek products. Again, in August, the Greek Government, by revoking the extra pay that it had allowed to seamen, hindered the passage of cargoes to Great Britain and thus apparently wooed German benevolence.

The entry of Italy as an active participant in the European War, on the German side, led after a considerable interval to a declaration by Premier Metaxas, August 4, of the government's determination to remain neutral, but to make "every sacrifice" for the country's defense if attacked. About a week later the Italian Government began applying overt pressure on Greece with the apparent intent of awing the latter into yielding parts of Greek territory between the Albanian border and the Aegean coast. Italian journals, controlled by the government, demanded the "revision" of the Albanian frontier, and it was reported in Athens that a demand had been made of Greece, and rejected, that she formally renounce British guarantees of her independence and territorial integrity. There followed rapidly a demand that Greece account to Italy for the killing of an Albanian irredentist, Daut Hoggia, who had sought the inclusion in Albania of Greek areas having inhabitants of Albanian stock. The Greek mine-laying naval cruiser *Helle* was torpedoed and sunk, August 15, in the Greek harbor of Tenos; naval experts declared, August 20, that a fragment of the torpedo was marked as made in Turin.

Metaxas held firm against the application of Italian pressure in August. There followed several weeks of suspense, marked by a fruitless appeal for Hitler's diplomatic aid in restraining Italy. After the German partisans had mastered Rumania, the Italian Government, having abandoned hope of effecting its purpose by pressure, prepared to invade Greece. It issued an ultimatum on October 28, which the Greek government rejected on the same day, and war followed. The immediate occasion of the ultimatum was an Italian complaint that a Greek band had fired on an Albanian patrol, killing two, in Albanian territory.

One of the effects of the quarrel with Italy was the reconciliation of the Metaxas regime with some at least of the Venizelist or other antagonistic leaders that it had kept under restraint or in exile. The number of the forgiven included John Pheokotis, George Cafandaris, Alexander Milonas, and Panayotis Canellopoulos.

Greece, in undertaking to resist Italy, had hope of substantial aid from other governments. Turkey remained aloof in 1940, despite an understanding with Greece for common defensive measures. Great Britain supplied technical troops, military aviation, naval activity against the Italians, and a diversion in Libya that helped to disconcert Italian military policy. The United States gave Greece assurance, December 7, that military material would be forthcoming.

The reigning dynasty of Greece was strengthened in some respects, but weakened in others, by the birth, June 2, of a son to Prince Paul, brother of King George. The King was childless, and Prince Paul had at the time no male offspring. His fathering a son gave the throne the prospect of a successor in the next generation. But Prince Paul stood in favor with the Axis powers and out of favor, consequently, with the Metaxas regime.

See also ALBANIA, BULGARIA, GERMANY, GREAT BRITAIN, ITALY, TURKEY, and YUGOSLAVIA under *History*; *ARCHAEOLOGY*; *BALKAN ENTENTE*; *COMMUNISM*; *EUROPEAN WAR*; *FASCISM*; *INDUSTRIAL CHEMISTRY*; *LEAGUE OF NATIONS*; *REPARATIONS AND WAR DEBTS*, *WAR RELIEF*.

**GREEK ORTHODOX CHURCH.** See *RELIGIOUS ORGANIZATIONS*.

**GREEK STUDIES.** See *PHILOLOGY*, *CLASSICAL*.

**GREENLAND.** A large island off northeastern Canada. Denmark's only colonial possession, it has an area of 736,518 square miles, of which 705,234 square miles comprises the central plateau, averaging about 10,000 feet high and capped by ice 1000 feet or more thick. The ice-free coastal area comprises about 31,284 square miles. Estimated population in 1940, 18,200 including about 17,800 Eskimos and 400 Danes. The area under direct Danish administration includes 46,740 square miles and is divided into three inspectorates as follows: South Greenland on the southwest coast (pop., about 7000; capital, Godthaab); North Greenland on the west coast (pop., 9000, capital, Godhavn); and East Greenland on the east coast (pop. 1000). The chief settlements are Julianehaab (2500 inhabitants), Godthaab (1300), Godhavn, Angmagssalik, and Marmorilik.

Cryolite, mined at Ivigtut, accounts for nine-tenths of Greenland's total income of about \$800,000 annually. Marble is mined at Marmorilik in North Greenland. Other products are graphite, codfish, halibut, Arctic salmon, fox and bear pelts, eider down, seal blubber, and some sheep. Commerce is a monopoly of the Danish Government and its representatives in Greenland. Exports to Denmark in 1938 totaled 5,939,000 Danish crowns, imports from Denmark, 3,064,000 crowns. Revenue in 1938-39 was 4,810,000 crowns, expenditure, 5,573,000. The administration is vested in a director (appointed by the King) in Copenhagen, who was aided by governors and local assemblies in Greenland.

**History.** The establishment of a military protectorate over Denmark by Germany on Apr. 9, 1940, brought the status and future of Greenland into question. Communications between Greenland and Denmark were severed, and with them the island's normal trade. As "protector" of Denmark, the Reich acquired at least a technical claim to control Greenland. This situation led to consultations in Washington beginning April 10 between United States government officials, the Danish Minister, and the diplomatic representatives of Great Britain and Canada.

On April 10 President Roosevelt and the Danish Minister agreed that Greenland was part of the American Continent and therefore covered by the Monroe Doctrine. Its freedom from German control was declared to be of vital concern to the United States. The U.S. Government on May 1 announced that a consulate would be established at Godthaab and on May 10 James K. Penfield and George L. West, Jr., the newly designated

consul and vice consul, sailed for Greenland to keep the State Department informed as to developments there. The Canadian Government likewise sent a consul to Greenland. At President Roosevelt's request, an official of the American Red Cross also went to Greenland to investigate the food situation. He returned in mid-July and reported that the settlements had supplies on hand to meet their needs for months to come.

A Greenland trade delegation headed by Eske Brun, Governor of North Greenland, arrived in the United States on a U.S. Coast Guard cutter July 9 and in subsequent negotiations in Washington and New York established new trade channels with the United States to replace those severed by the German seizure of Denmark. On September 21 Governor Brun announced that arrangements had been made for obtaining \$1,000,000 worth of supplies in the United States in return for Greenland products. The U.S. Government extended further aid by suspending tonnage duties on "vessels of Greenland and the produce, manufactures, or merchandise imported in the said vessels into the United States from Greenland or from any other foreign country," effective Oct. 9, 1940.

The British Broadcasting Corporation on November 1 quoted a report from Stockholm that a German ship carrying an expedition of 50 armed men was intercepted and captured by the Norwegian vessel *Fridtjof Nansen* off Greenland while en route to seize an existing meteorological station in Greenland or to establish a new one for the purpose of supplying the German air force with advance weather reports.

Consult Th. Stauning (Prime Minister of Denmark), "Greenland," *The American-Scandinavian Review*, Summer, 1940, pp. 135-40, P. E. Mosely, "Iceland and Greenland: An American Problem," *Foreign Affairs*, July, 1940, pp. 742-46.

See CANADA and DENMARK under *History*.

**GRENADA.** See WINDWARD ISLANDS.

**GROUP MEDICAL CARE.** See CO-OPERATIVE MOVEMENT; MEDICINE AND SURGERY

**GADELOUPE.** A French West Indian colony comprising two main islands—Guadeloupe proper (Basse-Terre) and Grande-Terre, and the dependent islands of Les Saintes, Désirade, St. Barthélemy, St. Martin (northern part), and Marie Galante. Total area, 688 square miles; population (1938 estimate), 310,000. Chief towns: Basse-Terre, the capital (13,638 inhabitants), and Pointe-à-Pitre (43,551). Chief products: Sugar, coffee, rum, cacao, logwood, and manioc. Trade (1938): Imports, 250,583,000 francs; exports, 296,472,000 francs. Budget (1939): Revenue and expenditure balanced at 83,608,979 francs. Public debt (Dec. 31, 1938), 12,110,210 francs (franc averaged \$0.0288 for 1938; \$0.0251 for 1939). There were 754 miles of roads in 1938. The government was administered by a governor, assisted by an elected council.

**History.** Guadeloupe remained loyal to the Pétain Government following the capitulation of France to the Axis powers in June, 1940, although many of the islanders were said to sympathize with Gen. Charles de Gaulle's "Free French" movement. In a move to strengthen its position in Guadeloupe, the Vichy Government appointed Constant Sorin as governor on December 13. The appointment coincided with the return to Vichy of Jules Carde, a French colonial official, who had been sent by Marshal Pétain to investigate the

situation in France's West Indian colonies. The economic situation of the island became critical as a result of the virtual cessation of overseas trade.

See FRANCE under *History*.

**GUAM.** An insular possession of the United States; the largest and most populous island of the Marianas group, in mid-Pacific. It lies about 5100 miles from San Francisco, 3300 from Honolulu, 1350 from Yokohama, and 1500 from Manila. Area, 225 square miles; estimated population (July 1, 1940), 23,067, which included 21,502 native-born, 787 foreign-born, and 778 members of the naval establishment. The 1940 census population was 22,290 (18,509 in 1930). Capital, Agaña (pop., about 12,000).

The native population is mainly of Chamorro stock. The languages in use are English, Spanish, and Chamorro. Public instruction through high school grades is available to all children who make satisfactory progress. Commencing with the seventh grade, attendance is limited by competitive examination. The number of enrolled pupils in the public schools averaged 4694 for the year 1939-40. Most of the pupils were in native schools, taught by native teachers. An American school, for children of non-natives, was maintained. Copra, coconut oil, alligator pears, and kapok are exported. Products grown for the domestic market are cacao, coffee, rice, sugar, corn, sweet potatoes, and fruits. Exports for the year ending June 30, 1940, amounted to \$102,575, and were mainly of copra. Imports totaled \$642,936.

Guam is a United States naval station; its Governor, who is also the commandant of the station, is a naval officer commissioned by the President. Governor, Capt. G. J. McMillin, U.S. Navy. An elective native Congress consisting of a House of Council (16 members) and a House of Assembly (27 members) has only an advisory voice in the government. Planes of Pan American Airways operating between Alameda, Calif., Manila, and Hong Kong stop regularly at Guam. A cable station on the island relays messages between San Francisco and the Philippines, China, and Japan.

**History.** Capt. G. J. McMillin replaced Capt. J. T. Alexander as Governor in April, 1940. Work proceeded during the year on non-military improvements to the naval station authorized in the Naval Public Works Act of June 2, 1939. For the second successive year, the House of Representatives at Washington on February 16 eliminated from the Naval Appropriation Bill a \$1,000,000 item for the military strengthening of the naval station. The House took the position that such improvements might lead to war with Japan. On January 15 a Japanese fishing vessel was wrecked on the southeast coast of the island in the restricted area established by the United States naval authorities. The island was ravaged on November 3 by the worst typhoon since 1900, which rendered three-fourths of the inhabitants homeless, damaged the Pan American Airways hotel and naval and other establishments, and destroyed virtually all of the crops.

**GUATEMALA.** A republic in Central America. Capital, Guatemala City.

**Area and Population.** Area, 42,364 square miles; population, 3,284,269 at census of Apr. 7, 1940. Some 65 per cent of the population are Indians and the bulk of the remainder are mestizos. The small ruling class is largely of European origin. Populations of the chief cities with their suburbs in 1938 were: Guatemala City, 164,771; Que-

zaltenango, 30,125; Cobán, 26,774; Zacapa, 18,094.

**Defense.** Military service is compulsory. The active army on Nov. 1, 1939, comprised about 6000; there were 27,660 trained reserves and about 100 in the air force. Defense appropriations, 1,900,000 quetzales in 1940-41. A U.S. military mission was engaged in 1939.

**Education and Religion.** About 80 per cent of all adults are illiterate. Eight new public and 20 private schools were opened during 1939-40; total enrollment for that year was 147,909 pupils in 2513 schools (including 4436 in 48 secondary schools and 694 in the University of Guatemala). Roman Catholicism is professed by the great majority.

**Production.** Coffee and bananas account for about 90 per cent of all exports. The chief crops in 1938-39 were (in metric tons, except as noted): Coffee, 116,943; bananas, 14,353,752 stems (8,208,517 stems exported in calendar year 1940); corn, 702,063; beans, 98,057; wheat, 28,474; sugar, raw and refined, 99,895; rice, 17,887. The 1939-40 chicle crop was estimated at 1,300,000 lb. Livestock, gold, hardwood are other products. Main industries: Coffee cleaning, flour milling, sugar refining, and the making of shoes, soap, and pottery.

**Foreign Trade.** Imports in 1940 were officially valued at \$12,666,970 (\$15,295,749 in 1939); exports, \$13,761,755 (\$16,985,309 in 1939). The United States supplied 54.5 per cent of the 1939 imports (44.7 in 1938); Germany, 27 (35.1). Of the 1939 exports, the United States took 70.7 per cent (69.4 in 1938); Germany, 11.5 (14.1). See TRADE, FOREIGN.

**Finance.** Budget estimates for year ended June 30, 1940, 10,555,000 quetzales. In 1938-39 there was a deficit of 1,245,043 quetzales on expenditures of 14,014,654 quetzales. The public debt was reduced during 1939 by 4,298,691 quetzales to a total of 4,924,996 quetzales and 1,520,432 pounds sterling. Regular interest, but not sinking fund, payments were made on the sterling debt. The quetzal exchanged at \$1 (U.S.) in 1938 and 1939.

**Transportation.** On Dec. 31, 1939, there were 3684 miles of highway open to traffic, 646 miles under construction, and 302 miles projected. Railway lines extended 737 miles. Domestic airlines (TACA) carried 5039 passengers and 4,550,937 lb. of freight and mail in 1939, international passenger traffic on Pan American Airways increased 21 per cent to 6799. A new telephone system was being installed in Guatemala City in 1940. Chief ports: Puerto Barrios and Livingston on the Caribbean and San José and Champerico on the Pacific.

**Government.** The Constitution of Jan. 1, 1928, as amended, provides for a President elected for 6 years and ineligible for re-election, a single-chambered National Assembly of 74 members elected by popular vote for 4 years, and an appointive Council of State of 7 members which supervises public contracts and concessions. President in 1940, Gen. Jorge Ubico, who assumed office Feb. 14, 1931, and had his term extended by a hand-picked Constituent Assembly on July 10, 1935, to Mar. 15, 1943.

**History.** A revolutionary conspiracy to overthrow the government was nipped in the bud just before Christmas of 1940. On December 28, 13 of the conspirators were executed by firing squads on charges of sedition and attempted rebellion. According to the government, the ringleader of the plot was Julio Castillo Marin, head of the Conservative Unionist party which overthrew Dicta-

tor Estrada Cabrera in 1920. He was put to death along with Reserve Colonel Pedro Montenegro Morales, José Pelaez, six army sergeants, two corporals, and a private. The government announced on December 30 that the country was quiet and that it had received a statement of support from the army.

Some economic hardship was caused during the year by low world coffee prices, the virtual exclusion of Guatemalan coffee from European markets, a sharp drop in chicle production, and the rising cost of living. These adverse factors were offset in part by higher production from the new Pacific-coast banana plantations, increased trade with the United States, and a large expansion of the tourist trade. The government's program of highway construction and other public works was continued.

In his annual message to the National Assembly on Mar. 1, 1940, President Ubico announced that demarcation of the boundary with El Salvador had been completed. He also reviewed Guatemala's controversy with Great Britain over the Guatemala-British Honduras boundary question (see YEAR BOOK, 1939, p. 337). In June, 1939, he said, Washington informed both Britain and Guatemala of its desire to have the boundary issue settled. At the end of January, 1940, the British Government proposed arbitration of the issue of its responsibility under the compensatory clause of the boundary convention of 1859. Guatemala, on the other hand, demanded arbitration of the whole issue of sovereignty and the consequent indemnity. After the Havana Conference in July had expressed its wish for a "just, peaceful, and rapid solution" of the controversy, the two governments were reported to have accepted President Roosevelt as arbitrator.

This action was in line with Guatemala's growing co-operation with the United States and increasing public antipathy to Nazi Germany. The Guatemalan Government in June refused admission to Arthur Dietrich, press attaché of the German legation in Mexico, when he was expelled from Mexico for propagandist activities. President Ubico was reported to have agreed with the other Central American governments on a policy of co-operation with the United States in hemispheric defense. Like its neighboring republics, Guatemala was undeterred from this course by a warning against "unneutral action" received from the German Minister to Central America preceding the Havana Conference in July. A large number of U.S. military planes from the Canal Zone participated in the celebration of Soldier Day in Guatemala City on June 30.

See PAN AMERICANISM.

**GUGGENHEIM FOUNDATION.** See BENEFACTIONS.

**GUIANA.** See BRITISH GUIANA, FRENCH GUIANA, SURINAM.

**GUINEA, PORTUGUESE.** See PORTUGAL under *Colonial Empire*.

**GYMNASTICS.** The biceps and calves of George Wheeler, 25-year-old school teacher of East Washington, Pa., continued to command extraordinary attention among America's muscle fans in 1940. For the fourth successive year, he captured the national all-around gymnastics title in the A.A.U. championship tournament at Chicago. Representing the First United Presbyterian Community House of Pittsburgh, Wheeler was supreme in four individual contests: long horse, side horse,

parallel bars, and calisthenics. The University of Illinois was awarded the team crown after previously taking the Big Ten and N.C.A.A. laurels. The Eastern Intercollegiate Gymnastic League's team championship was won by Navy.

**GYPSY MOTH.** See ENTOMOLOGY, ECONOMIC.

**HADHRAMAUT.** See ARABIA under *Aden Protectorate*.

**HAITI.** A West Indian republic, occupying the western third of the island of Haiti or Hispaniola. Capital, Port-au-Prince.

**Area and Population.** Area, 10,204 square miles; population, estimated on Dec. 31, 1939, at 3,000,000 (1,631,000 at 1918 census). With the exception of some 3000 white foreigners (467 United States citizens on Jan. 1, 1940) and a few thousand mulattoes, the inhabitants are all Negroes. Estimated populations of the chief cities in 1936: Port-au-Prince, 105,000 (125,000 in 1940); Cap-Haitien, 15,000; Aux Cayes, 15,000; Gonaives, 10,000; Saint Marc, 10,000; Jacmel, 10,000. French is the language of government and the educated class. The peasants, comprising more than 80 per cent of the population, speak a dialect known as Creole French.

**Religion and Education.** Most of the inhabitants profess the Roman Catholic faith. About 85 per cent of the people are illiterate. There are about 1060 primary schools, with 87,000 pupils; 21 secondary schools, with 6000 pupils; 68 farm and vocational schools, with 12,200 pupils; 2 normal schools; and colleges of medicine, law, applied science, and agriculture.

**Defense.** The armed constabulary, organized by United States officers during the American military intervention (1915-34) and since 1934 under Haitian command, comprises about 2500 officers and men. A United States military mission was contracted for by the Haitian Government in 1938 to reorganize the military school and act as technical advisers to the general staff of the Garde d'Haiti (constabulary).

**Production.** Agriculture supports the mass of the population. The country's prosperity is largely dependent upon export crops, chiefly coffee. For the fiscal year ended Sept. 30, 1940, the principal exports were: Coffee, 16,187,765 kilos (kilo equals 2.2 lb) valued at 10,243,491 gourdes (gourde equals \$0.20); raw sugar, 29,856,208 kilos valued at 4,725,427 gourdes; sisal, 7,871,118 kilos valued at 3,366,685 gourdes; bananas, 2,268,387 bunches valued at 3,148,294 gourdes; raw cotton, 3,105,003 kilos valued at 3,048,302 gourdes; cacao, 1,219,756 kilos valued at 488,718 gourdes. Manufacturing is confined to sugar refining, rum distilling and the preparation of tobacco products, canned fruit, and vegetable lard. The 1939-40 coffee crop was estimated at 22,600,000 kilos.

**Foreign Trade.** Imports during the 1939-40 fiscal year totaled 39,701,000 gourdes (40,904,000 in 1938-39); exports, 26,995,000 gourdes (36,338,000 in 1938-39). The value of the 1939-40 exports was the lowest recorded since 1916. The United States furnished 73 per cent of the 1939-40 imports (63 in 1938-39); British Commonwealth, 12 (14); France, 4 (5). Of the exports, the United States took 52 per cent in 1939-40 (35 in 1938-39); British Commonwealth, 30 (20); Belgium, 9 (10); France, 4 (21). See TRADE, FOREIGN.

**Finance.** For the fiscal year 1939-40, government receipts totaled 26,873,000 gourdes (31,146,000 in 1938-39) and expenditures from revenues were 28,478,000 gourdes (29,585,000 in 1938-39).

In addition there were expenditures from the United States public works credit during 1939-40 of 8,855,000 gourdes, bringing the total loan expenditure under this account to 17,494,000 gourdes. Unobligated Treasury reserves on Sept. 30, 1940, were 356,000 gourdes (2,095,000 on Sept. 30, 1939). The gross public debt on Sept. 30, 1940, was 60,872,000 gourdes (52,137,000 on Sept. 30, 1939).

**Transportation.** Haiti in 1940 had 158 miles of railways, about 1426 miles of roads, and a connection at Port-au-Prince with the Pan American Airways Caribbean network. During the 1938-39 fiscal year 657 steam and motor vessels of 1,595,770 net registered tons called at Haitian ports, including 28 tourist ships. See HISTORY.

**Government.** The Constitution of June 17, 1935, as amended Aug. 8, 1939, vested executive powers in a President elected for five years by a two-thirds vote of the National Assembly. The National Assembly consists of 37 Deputies, elected for four years by the vote of literate property owners, and 21 Senators, 11 elected by the Chamber of Deputies and 11 appointed by the President for six-year terms. Presidents completing their terms since 1930 become life members of the National Assembly. President in 1940, Sténio Vincent, who was elected by the National Assembly Nov. 18, 1930, and whose term of office was extended for five years from May 15, 1936, by a special clause in the 1935 Constitution. All members of the cabinet and National Assembly were personal followers of President Vincent and no organized opposition was permitted.

**History.** Haiti's economic situation went from bad to worse during 1940, mainly as a result of the cutting off of additional coffee markets in France and Scandinavia by the European War. Exports for the 1939-40 fiscal year declined to less than half the average annual value for the preceding 23 years. Imports declined only slightly from the 1938-39 level due to continuance of the public works program with the \$5,000,000 credit obtained in 1938 from the Export-Import Bank of Washington. Budget receipts fell to the lowest level since 1921-22, and although the government reduced salaries of its employees on July 1, 1940, and took other economy measures, there was a substantial operating deficit. Moreover the government was faced with the necessity of reducing or eliminating the export tax on coffee to enable the 1940-41 crop to compete in the world market. A substantial reduction in imports of staple food products indicated a decline in mass purchasing power.

These economic difficulties stimulated the unrest prevalent in Haiti for a number of years and increased the possibility of a revolutionary outbreak in connection with the December, 1940, elections for a new Chamber of Deputies and the Presidential election scheduled for the following April. The political situation in Haiti remained obscure due to the strict censorship. However it was plainly indicated by the end of 1940 that President Vincent had decided to continue in office for another term despite his promise to retire and a constitutional bar to re-election. The Congressional elections originally scheduled for January, 1941, were held in mid-December and Deputies pledged to Vincent's re-election were chosen with the aid of strong government pressure. According to anti-Vincent sources, supporters of other aspirants for the Presidency who attempted to run for Congress

and for Mayor of Port-au-Prince were arrested and beaten up by the Garde d'Haiti. Dr. Price Mars, a leading liberal, and Col. Démosthènes P. Calixte, former chief of the Garde d'Haiti who was in exile in the Dominican Republic, were mentioned as the principal Presidential aspirants.

An agreement regulating the passage of immigrants and seasonal laborers across the Haitian-Dominican frontier entered into effect early in 1940. It helped to reduce friction between the two governments over this issue. Because of Haiti's financial difficulties, the United States on Sept. 27, 1940, signed a supplementary executive agreement prolonging for an additional year (to Sept. 30, 1941) the modifications in the 1933 financial convention arranged July 8, 1939 (see YEAR BOOK, 1939).

Consult Ludwell Lee, *Haiti and the United States, 1714-1939* (Duke Univ. Press, Durham, N.C., 1940).

**HAMBURG.** See GERMANY under *Area and Population*.

**HANDBALL.** Joe Platak of Chicago added to his reputation as the game's greatest star in many years by annexing for the sixth successive time the national four-wall handball championship at the A.A.U. tournament in Chicago in April, 1940. He vanquished Jack Clements of San Francisco, 21-15, 21-3, in the final. The national doubles championship changed hands as Joe Goldsmith and Joe Gordon of Long Beach, Calif., defeated Frank (Lefty) Coyle and Ed Linz of the New York A. C. The latter team won the honors in 1938 and 1939.

In the national one-wall singles meet at Manhattan Beach in the summer, Morton Alexander of the Trinity Club, Brooklyn, triumphed over one of his clubmates, Victor Herschkowitz in the final by 21-4, 21-5.

Teamed with Marvin Hecht, Alexander also won the national one-wall doubles title.

**HARBOR WORK.** See ENGINEERS, CORPS OF; PORTS AND HARBORS.

**HATAY, Republic of.** See SYRIA AND LEBANON.

**HATCH ACT.** See under POLITICAL ACTIVITIES.

**HATCHERIES.** See FISH AND WILDLIFE SERVICE.

**HAWAII, Territory of.** A territory of the United States, comprising the Hawaiian Islands, in the Pacific Ocean, about 2800 miles west-southwest of San Francisco. Capital, Honolulu.

**Area and Population.** The islands that form the Territory have a combined area of 6407 square miles. Their population of Apr. 1, 1940 (U.S. census), numbered 423,330; 1930, 368,336. Approximate population of June 30, 1940, by areas: city of Honolulu, 180,986; rural part of Oahu, 79,899; city of Hilo, 16,641; rural Hawaii (island), 65,922; Kalawao, 465; Kauai, 35,956; Maui, 7809. The diverse origin of the inhabitants gave a somewhat unusual aspect to their character as a group: by estimate of the Territorial Board of Health, for June 30, 1940, the population, by origins, numbered 156,489 Japanese, 65,291 wholly or partly of Hawaiian aboriginal stock, 115,836 Caucasian, 52,148 Filipino, 28,809 Chinese, 6761 Korean, and 960 other. There were by these estimates, as compared with the U.S. Census of 1930, 17,218 more Japanese; 14,431 more Hawaiian or part-Hawaiian; 35,463 more Caucasian; 1630 more Chinese; 300 more Korean; 180 more unclassified of other ori-

gins; and 10,904 fewer Filipinos. Of the whole population (estimate for June 30, 1940), 81.79 per cent were U.S. citizens; by groups, the percentages were 77.9 for the Japanese; 100 for Hawaiian and part Hawaiian; 97.85 for the Caucasian; 33.86 for the Filipino; 86.89 for the Chinese; 67.37 for the Korean; and 91.46 for the others. A great part of the non-American Caucasians were Portuguese by origin.

**Education.** The enrollments of pupils in the public schools totaled 91,821 for June, 1940; this comprised 53,378 in elementary grades (from 1 through 6) and 38,443 in upper grades (7 through 12). The elementary enrollments had decreased by 4901 since 1933, but the enrollments in the upper grades had risen. For the year 1939-40 the public schools cost \$6,996,947 in current expense and \$335,825 in capital outlay. The University of Hawaii had (year 1939-40) 1947 undergraduate students and 478 graduate students, not to count other groups, particularly the heavy attendance in the summer session.

**Employment and Production.** The gainful industries of the Territory are predominantly agriculture and the processing of agricultural products. The main exports, cane sugar and the products of the pineapple, accounted for more than \$50,000,000 each, in the Hawaiian exports of 1939. The two covered well over nine-tenths of yearly exports. In the case of the pineapple as well as that of the cane, agriculture and manufacture were closely associated, in the hands of large companies or associations. Thus, of the \$9,099,832 paid to farmers in the Territory during the fiscal year 1940 under the provisions of the Agricultural Adjustment Act, \$8,975,614 went to a group of 2068 growers of sugar cane. Workers on sugar plantations numbered 44,810 in 1938. The pineapple industry, though somewhat less in yearly value of product than the sugar industry, was estimated by the Pineapple Producers Co-operative Association to have employed 78,000 persons in 1939, or nearly one-fifth of the population. The Hawaii Experiment Station was reported in 1940 to have found a practicable way of treating the papaya fruit so that it would stand exportation, and there appeared some prospect that the small yearly exports of the papaya might in their turn expand. Manufacturing, proper, employed 16,842 wage earners in 1939 and put out \$133,655,947 in products.

For the calendar year 1940 the estimated shipments of canned fruit or juice of the pineapple rose to \$54,000,000. The sales of cane sugar apparently fell to 916,500 short tons, as against 940,060 tons for 1939 and allowable exports of 938,037 tons to the Union under the quota system.

**Finance.** The general fund of the Territorial government reported, for the fiscal year ending with June 30, 1940, receipts of \$16,158,301; payments of \$15,617,014; and cash available at the close of the year, \$2,956,295. The Territory (June 30, 1940) owed \$38,321,000 of funded debt, not to count floating debt; it held sinking funds of \$10,302,550.

**Oversea Trade.** In the calendar year 1939 Hawaii imported merchandise to the value of \$109,296,478 and exported \$115,095,809. The United States sent all the imports and took all the exports, save for about 7 per cent of imports and 1¾ per cent of exports, the shares representing trade from and to foreign countries (including the Philippine Islands). Products of the pineapple accounted for \$50,822,532 of the exports to the United States and

\$824,540 of those to other countries. The listed exports of sugar, \$55,217,960 in value, all went to the United States. No other export attained \$1,000,000 in value for 1939; but exports of molasses, canned fish, and (chiefly to foreign countries) coffee were substantial.

In the calendar year 1940 Hawaii's imports from the United States amounted to \$127,439,539; exports of Hawaiian products to the United States totaled \$96,924,908. Data for 1940 did not cover Hawaiian trade with the other countries. Despite shipments of \$5,165,942, additional, from Hawaii, under the head of U.S. products returned, the totals for 1940 left Hawaii an apparent debtor in trade with the United States for some \$25,000,000 of imports in excess of exports. In view of unusual military and naval outlay in the Territory, involving many kinds of shipments from the United States, the heavy adverse balance of trade did not necessarily represent an upset in the usual balance of actual commerce. Among the chief subtotals of the imports above, \$18,109,684 of vegetable foodstuffs, \$19,880,238 of machinery and vehicles, \$18,589,368 of other iron and steel manufactures, and \$12,312,290 of products of petroleum, furnished the greater part of the total imports of U.S. goods.

**Transportation.** Steam railroads, on the islands of Oahu, Hawaii, and Maui, aggregated 322.64 miles of track in 1940. Motor vehicles registered in 1940 numbered 71,058—this made one to every six inhabitants. The Inter-Island Steam Navigation Co. transports passengers and freight among the chief islands by sea. Inter-Island Airways covers similar routes by air. The mileage of vehicular roads was stated in 1940 as 2040. Ship-lines connect Honolulu with North and South America, Australia, and the Orient. Pan American Airways touch at Honolulu in passage between the United States and the Far East, the same system started in 1940 a service between San Francisco and New Zealand via Hawaii.

**Government.** The Governor of the Territory (in 1940 Joseph B. Poindexter) holds office by appointment of the President of the United States, for a term of four years. The registered voters of the Territory elect quadrennially 15 Senators and biennially 30 Representatives, constituting the Legislature; it passes appropriations and other acts within the Territorial authority. The popular vote elects to each U.S. Congress a Delegate, with a voice, but no vote, in the House of Representatives; Samuel W. King was re-elected Delegate in 1940.

**History.** The entente formed by Japan with Germany and Italy, as read in connection with the current foreign policy of the United States, served to prompt the vigorous prosecution of measures to put the Hawaiian Islands in a more thorough readiness for their own defense and for the support of U.S. naval power in the Pacific Ocean. The bulk of the warships of the fleet at sea were assigned in May, after spring maneuvers, for an indefinite period to the neighborhood of the Islands. In August the *New York Times* reported the presence at Pearl Harbor (naval base near Honolulu) of some 10 U.S. battleships, 2 aircraft carriers, 15 cruisers, corresponding numbers of other craft, and a naval air force to match. The Army's forces for the land defenses of Honolulu and Pearl Harbor were augmented, as by an anti-aircraft regiment of the Californian National Guard. The development of the Hickam airfield at Pearl Harbor, begun in 1935 and destined to

cost \$25,000,000, was carried on actively. Much was done to supply other islands with minor airfields for possible military need; but the policy of concentrating fortifications solely about Honolulu and Pearl Harbor, on Oahu, remained in force.

The numerous inhabitants of Japanese extraction inspired by their general behavior a confidence in their loyalty to the United States. They still, however, contributed but a very small part of the Hawaiian National Guard—40 among 1741 enlisted men. Accepted as commonly loyal, the Japanese could not easily prove in any given case that fidelity to the ancestral bond had been cast off. Some of the local activities ascribed to the Japanese Government caused uneasiness. Four Japanese navigating small vessels were seized and charged in May with trespassing on forbidden waters in Pearl Harbor. In December the *Honolulu Advertiser* criticized the practice of the Japanese consulate in taking a census every five years of the Japanese in the Hawaiian Islands.

**NLRB in the Islands.** The U.S. House of Representatives' committee investigating the NLRB brought to public notice, May 3, a report made confidentially to the Board by its investigator, E. J. Eagen, in 1937. Sweeping charges in this report, as summarized in the press, represented the five leading sugar companies of the Territory as exercising a sort of universal control over industries, sales of land, banks, transportation, agencies for goods sold to the population, telephones, police, Legislature, Executive, judiciary, bar, university, churches, election machinery, and the head of the National Guard; a halfway qualification was made as to the journals. The report was supposed to have helped the Board to reach decisions adverse to employers in the Islands.

**Demand for Statehood.** The Hawaiian agitation for elevating the Territory into Statehood gained new vigor in 1940. It took the definite form of a popular vote, cast at the general election on November 5, on the question whether the individual voter favored or opposed the proposal that Hawaii be made a State of the Union. The unofficial count of this vote, as reported on November 14, showed 46,174 in favor and 22,428 opposed, among some 90,000 registered voters.

**HAY.** The hay crop in 1940 was estimated by the U.S. Department of Agriculture at 95,156,000 tons which included 86,312,000 tons of tame hay and 8,844,000 of wild hay, about 11.8 per cent more than the 85,124,000 tons harvested in 1939 and compared with the 1929-38 average of 78,948,000 tons. The 72,488,000 acres harvested averaged 1.31 tons per acre and the 69,953,000 acres harvested in 1939, 1.22 tons per acre, compared with the 10-year average, 67,827,000 acres and 1.16 tons per acre. The farm carry-over of 11,000,000 tons from the previous year plus the 1940 crop provided a total supply 18,000,000 tons larger than the 10-year average and 5,000,000 tons more than the 101,000,000 ton supply for the 1939-40 season. States leading in production of tame hay were: Wisconsin 7,416,000 tons, Iowa 6,512,000, New York 5,554,000, Minnesota 4,702,000, California 4,657,000, Illinois 4,515,000, and Ohio 4,241,000 tons; and of wild hay Minnesota 1,453,000 tons, North Dakota 1,242,000, Nebraska 998,000, and South Dakota 891,000 tons.

The important kinds of tame hay and states with the highest production in each class included alfalfa 30,578,000 tons from 14,048,000 acres, California 3,393,000 tons; clover and timothy 29,287,-



000 tons from 22,387,000 acres, New York 4,161,000 tons; lespedeza 3,700,000 tons from 3,778,000 acres, Missouri 875,000 tons; soybeans 6,312,000 tons from 4,883,000 acres, Iowa 1,146,000 tons; sweetclover 808,000 tons from 678,000 acres, North Dakota 184,000 tons; cowpeas 1,567,000 tons from 2,068,000 acres, Texas 511,000 tons; peanuts 1,003,000 tons from 1,920,000 acres, Georgia 252,000 tons; small grains cut green for hay 4,260,000 tons from 3,981,000 acres, California 977,000 tons; sweet sorghum (sorgo) for forage and hay 13,816,000 tons from 8,042,000 acres, Kansas 3,984,000 tons; and other hay crops 8,536,000 tons from 7,849,000 acres, Minnesota 638,000 tons.

Seed of important kinds of hay included alfalfa seed 1,453,000 bu., red clover 1,994,400 bu., alsike clover 422,300 bu., sweetclover 900,700 bu., timothy 1,312,900 bu., and lespedeza 159,120,000 lb. The combined production of seed on the large area of 4,524,000 acres was practically the same as in 1939 but much above the 1929-38 average. The season average price per ton received by farmers for all hay was \$7.46 (December 1 price) and the estimated value of production was \$710,291,000 in 1940 compared to \$7.57 and \$644,760,000 in 1939.

**HEALTH, National Institute of.** See PUBLIC HEALTH SERVICE

**HEALTH WORK.** See **BENEFACTIONS** under *Foundation Activities*; **BIRTH CONTROL**; **CHILDREN'S BUREAU**; **COMMONWEALTH FUND**; **CO-OPERATIVE MOVEMENT**; **MEDICINE AND SURGERY**; **PUBLIC HEALTH SERVICE**; **RED CROSS**; **ROCKEFELLER FOUNDATION**, etc

**HEATING AND VENTILATING.** The year 1940 was the most successful one since 1929 in the physical volume of heating equipment manufactured and installed. This is indicated by *Heating and Ventilating's* "Index of Heating Business Activity" which averaged 95 in 1940 (1929 = 100), whereas in 1939 the index stood at 79.5. Most notable in heating equipment sales were those products identified with automatic house-heating, such as oil burners, domestic stokers, and gas house-heating equipment. Sales of oil burners were up 25 per cent over 1939, domestic stoker sales were up 33 per cent from the preceding year, while gas house-heating equipment sales, as indicated by incomplete statistics, were approximately at 1939 levels. (See also **GAS INDUSTRY**.)

Oil burner installations totaled 250,000 for the year, while stoker sales approximated 137,000 units. Although the combined volume of 1940 heating business, physically, was 19 per cent over 1939 this was not the case with the dollar volume of business, for prices during the year were still considerably below 1929 levels. There were in use on Dec 31, 1940, about 3,649,000 automatic central-heating plants fired with oil, gas, or stokers.

Sales of the air-conditioning type warm-air furnace equipped with fan and filter, which account for 40 per cent of total furnace sales, showed an increase of 18 per cent over 1939, while sales of gravity furnaces increased 39 per cent.

Technically, 1940 heating developments included the adoption of a uniform boiler-rating code by cast-iron boiler manufacturers; launching of a co-operative research program by the bituminous coal interests, to include a study of complete automatic residential heating with soft coal; a further increase in interest in radiant heating; an apparently growing trend toward the use of direct-fired

warm-air units for heating factory buildings; the continuation of the trend toward the use of hot-water heating in institutional and apartment buildings and houses; the sponsoring of a standard chimney code for buildings by the American Standards Association; studies of domestic hot-water supply consumption at Massachusetts Institute of Technology; initiation of a program to study, over a long period, radiator heating in a specially built house at the University of Illinois, a program sponsored by the Institute of Boiler & Radiator Manufacturers; and a rapid growth of electric heating in the Pacific Northwest due to the dropping of electric rates at midyear.

Outstanding applications of heating included the direct-fired warm-air system in the hangars of New York's airport, La Guardia Field; four blocks of two-family row houses on Long Island, each block served by an individual central-heating plant with steam sold to tenants and owners by the real estate operating company; an elaborate electric heating installation for General Electric's office building on the West Coast; use of a separate central-heating plant for the bathrooms in a large Los Angeles apartment building with the object of providing adequate heat in the bathrooms during all hours, but with the main central-heating plant in operation primarily during the daytime; use of an unusual method of heating the Glenside Housing Project in Reading, Pa., by means of which steam, generated in a central boiler plant, is piped to individual buildings or flats in which hot water is heated by the steam and piped to the individual dwelling units where the air is heated by the water with unit heaters and distributed to the individual rooms by means of ducts, thus combining steam, hot water, and warm-air heat in one installation, the combined use of radiant heating and summer air conditioning in the New Bankers Life Building in Des Moines; and the electric heating of Boston's new Concertorium.

**Air Conditioning.** Preliminary figures indicate that 1940 summer air-conditioning installations were divided, in numbers, as follows: Commercial, 74.2 per cent; theaters, 1.8 per cent; industrial, 4.9 per cent; institutional, 0.2 per cent, and residential, 18.9 per cent. In horsepower capacity, these building types accounted for 77.2 per cent, 14.4 per cent, 7.1 per cent, 0.2 per cent, and 1.1 per cent, respectively. Consequently, as in prior years, the important market for air conditioning has been the commercial field where air conditioning has been installed to return dividends in the way of additional sales or improved customer or client relations. This trend continued in 1940, excepting that there was a fair increase in industrial installations, due to the increasing realization of the desirability of completely controlling temperatures and humidity, and even odors, in manufacturing plants.

Outstanding in technical developments in air conditioning was further progress in dehumidifying by use of the absorption method; evidence produced by the medical profession that the effect of temperature and humidity on the human body is of greater significance than was before supposed; the emphasis being placed on fluorescent lighting, which is a cooler source of light than the Mazda bulb and consequently reduces the load on the air-conditioning system, and the equipping of a hospital in Massachusetts with ultraviolet-ray lamps to sterilize the air surrounding the nursery.



At the close of the year the reverse-cycle refrigeration method was applied to a room air-conditioning unit. By means of this method a refrigerating machine can be used for both heating and cooling. The unit has a capacity of about one room for cooling but its heating capacity is limited to spring and fall months in the North.

Among important applications of the year in air conditioning was that of an ice-cooled group of apartments in Westchester County, New York; a very large dehumidifying installation in the plant of the safety-glass laminating department of the Ford Motor Company; an installation designed with particular reference to acoustics in the Kleinhans Music Hall in Buffalo; use of a photo-electric cell to detect smoke in air-conditioning ducts, installed in a system in Kern's Department Store in Detroit, and which shuts off the fans if smoke is present, and a number of installations of cooling or dehumidifying in plants engaged in manufacturing goods for defense where accurate control of temperature or humidity is important, such as the inspection room of the Kollsman Instrument plant, rooms of the Heald Machine Company, and others.

**Ventilation.** During the year ventilation expanded on one front but met reverses on another. The ventilation of industrial plants, involving dust and fume removal, showed further increases during 1940, due to increasing awareness on the part of industrial engineers of the danger of dust and fumes to the workmen's health and in many cases even to the manufacturing process. On the other hand, mandatory ventilation in New York State's public schools was eliminated in accordance with a bill signed April 13. The new bill provides for "adequate ventilation" but eliminates the specific quantities of outside air which must be introduced.

The desirability of camouflaging and of blackouts of industrial plants in connection with defense brought ventilation into the foreground, due to the design of a number of windowless buildings which require either large amounts of ventilation or summer cooling to carry away the body and process heat.

Outstanding among the ventilating applications of the year were the ventilation of the seven tunnels of the Pennsylvania Turnpike between Harrisburg and Pittsburgh, of the Midtown Tunnel between Queens and Manhattan in New York, and the elaborate ventilation of the Ford Motor Company's Tool and Die Shop where all of the exhaust piping is concealed beneath the floor.

CLIFFORD STROCK

**HEILUNGKIANG.** See CHINA under *Area and Population*.

**HEJAZ.** See ARABIA under *Saudi Arabia*.

**HELIUM.** See MINES, BUREAU OF.

**HEREDITY.** See ZOOLOGY.

**HEROIN.** See NARCOTIC DRUGS CONTROL.

**HESSE.** See GERMANY under *Area and Population*.

**HIDES AND SKINS.** See LEATHER.

**HIGH BLOOD PRESSURE.** See MEDICINE AND SURGERY.

**HIGHWAYS.** See AUTOMOBILES under *Motor Transportation*; BRIDGES; ROADS AND STREETS. Also, articles on countries under *Transportation*.

**HISPANIC SOCIETY OF AMERICA, The (Spanish Museum and Library).** Founded in 1904. An educational institution, containing objects of artistic, historic, and literary interest, its

purposes are to advance the knowledge of the Spanish and Portuguese languages, literature, and history and to encourage the study of the countries wherein Spanish and Portuguese are or have been spoken languages. In furtherance of these aims, paintings and other art objects together with manuscripts, maps, and a library of about 40,000 books were placed in charge of the Society. These varied collections have been gradually increased so that, for example, the library now forms one of the most notable Hispanic libraries in America. A number of temporary exhibitions have been held of the works of noted Hispanic artists. The Society has issued more than 600 imprints relating to Spanish art, history, and literature. In this group are the Huntington reprints of early books, monographs, catalogues on the collections, a Handbook of the museum and library collections (1938), and several works published in co-operation with other institutions. Membership in the Society is honorary and is limited chiefly to Hispanists of distinction. President, Archer M. Huntington. Headquarters: Broadway, between 155th and 156th Streets, New York City.

**HISTORY.** For books on history published during the year see the articles on literature. For events, see the sections on *History* under each country.

**HLOND REPORT.** See POLAND under *German Policy*.

**HOCKEY.** The New York Rangers won the Stanley Cup and the hockey championship of the world by beating the Toronto Maple Leafs in the final play-off session conducted by the National Hockey League in April, 1940. The feat marked the first occasion since 1933 that the world title was brought to New York City.

Before they vanquished the Leafs, the Rangers had to weather a violent round of games against the Boston Bruins, winners of the championship of the National League by virtue of their prime final position in the regular loop race. Fighting every foot of the way, the Bruins forced the series into six games before yielding to the superior playing of their adversaries.

In addition to capturing the Stanley Cup, the New York aggregation attained a distinction that will long continue in the memory of hockey fans. Coached by Frank Boucher and managed by Lester Patrick, the Rangers participated in 19 consecutive league encounters without experiencing defeat. They therewith surpassed the previous non-losing streak of 18 games accredited to the Montreal Canadiens in 1929-30. Nevertheless, the Rangers did no better than finish second in the standing, being constantly humiliated by the Boston Bruins, who incidentally were the defending world champions and winners of the 1939 Stanley Cup.

As in 1939, the National League operated with seven teams. Finishing third behind the Rangers were the Leafs. Next in order were the Chicago Black Hawks, Detroit Red Wings, and New York Americans, with the Canadiens in the cellar.

The Leafs had to master two elimination rounds before coming to blows with the Rangers. This they accomplished by humbling Chicago and Detroit in two straight games each. Before facing Toronto, Detroit had to triumph over the New York Americans in a two-out-of-three series.

The Allan Cup, signifying the amateur championship of Canada, was captured by the Blue Devils of Kirkland Lake, Ont. They vanquished the Calgary Stampeters in three straight games in

the final round. The University of Minnesota won the United States A.A.U. laurels.

The Baltimore Orioles finished first in the Eastern Hockey League, although the New York Rovers, pace-setters for the greater part of the season, captured the Hershey Cup and the Boardwalk Trophy. The Holzbaugh-Ford team of Detroit defeated the Orioles in a post-season clash for the unofficial amateur championship of the United States.

The Providence Reds won the championship of the International American League, and St. Paul took the chief honors in the American Association.

Yale was the winner of the Quadrangular League, the losers being Harvard, Dartmouth, and Princeton. The University of Toronto captured the International Intercollegiate League championship and the Canadian intercollegiate crown.

In the New York Amateur Hockey Association, the St. Nicholas Club was unquestionably the best.

**Field Hockey.** The Women's National Field Hockey Association organized a tournament in November, 1940, at Williamsburg, Va., to select two all-America teams. A dozen aggregations, chosen in six regional competitions, engaged in the tournament, and when the exercise was over, nine of the winning women were found to hail from Philadelphia and environs.

Eight young women who occupied positions on the United States first or reserve team a year ago were selected again, this time all making the regular team. They were the Misses Betty Shellenberger, center forward; Margaret Cornwall, left wing; Barbara Strobhar, right inner; Anne Parry, right wing; Betty Flersham, center half; Louise Orr, right half; Patricia Kenworthy, left back, and Helen Park, goal. With the exception of the Misses Cornwall and Park, all are from the Philadelphia area. Miss Cornwall is from University City, Mo., Miss Park from Greenwich, Conn. Others selected for the first team were Miss Anne McConaghy, left inner; Miss Barbara Strebeigh, left half; Miss Henrietta Tomlinson, right back.

**HODGKIN'S DISEASE.** See MEDICINE AND SURGERY.

**HOGS.** See GARBAGE AND REFUSE DISPOSAL, LIVESTOCK.

**HOME OWNERS' LOAN CORPORATION (HOLC).** See FEDERAL HOME LOAN BANK BOARD; also, INSURANCE.

**HOMESTEAD PROJECTS.** See FARM SECURITY ADMINISTRATION.

**HOMICIDES.** See PRISONS, PAROLE, AND CRIME CONTROL.

**HONAN.** See CHINA under *Area and Population*.

**HONDURAS.** A Central American republic. Capital, Tegucigalpa.

**Area and Population.** Area, 46,332 square miles. Population, estimated at 1,038,061 on June 30, 1940 (854,154 in 1930). The people are mainly of mixed Spanish and Indian blood, except for a considerable Negro element in the north coast banana region and some 35,000 aborigines. Populations of the chief cities (with suburban areas) in 1935 were. Tegucigalpa, 42,903; Comayaguela, 15,095; San Pedro Sula, 32,721; Tela, 14,460. United States citizens resident in Honduras Jan. 1, 1940, numbered 1074.

**Defense.** Every male citizen is liable to six months compulsory military service at the age of 21 and to service in the reserves from 23 to 40. As of Nov. 1, 1940, the army comprised 2325 ac-

tive soldiers and about 2600 trained reserves. Defense budget for 1939-40, 2,082,000 lempiras.

**Education and Religion.** According to the 1935 census, about 67 per cent of the inhabitants over seven years old were illiterate. Of 102,651 children of school age in 1937-38, 47,764 were receiving instruction. Secondary, normal, and commercial schools had 2239 students and the National University at Tegucigalpa 298. Roman Catholicism is the prevailing religious faith.

**Production.** Agriculture, stock raising, and mining are the chief occupations. Bananas accounted for 63.3 per cent of all exports in 1938-39, although the sigatoka (leafspot) disease reduced banana shipments from 29,083,000 stems valued at \$22,981,000 in 1929-30 to 12,537,487 stems worth \$6,244,746 in 1938-39. Gold and silver accounted for 25 per cent of the 1938-39 export total. Coconuts, coffee, leaf tobacco, corn, beans, and sugar are other crops. The forests yield mahogany and other hardwoods.

**Foreign Trade.** For the year ended June 30, 1939, imports totaled \$9,703,327; exports, \$9,867,156. Besides bananas, the chief exports were silver, \$1,675,729, gold, \$777,574. The United States supplied 65.3 per cent of the imports (Germany, 11.1 per cent) and took 90.7 per cent of the exports. See TRADE, FOREIGN.

**Finance.** A deficit of 1,222,000 lempiras on expenditures of 12,306,000 lempiras in 1938-39 brought the cumulative deficit for the period 1935-39 to 7,267,000 lempiras. The 1939-40 budget estimates balanced at 11,026,000 lempiras (10,848,000 in 1940-41). Public debt on June 30, 1939, 18,507,255 lempiras (internal, 12,983,380, external, 5,523,875) against 20,733,035 on June 30, 1938. The lempira exchanged at \$0.50 in 1938 and 1939.

**Transportation.** Railway mileage in 1940, 816; highways, about 511 (see ROADS AND STREETS). The TACA airways network links Tegucigalpa with all parts of Honduras and the chief towns of Nicaragua, Guatemala, and El Salvador. Tegucigalpa is a stopping point on the Pan American Airways international system.

**Government.** President in 1940, Gen. Tiburcio Carías Andino (Nationalist), who was elected Oct. 30, 1932, for a four-year term. By constitutional amendment, his term was extended in 1936 for a further six years and in December, 1939, until January, 1949. The Constitution of Apr. 15, 1936, extended the terms of the President, Vice-President, and members of Congress from four to six years; it stipulated that the Constituent Assembly of 59 members (all Nationalists) should automatically become the regular National Congress with the members holding office until Dec. 4, 1942.

**History.** The opposition to President Carías Andino's dictatorship remained quiescent during 1940, except for an abortive attempt to assassinate him in October, and to all appearances the republic experienced an unusual degree of peace. The President united with the other Central American republics in supporting the United States and the policy of inter-American defense against German political pressure. On July 12 Gen. Carías Andino publicly urged Pan American solidarity against European aggression. On July 19, the Honduran Foreign Office, acknowledging receipt of a note from the German Minister to Central America, said that his "warning" against endorsing measures unfavorable to Germany at the Havana Conference would be ignored. On August 3 the compulsory military service term for youths of 21 was

increased from three to six months, and the reserve, or militia, units were ordered to undergo special training every Sunday.

The boundary dispute with Nicaragua that broke out in 1937 (see 1937 YEAR BOOK, pp. 319-320) remained unsolved by the Mediation Commission. The agreement of Dec. 10, 1937, for a peaceful and lawful solution of the dispute expired early in 1940 but relations between the two republics remained friendly. An experimental rubber plantation was under development by United States and Honduran experts on the Atlantic coast in 1940. It was reported that about 200,000 trees were being planted.

See PAN AMERICANISM.

**HONDURAS, British.** See **BRITISH HONDURAS**.

**HONG KONG.** A British crown colony consisting of the island of Hong Kong (32 sq. mi.), Old Kowloon (3 sq. mi.), and the New Territories (356 sq. mi.) leased from China (June 8, 1898) for 99 years. Total area, 391 square miles; total population (1939 estimate), 1,750,000 including a large number of refugees from the Sino-Japanese war. Based on the foregoing figures the birth and death rates per 1000 were 26.7 and 27.6 respectively. Approximately 98 per cent of the people are Chinese. Education (1938): 1249 schools and 104,134 students enrolled, 488 students (full time) in the University of Hong Kong.

**Production and Trade.** About 20 per cent of the land is under cultivation—the chief crops being sugar cane, rice, and vegetables. The fishing industry has been sharply curtailed as a result of the sinking by the Japanese of 764 Chinese fishing junks registered in Hong Kong. Mining is carried on in a limited way. The building and repair of ships is the most important industry. Other manufactures include cement, flashlights, rubber shoes, matches, gas respirators, and war implements. Trade (1939): Imports, HK\$594,240,000, exports, HK\$533,400,000 (HK\$ averaged \$0.2745 for 1939). Shipping entered and cleared during 1939 totaled 30,897,948 tons. Hong Kong is a fortified naval base for the British Navy and is a free port for commerce. During January, 1940, the port began operating as a contraband control base for shipping.

**Finance.** For the year 1939 actual revenue totaled HK\$41,478,052; actual expenditure, HK\$37,949,116. On Dec. 31, 1939, the public debt amounted to HK\$16,038,000. The ordinary budget for the 15-months period ending Mar. 31, 1941, totaled HK\$49,706,787. In addition there was a war budget of HK\$6,000,000 and a supplementary budget of HK\$845,536.

**Government.** The colony is governed under Letters Patent of Feb. 14, 1917, and Royal Instructions of the same and following dates, by a governor who is aided by an executive council of 9 members. There is a legislative council of 17 members, presided over by the governor. Governor, Sir Geoffrey Northcote (appointed June 24, 1937).

**History.** The threat of a Japanese attack upon Hong Kong following the Allied setbacks in the Low Countries and France in May-June, 1940, was intensified late in June when 10,000 Japanese troops occupied the entire border zone on the mainland and cut the colony's communications with the interior of China. The Hong Kong authorities took the precaution of blowing up bridges across the Schumchun River, barricading the

beaches, inaugurating emergency measures for the control of saboteurs and fifth columnists, and ordering the evacuation to Australia (via Manila) of all women (except those enrolled in defense organizations) and children. Some 4000 Europeans were evacuated during the following weeks, while military reinforcements arrived to strengthen the garrison. In October the British commander reportedly had at his disposal 6000 regulars and 3000 volunteers. Defense works, on which \$40,000,000 (United States currency) had been spent in the preceding three years, were also strengthened. Later the excavation of huge tunnels in cliffs to shelter the civilian population from air raids was begun.

The cutting off of former supplies of vegetables and fish by the Japanese made conditions among the thousands of Chinese refugees in the colony more difficult. There was widespread malnutrition and danger of epidemics, leading the authorities to curtail further immigration.

On July 18 Prime Minister Churchill announced in London, in connection with the closing of the Burma Road to war supplies for China, that the export of gasoline, trucks and railway material from Hong Kong to the Chinese Nationalists would also be ended. The export of arms and munitions from Hong Kong was prohibited in January, 1939. The Burma Road was reopened in October but the British restrictions on shipments from Hong Kong remained in effect. Meanwhile trade with Japan continued without interruption.

See CHINA, GREAT BRITAIN, and JAPAN, under *History*.

**HOPEI.** See CHINA under *Area and Population*.

**HORMONES.** See **BIOLOGICAL CHEMISTRY**.

**HORSE RACING.** See **TURF**.

**HORSES AND MULES.** See **LIVESTOCK**; **VETERINARY MEDICINE**. For statistics, see the principal countries under *Production*.

**HOP CULTURE.** Despite the Florida freeze in late January, 1940, which extended to the southernmost tip of the state and killed practically all vegetable and flower crops and ruined much of the citrus fruit, production of horticultural commodities in the country as a whole was more than adequate. The loss due to the European war of export markets for fresh fruits continued to be a major problem, particularly in areas such as the Pacific Northwest, which sell ordinarily a considerable amount of fruit in foreign markets. A near hurricane, crossing Nova Scotia's important apple belt on the night of September 16-17, stripped about one half the crop from the trees and damaged the trees severely. Although some of the fallen fruit was salvaged, the loss was estimated at nearly one million dollars.

Ornamental horticulture suffered a severe blow as a result of the conquest of the Netherlands, Belgium, and France, countries which ordinarily supply large quantities of flowering bulbs to the United States. Tulip bulbs were particularly lacking and, as a result, plantings of this important winter forcing and spring flower were drastically reduced in the fall of 1940. Smaller bulbs, such as the snowdrop and crocus, were practically eliminated from the autumn trade.

**World Production.** Canada's apple crop was estimated as something over thirteen million bu., a decline of approximately 21 per cent from that of 1940. The eastern provinces of Nova Scotia and Ontario were particularly low. Fruit production

in continental Europe was apparently small, due to the unusually heavy crop of 1939 and also to severe winter damage over much of the area. The war prevented the accumulation of accurate data from many of the countries. The Great Britain apple and pear crops were small, but the plum crop was large and the government-organized "Fruit Preservation Scheme" assisted home owners in saving a large proportion of the crop.

In South America, Argentina reported a great reduction in exports of pears and apples, due largely to the European war. The United States received a large percentage of Argentine exports. In New Zealand and Australia, countries which normally export a large proportion of their fruit to the United Kingdom, the government subsidized the commercial growers by purchasing the exportable fruit at a nominal price. The Canadian government also stepped in to aid its growers who had lost their outlets abroad temporarily. Canada increased its output of canned apple juice, processing some 1,800,000 gallons, more than one million above the 1939 mark. Exports of fruit from Cuba to the United States were, with the exception of pineapples, notably larger in the 1940 season than in 1939.

**Domestic Production.** The following table, compiled from data released by the U.S. Department of Agriculture, shows a well balanced production of horticultural crops in 1940. Somewhat lower production of apples, apricots, prunes, and cranberries was offset by increases in other fruits, particularly citrus fruits. Despite a decreased acreage, favorable growing conditions resulted in a record crop of truck crops for the fresh market. Prices, on the whole, were fairly good as the improving domestic situation influenced consumption favorably.

Crop	1940	Unit	1939
Apples . . .	115,456,000	Bu	143,085,000
Peaches. . .	52,772,000	"	61,072,000
Pears . . . . .	32,188,000	"	31,047,000
Grapes. . . . .	2,482,000	Tons	2,526,000
Cherries. . . . .	168,000	"	187,000
Prunes (dried) . . .	199,000	"	213,000
Oranges . . . . .	81,887,000	Boxes	75,646,000
Grapefruit. . . . .	40,364,000	"	34,975,000
Lemons. . . . .	13,430,000	"	11,963,000
Cranberries. . . . .	571,000	Bbl	704,000
Pecans . . . . .	87,286,000	Lb	63,639,000
Strawberries. . . . .	14,314,000	Crates	13,624,000
Asparagus . . . . .	7,831,000	"	6,882,000
Beans, Snap. . . . .	15,153,000	Bu	16,871,000
Beets . . . . .	2,025,000	"	2,021,000
Cabbage. . . . .	1,136,000	Tons	996,800
Cauliflower . . . . .	10,006,000	Crates	9,027,000
Cantaloupes. . . . .	13,313,000	"	14,402,000
Celery . . . . .	12,756,000	"	11,527,000
Lettuce . . . . .	22,536,000	"	24,004,000
Onions . . . . .	15,397,000	Sacks	17,840,000
Peas . . . . .	8,549,000	Bu	9,726,000
Spinach . . . . .	12,514,000	"	13,275,000
Tomatoes . . . . .	23,705,000	"	24,754,000
Watermelons . . . .	79,428,000	Melons	66,203,000

**Foreign Trade.** Declining exports of horticultural products marked the 1940 season, according to data released in December by the U.S. Department of Commerce. This was shown by a total value of \$48,208,732 for the first ten months of 1940 as compared with \$85,528,992 for the corresponding period of 1939. Imports increased with a value of \$65,899,968 in 1940 and \$54,450,372 in 1939. Leading exports were oranges, apples, grapes, raisins, canned grapefruit, canned peaches, and canned fruits for salad. Bananas were again the principal import item with a value of \$24,797,648.

Other important imports included tapioca, olives, and Brazil and cashew nuts. War was without doubt the limiting factor in foreign trade, eliminating many of the important outlets and upsetting the monetary situation in many countries. As a result of the disastrous January freezes in Florida and Texas, there was a material increase in the import of fresh vegetables from Mexico and Cuba during the winter and early spring season.

**Co-operation.** The vital role that co-operation plays in the successful handling of large horticultural crops was illustrated in California and Arizona, where of a total of over 98,000 carloads of packed citrus, one organization marketed over 73,000 cars. In addition, the association operated a byproducts plant for the conversion of unmerchantable fruit into salable products. Recognizing the important function of this type of co-operation, Texas citrus growers formed a similar organization which handled a considerable portion of the south Texas crop. These organizations study the national situation, direct shipments to the most profitable markets, and prevent glutting in certain areas with consequent depression of prices. Effective advertising is maintained by radio and press to facilitate the marketing of large crops.

**Research Activities.** Interest in growth-promoting substances for increasing the rooting of cuttings and for retarding the dropping of nearly ripe apples and other fruits continued at a high level. There were at least eight papers relating to the control of pre-harvest drop of apples on the program of the 37th annual meeting of the American Society of Horticultural Science held at Philadelphia in late December. The Oregon Station reported that the defoliation of holly leaves from cut branches and wreaths could be prevented by spraying with dilute solutions of naphthaleneacetic acid. One or more proprietary materials for retarding fruit dropping appeared in the trade. Progress was made in studies of the so-called lesser elements such as boron, manganese, and magnesium as factors in fruit and vegetable nutrition, with further evidence that certain disorders of foliage and fruit are essentially nutritional deficiencies. Much work was done on the improvement of blueberries as a cultivated fruit, with an entire session at the Horticultural Science meeting devoted to this fruit.

The U.S. Department of Agriculture continued the development of its new Horticultural Field Station at Beltsville, Maryland. Provided with well equipped greenhouses and laboratories and extensive plantings, this Station is rapidly becoming a highly important center for research with flowers, fruits, and vegetables.

See BOTANY; ENTOMOLOGY, ECONOMIC.

JOSEPH W. WELLINGTON.

**HOSPITALS.** See ARCHITECTURE.

**HOTELS.** See ARCHITECTURE.

**HOURS OF WORK.** See AMERICAN FEDERATION OF LABOR; LABOR CONDITIONS; LABOR LEGISLATION; WAGE AND HOUR DIVISION.

**HOUSING.** See ARCHITECTURE; BENEFICATIONS under *Buhl Foundation*; BUILDING; CO-OPERATIVE MOVEMENT; FEDERAL HOUSING ADMINISTRATION; HOUSING AUTHORITY, U.S.; LIVING COSTS AND STANDARDS; PUBLIC BUILDINGS ADMINISTRATION; PUBLIC WORKS ADMINISTRATION. For defense housing, see NATIONAL DEFENSE ADVISORY COMMISSION; RECONSTRUCTION FINANCE CORPORATION.

**HOUSING AUTHORITY, U.S.** The United States Housing Authority came into being in November, 1937. According to the Act under which it was established, this permanent Federal corporation was set up to provide "financial assistance to the States and political subdivisions thereof for the elimination of unsafe and insanitary housing conditions, for the eradication of slums, for the provision of decent, safe, and sanitary dwellings for families of low income, and for the reduction of unemployment and the stimulation of business activity."

Thus the legislative framework for a long-range decentralized public housing program was established, as distinguished from the experimental program of direct construction by the Federal Emergency Administration of Public Works from 1934 to 1937.

To achieve the purposes set forth in the Act, the USHA assists Local Housing Authorities in two ways. First, it makes loans, at low interest, for slum-clearance and low-rent housing projects. Second, after the new homes are completed, the USHA makes annual contributions to enable Local Authorities to operate their projects at rents within reach of low-income families from substandard quarters.

The Local Authorities responsible for planning, building, and operating the new housing are public agencies set up under appropriate State laws. At present, 38 States, the District of Columbia, Hawaii, and Puerto Rico have such enabling legislation. The number of Local Authorities established has reached a total of 517.

By the end of 1940 Local Authorities representing 235 urban and rural communities in all parts of the country had USHA loan contracts covering 511 large-scale projects. These contracts amounted to a total of \$691,627,500 and left initial USHA loan authorizations practically exhausted. Under the terms of these contracts, 118,045 family units either were under construction or had been completed by the end of the year; 36,456 low-income families had moved from unfit quarters into comfortable new homes; and thousands of other families were being rehoused month by month.

Only low-income families from substandard housing are eligible as tenants in USHA homes. The rents being achieved in the projects set an all-time low for decent new housing, public or private. In projects with rents approved by Dec. 31, 1940, the average monthly shelter rent, excluding utilities, was only \$12.71 per family. When all economy factors have been taken into account, the net annual cost of the Government of rehousing a family from the slums amounts to only about \$76, or \$18 to \$20 per person rehoused.

The anticipated average family income in the projects with rents approved is around \$800 a year, though some families with annual incomes as low as \$300 and \$400 are being served.

The average net construction cost on the 344 USHA-aided projects under construction or completed by the end of 1940 was only \$2705 per dwelling unit. This figure is about 26 per cent lower than the comparable cost of new private housing in the same communities—despite the fact that USHA-aided projects, unlike much private construction, are built for a long life, by labor paid prevailing wages.

Some 293,000 building tradesmen and professional workers have been or will be employed on the 344 projects now being built or already com-

pleted. Materials used in these new projects will cost about \$199,689,000. Much of this amount will in turn be paid out in wages to production workers in mines, mills, and factories.

Increased private residential construction continued to accompany the public housing program during 1940. Meanwhile, thousands of dangerously unsafe and insanitary slum quarters were being eliminated under local programs as required by the Housing Act.

Authority for utilizing the Nation-wide public housing framework in the solution of housing needs arising from the national defense emergency was provided in legislation enacted by the Congress in June and October, 1940. By the end of the year 19 USHA-aided projects, comprising 6400 family units, had already been designated for defense workers and their families, and other projects were being planned for development out of Lanhan Act funds.

Widespread housing needs of both permanent and emergency character were thus being met under the USHA program during 1940. Significantly, where emergency needs were being satisfied, there was assurance that the accommodations provided would be available to low-income families from the slums as soon as—and long after—the defense emergency is over.

See ARCHITECTURE.

NATHAN STRAUS.

**HOWLAND ISLAND.** See UNITED STATES.

**HUMANITIES.** See PHILOLOGY, CLASSICAL;

ROCKEFELLER FOUNDATION.

**HUNAN.** See CHINA under *Area and Population*.

**HUNGARY.** A kingdom in central Europe. Capital, Budapest. Regent in 1940, Nicholas Horthy de Nagybanya.

**Area and Population.** Including the territorial annexations of 1938, 1939, and 1940, the area of Hungary was estimated at 62,162 square miles and the population at 13,400,000. Of this total, 4566 square miles and 1,027,450 inhabitants were ceded by Czecho-Slovakia under the Italo-German arbitral award of Nov. 2, 1938; about 4966 square miles and 633,057 inhabitants were acquired through the annexation of Carpatho-Ukraine (Ruthenia) and additional parts of Slovakia in March and April of 1939. The territory of northern Transylvania, ceded by Rumania to Hungary in accordance with the Italo-German award of Aug. 30, 1940, was said by Rumania to consist of 19,300 square miles with a population of 2,385,987 in 1930; the area was estimated by Hungary at 17,000 square miles with 2,370,000 inhabitants. See *History* below.

Living births in 1939 numbered 172,628 (18.9 per 1000) for that part of Hungary within the frontiers of the Treaty of Trianon; deaths, 123,135 (13.5 per 1000); marriages totaled 73,287 (8.1 per 1000) in 1938. Populations of the chief cities at the census of Nov. 18, 1939, were: Budapest, 1,115,877; Szeged, 131,893; Debrecen, 122,517; Pestszerterzsébet, 71,150; Kecskemét, 83,732; Kispeszt, 62,797; Újpest, 72,940; Pécs, 70,547; Miskolc, 73,503.

**Education and Religion.** In 1938 about 9.6 per cent of the population, six years and over, was illiterate. The number of elementary schools in 1937-38 was 6899 with 963,087 pupils. The country has five universities, all maintained by the State. According to the 1930 census, Roman Cath-

olics comprised 64.9 per cent of the population; Helvetican Evangelicals, 20.0 per cent; Augsburg Evangelicals, 6.1 per cent; and Jews, 5.1 per cent.

**Production.** About 51.8 per cent of the working population is engaged in agriculture, 23 per cent in industry and mining, and 9.3 per cent in trade, transportation, and communications. There were 2,735,263 acres under forest in 1938. Yields of the chief products in 1939 in metric tons were: Wheat, 3,078,200; barley, 789,600; rye, 863,700; oats, 365,900; corn, 2,350,000; potatoes, 2,700,000; beet sugar, 117,200; tobacco, 19,800; coal, 1,107,000; iron ore (including the Northern Territories), 220,000; bauxite, 495,800; beer, 7,608,000 gal. in 1938; wine, 3,060,000 hectoliters in 1938.

**Foreign Trade.** Merchandise imports in 1939 were valued at 489,282,000 pengos (410,607,000 in 1938) and exports at 605,784,000 pengos (522,382,000 in 1938). Imports from Germany in 1939 were 237,926,000 pengos (170,816,000 in 1938); exports to Germany, 303,478,000 pengos (238,755,000 in 1938). See YEAR BOOK, 1939, p. 349 and TRADE, FOREIGN.

**Finance.** The 1939-40 budget (covering 18 months, from July 1, 1939, to Dec. 31, 1940) estimated revenues at 2,563,194,000 pengos and expenditures at 2,693,156,000 pengos. The Minister of Finance announced on Oct. 23, 1940, that the 1941 budget would show a deficit of 48,200,000 pengos. The total public debt on June 30, 1939, was 2,088,527,230 pengos, of which 1,009,000,000 pengos represented foreign and 1,079,600,000 pengos domestic obligations. The average exchange value of the pengó was \$0.1924 in 1939 and \$0.1848 (nominal) in 1940.

**Transportation.** The Hungarian railways (mostly State-owned) extended 9321 miles in 1940. Operating revenue for the State railways in the fiscal year ending June 30, 1939, totaled 275,971,415 pengös; expenditures were 196,475,954 pengös. Passengers carried numbered 88,498,997. The Highway Motor Transportation Co., a subsidiary of the State railways, operated 99 highway passenger lines of which 84 were permanent and 15 were seasonal, having a total length of 1917 miles. Total highways aggregated 51,049 miles Hungarian Air Lines inaugurated on Aug. 15, 1940, a daily week-day service with a flight in both directions between Berlin-Breslau-Vienna-Budapest.

**Government.** The monarchical constitution in effect prior to the republican revolution of Oct. 31, 1918, was restored in 1920, but the throne remained vacant. The head of the State was the Regent, Admiral Horthy (elected Mar. 1, 1920). Parliament consists of an Upper Chamber of 243 members (76 elected by counties and cities, 43 appointed by the Regent, and the rest representing various privileged groups) and a Lower Chamber of 295 deputies chosen for five years by male and female suffrage. Commencing in 1939, the secret ballot was required for the election of all deputies. The Upper Chamber is partly reconstituted every five years.

The composition of the Lower Chamber following the elections of May, 1939, was Party of Hungarian Life (government party), 177; Arrow Cross (National Socialist), 27; Upper Hungarian Union (pro-government), 26; Independent Agrarian, 14; United Hungarian National Socialist party (Arrow Cross Front), 11; Ruthenian party (pro-government), 10; United Christian party, 9; Social Democrats, 5; Liberal Opposition, 5; others, 11. The Ministry during 1940 was headed by Count Paul Teleki (appointed Feb. 16, 1939).

## HISTORY

The Hungarian Government continued throughout 1940 its policy of close collaboration with the Axis powers in European affairs, while fighting the spread of national socialism within the kingdom. The pro-Axis foreign policy enabled Hungary on August 30 to regain approximately one-half of Transylvania from Rumania. It was the third successive slice of territory that Hungary had obtained in three years without resort to armed conflict (see above under *Area and Population*). With this annexation, Hungary had recovered at least 26,532 square miles of territory containing more than 4,000,000 inhabitants out of some 74,100 square miles with 10,782,000 inhabitants ceded under the Treaty of Trianon in 1920.

These territorial adjustments, and the hope of further gains at the expense of Rumania and Yugoslavia, linked Hungary firmly to the cause of the Axis, as was demonstrated by the adhesion of the Budapest Government to the Rome-Berlin-Tokyo alliance on Nov. 20, 1940. However successful collaboration with the Axis was accompanied by the progressive weakening of Hungary's independence and its parliamentary institutions. The Hungarian Government became increasingly subservient to Berlin while the German-supported Hungarian Nazi movement threatened to gain control of the kingdom and reorganize it along Hitlerian lines.

**Foreign Relations.** During the first part of the year the Teleki Government attempted to maintain a degree of independence in its relations with the Reich. Popular feeling in Hungary was still strongly anti-Nazi as a result of the German-Soviet invasion of Poland and the Soviet attack on Finland, Hungary's oldest ally, which was attributed to the free hand given Moscow under the Hitler-Stalin accord of 1939. Nevertheless German economic pressure, threats and propaganda forced Budapest gradually into line with Berlin's program for the political and economic reorganization of Europe. On January 16, Hungary agreed to increase its exports of foodstuffs to the Reich, receiving in return larger shipments of German armaments and other manufactures.

**Collaboration with Italy.** Anticipating a Soviet drive into Rumania, Foreign Minister Count Stephen Csaky of Hungary conferred with the Italian Foreign Minister at Venice on January 6-7 and reportedly received assurances of Italian aid in the events of a Soviet-Hungarian clash over the partitioning of Rumania. Since the efficacy of Italian military assistance depended upon Yugoslav co-operation in permitting the transit of Italian troops, the Budapest Government also sought to develop closer relations with Belgrade. Meanwhile it increased pressure upon Rumania for the voluntary surrender of the Hungarian territories ceded by the Treaty of Trianon.

When King Carol refused and Hungarian-Rumanian tension seemed likely to embroil the two countries in war, Germany and Italy joined in warning Budapest that its claims on Rumania must be shelved for the time being. This order was issued by Mussolini during Premier Teleki's visit to Rome on March 26. It followed the meeting of the Italian and German dictators at Brennero on March 18, when it was agreed that peace must be maintained in the Danube Basin and Balkans to permit the uninterrupted flow of this region's foodstuffs and raw materials into blockaded Germany and into Italy.

**Restoration of Czecho-Slovakia Opposed.** Hungary's willingness to abide by the Axis dictum was accentuated by the agreement for co-operation in the reconstruction of Central Europe reached by the exiled Czecho-Slovak and Polish governments in London, and by a further British step toward recognition of the exiled Czecho-Slovak regime (see CZECHO-SLOVAKIA and POLAND under *History*). These developments led Foreign Minister Csaky to state before the Hungarian Lower Chamber on March 6 that the restoration of Czecho-Slovakia was "against the interests of Europe." His attitude was praised by the Hungarian press and found tangible expression in the imprisonment in Hungary of more than 1000 anti-German political refugees from Bohemia-Moravia and Slovakia. Many of them were reported to have been turned over to the German secret police. Completing the absorption into Hungary of the former Czecho-Slovak territories annexed in 1938 and 1939, the Ministry for the Reannexed Territory was abolished on March 21.

Serious friction continued, however, between Hungary and the German protectorate of Slovakia (q.v.). Early in May the Budapest authorities announced the arrest of nearly 200 persons in the area taken from Czecho-Slovakia; they were charged with espionage and anti-Hungarian propaganda.

**German Pressure Increased.** The Teleki Government, which still hoped to resist German domination with Italian co-operation, was subjected to intensified pressure from Berlin coincident with the German invasion of Norway on April 9. Inspired rumors of a German attack upon Hungary led the government on April 20 to take military precautions and many members of the British and French colonies left Budapest for nearby countries. The official Hungarian news agency on May 8 announced that the Reich had asked for the right to send troops through Hungary, and subsequent Axis reports indicated that this right had been granted. The German victories in the Low Countries and Northern France in May and June, Italy's entrance into the war, and simultaneous Russian troop concentrations along the Rumanian and Hungarian frontiers further restricted Hungary's efforts to follow a semi-independent foreign policy.

When Soviet troops seized Rumania's eastern provinces of Bessarabia and Northern Bukovina at the end of June, the Budapest Government with difficulty resisted Hungarian demands for the immediate seizure of Transylvania and the other former Hungarian territories in Rumania. However the Teleki Government followed Axis orders in return for assurances that Hungary's claims would receive satisfaction. These claims were laid before Reichsfuehrer Hitler and Foreign Minister Ciano of Italy at Munich on July 10 by Premier Teleki and Foreign Minister Csaky. Immediately afterwards the Hungarian Government announced that it would join the Rome-Berlin alliance.

**Axis Arbitral Award on Transylvania.** Early in August Germany and Italy ordered the new pro-Nazi regime in Rumania to negotiate a territorial settlement with Hungary. The negotiations were opened at Turnu Severin in Rumania on August 16 but soon became deadlocked. Incidents flared up along the disputed frontier, where both sides had concentrated troops. The Axis powers intervened on August 26 to prevent war. Hungarian and Rumanian delegates were called to Vienna,

where they agreed to a settlement of their dispute by the German and Italian Foreign Ministers.

The "arbitral award" issued on August 30 gave Hungary the northern half of Transylvania (see map under Rumania) with a population of about 2,370,000 (Hungarian figure), of whom an estimated 1,154,000 were Rumanians. Germany and Italy guaranteed the new frontier against further Hungarian revisionist aspirations, which included additional parts of Transylvania and the Rumanian Banat. Exact delimitation of the new frontier was left to a Rumanian-Hungarian commission. The Rumanians undertook to move their troops out of the ceded territory within two weeks and hand it over "in orderly condition." Rumanians within the ceded area automatically became Hungarian subjects unless they decided within six months of the award to retain Rumanian nationality. In that case they were given an additional 12 months to move into Rumania, they were authorized to take all their movable property with them and were to be compensated by Hungary in a "broad-minded and conciliatory fashion" for immovable property. The same provisions were to apply to some 375,000 Magyars remaining within the new boundaries of Rumania.

The award stipulated that Rumanians in the ceded territory deciding to become Hungarian subjects were to enjoy "the same rights" as Hungarians, and that Hungarians opting for Rumanian citizenship were to receive the same treatment. Questions arising under the award were to be settled directly by Rumania and Hungary, unless this proved impossible, in which case Germany and Italy would again decide.

**Hungarian-Rumanian Relations.** The new Transylvanian frontier, disregarding ethnic and economic considerations, was drawn mainly with strategic factors in mind. It carried Hungary's boundary eastward to the crest of the Carpathians, the great natural barrier obstructing a possible Soviet invasion of the central Danubian plain. The Hungarian army was thus enlisted in Axis plans for checkmating the Soviet Union while the struggle with Britain was fought to its conclusion. The occupation of the ceded territory by Hungarian troops was carried out between September 5 and 13. Admiral Horthy led the troops into some of the principal cities and towns. They were greeted with wild enthusiasm by Hungarian residents, while the Rumanian inhabitants displayed sullen resentment. Minor clashes between Hungarian civilians and the withdrawing Rumanian troops were reported. An attempt by the Rumanian Peasant Party leader, Iuliu Maniu, to obtain a Rumanian-Hungarian agreement for the establishment of an autonomous Transylvania that would preserve the economic and political unity of the historic province was rejected by the Hungarian leaders.

Charges and counter-charges by Hungarians and Rumanians against the alleged mistreatment of each other's nationals in the ceded territory and in Rumania proper forced the Axis powers to send another arbitration board to the region in mid-October. Hungarian-Rumanian relations grew steadily worse, however. The Rumanian press and radio at the year's end reflected a determination to regain the ceded districts at the first opportunity while the Hungarians awaited a turn of the European War that would enable them to fulfill their slogan of "everything back," meaning all of the territories ceded in 1920.



Meanwhile the incorporation of Northern Transylvania into Hungary was unanimously approved by the Lower Chamber in Budapest on October 3. The bill provided for the election of 63 Transylvanian deputies to the Lower Chamber and the appointment by the Regent of 10 Transylvanians to the Hungarian Upper Chamber. Civil administration replaced martial law throughout the ceded area on November 3.

**Expansion of German Influence.** The arbitrary award of the Axis was followed by an immediate increase in German influence in Hungary. German troops were reported to have entered Hungary at the beginning of September and by the end of the year large-scale movements of German troops into Rumania via Hungary were in progress. Other German troop concentrations appeared in Southern Hungary on the Yugoslav frontier. The Germans also lost no time in gaining control of traffic on the Danube River. The International Danubian Commission, established under the Versailles Treaty, was abolished at a conference of the Danubian powers held in Vienna the second week in September. In its place was set up a "consultative committee" under a permanent German director, who was authorized to convene and adjourn the committee, composed of delegates from Italy, Hungary, Bulgaria, Yugoslavia, Rumania, and Slovakia.

Hungary's formal entrance as a minor partner of the German-Italian-Japanese alliance signed at Berlin on September 27 took place in Vienna on November 20. Article II of the protocol signed by Foreign Minister Csaky, the German and Italian Foreign Ministers and the Japanese Ambassador to Berlin read: "In so far as the joint technical commission provided for in Article IV (of the Three-Power Pact) deals with questions that touch Hungary's interests, representatives of Hungary will participate in the commission's consultations." On December 30, as though in co-operation with German military and diplomatic maneuvers in the Balkans, Hungary began to call men to the colors.

German experts were by that time guiding Hungarian economic policies. German technicians were reported to be supervising operations on the main Hungarian railway lines. And German propagandists were busily engaged in strengthening pro-Nazi elements within Hungary. It was believed that Regent Horthy and Premier Teleki were still withholding the full co-operation demanded by Hitler, and that he was scheming to replace them with more amenable Hungarian leaders.

**Friendship Pact with Yugoslavia.** Some observers reported that the pact of "constant peace and perpetual friendship" signed by the Hungarian and Yugoslav Foreign Ministers at Belgrade on December 12 was a move to form a common front against the growing German pressure. Others believed that Hungary acted as the intermediary of Berlin in attempting to bring Yugoslavia into the Axis. The pact pledged the two governments "to consult each other on all questions which they believe could affect their mutual relationship." See YUGOSLAVIA under *History*.

**Internal Divisions.** The government's pro-Axis foreign policy found wider support following the German victories in the Low Countries and France. On May 31 Foreign Minister Csaky expressed hope that these victories would lead to an early peace that would spare the Danube basin from war. On June 10, when Italy entered the

war, World War veterans demonstrated in Budapest, demanding support of the Axis even at the risk of war. At the same time the government reaffirmed Hungary's non-belligerency, favoring Italy and Germany, as against strict neutrality. The French capitulation was greeted with rejoicing, Premier Teleki declaring that the German victory was for Hungary a hope for the future, ending 20 years of humiliation.

As German control tightened, however, there were evidences of mounting discontent with the government's pro-Axis policy. General resentment was expressed at the heavy shipments of foodstuffs to the Reich, which were facilitated by the establishment of government control over the cereal and vegetable crops on September 20. Crops were small due to a severe winter and heavy spring floods. Count Csaky, telling Parliament on November 13 that the government's policy was designed to keep Hungary out of war, emphasized that Hungary's friendship for the Axis "does not mean that we will relinquish national independence or national consciousness."

Replying to criticisms of the signing of the Axis alliance pact, Count Csaky asserted that it was imperative for Hungary to obtain a privileged position at the conference table after the Axis had won the war. However Count Stephen Bethlen and other influential statesmen were reported to have expressed disbelief in an Axis victory before the Foreign Affairs Committees of the Hungarian Parliament. Opposition to close association with the Axis also came from some clerical and legitimist circles in Hungary. In December Cardinal Seregi in a Budapest speech attacked the racial legislation of the Axis powers.

**Political Trends.** The pressure of the totalitarian powers and of European events was reflected also in Hungarian party shifts and trends. The Social Democratic party on January 24 formally abandoned the doctrine of class warfare in favor of a purely nationalist platform. There was constant warfare, accompanied by outbreaks of political terrorism, between different factions of the Arrow Cross (Nazi) movement and between the Nazis and the government. The parliamentary immunity of a Nazi deputy, Ludwig Gruber, accused of terrorism and blackmail, was revoked on March 6 to permit his arrest.

Responding to charges of persecution leveled at the government by a Nazi deputy on April 24, Premier Teleki said the police had uncovered a widespread criminal plot affecting municipal works and the State railways and had acted to maintain public order. Kálmán Hubay, parliamentary leader of the Arrow Cross party, and one of his chief assistants were ousted as members of the Lower Chamber on July 22 for proposing full autonomous rights for the minorities in Hungary. The government and Magyars generally took the position that the proposal was designed to further Hungary's disintegration.

Following the return of Transylvania, the government moderated its anti-Nazi internal policies. Maj. Ferenc Szalasi, leader of the Arrow Cross party, was released from prison after serving two years for high treason. On September 29 his party absorbed the United Hungarian National Socialist party, which previously had united with various other small Nazi groups. This placed virtually all of the Nazis in Hungary under Major Szalasi's direction. Simultaneously the government acquiesced in a new anti-Semitic campaign. More than



70,000 Jews were placed in concentration camps, allegedly for labor service (see **Jews**). The German minority in Hungary, already Nazified, was given a privileged status. And in many other ways, such as in application of the censorship, the Budapest government displayed increasing subservience to Berlin.

The Minister of the Interior on November 8 revealed a Nazi plot to kidnap Regent Horthy, overthrow the government, and name Major Szalasi as Premier. After large-scale raids on Nazi quarters that uncovered large numbers of hand grenades and rifles, a score of Arrow Cross members were charged with participation in the conspiracy and on December 21 16 of them, including one deputy, were convicted and sentenced to prison. At the year's end another group of 24 Nazi conspirators were awaiting trial on a charge of planning to assassinate the Minister of Interior as a signal for widespread sabotage and violence.

Meanwhile a section of the government party led by former Premier Béla Imrédy had displayed increasingly pro-Nazi tendencies. On April 16 Premier Teleki threatened to dissolve Parliament if members of his party joined the opposition. On October 4 Imrédy resigned from the Party of Hungarian Life and with apparent German support sought to lay the groundwork for a new government that would work in closer co-operation with Berlin.

In line with these political trends was the progressive curtailment of civil liberties. There was a country-wide roundup of some 200 suspected Communists and "fifth columnists" on May 18. Stricter government regulation of all forms of communication with foreign countries went into effect June 6. On June 14 men of military age were forbidden to leave the country without permission. Foreign correspondents in Hungary were warned by the Foreign Office Press Bureau on August 2 against sending out news unfavorable to Germany, Italy, or to "known political principles and policies of the Axis." A few days later an American correspondent was expelled from the country on the ground that the Berlin Government had complained about his dispatches from Budapest. The extraordinary powers granted the government by Parliament at the outbreak of the European War were extended until May 2, 1941, by a decree published December 29.

**Debt Payments.** Hungary made partial payments on the war debt installments due the U.S. Government on June 15 and December 15 (see **REPARATIONS AND WAR DEBTS**), but on October 15 the government suspended the transfer of interest payments on its other foreign debts.

See **GERMANY, ITALY, RUMANIA, under History; COMMUNISM; INDUSTRIAL CHEMISTRY.**

**HUNTING.** See **FISH AND WILDLIFE SERVICE**  
**HUPEH.** See **CHINA** under *Area and Population*.

**HURRICANES.** The word hurricane has two meanings, one refers to storms of tropical origin (and specifically such storms in the North Atlantic Ocean), the other refers to any wind that attains a velocity exceeding 75 miles per hour. Not every storm of tropical origin has winds associated with it which exceed a speed of 75 miles per hour; those storms of tropical origin which do have winds this strong are usually referred to by saying that they reached full hurricane intensity. The hurricane season of 1940 was normal in most respects. There were eight disturbances of tropical origin charted

over the North Atlantic Ocean, including the Caribbean Sea and the Gulf of Mexico; four of these reached full hurricane intensity. The average number of such cyclones observed annually, based on records for the past 54 years, is about seven, of which three or four usually attain full hurricane force. In 1940, one hurricane was observed in May, three in August, and two each in September and October. Those of full hurricane intensity were the three in August and the first one in September.

There were two barometric pressure records established, the first at the Weather Bureau Office, Port Arthur, Tex., during the hurricane of August 2-10 by a reading of 28.87 inches which is considerably lower than the previous low reading of 29.37 inches on Oct. 16, 1923; the second at the Savannah, Ga., Weather Bureau, during the hurricane of August 5-17 by a reading of 28.78 inches.

The most destructive of the hurricanes was the one of August 5-17. The weather charts on the morning of August 5 showed some indications of a slight disturbance centered between St. Martin and St. Thomas Islands. This was the first evidence of the storm. Severe squalls of 44 miles an hour were recorded later that morning at San Juan. By 6 p.m. this depression was located a short distance north of Mona Passage, having moved rapidly in a west-northwest direction during the preceding ten hours. The Dutch motor vessel *Pygmalion*, near latitude 20° and longitude 66° reported fresh easterly gales and a barometer reading 29.90 inches at 5 p.m. On August 6 the center passed a short distance to the south of Turks Island at noon with a barometer reading of 29.63 inches. During the next three days the storm showed little tendency to increase in intensity as it moved northward. The first indications that this storm had reached full hurricane intensity were received from the American ship *Maine* which gave her position at noon as approximately latitude 32° and longitude 77°. The ship met east-southeast winds of force ten early on that day, and the wind increased to full hurricane force at 4 p.m. At this time there was a very high and rough sea, a large heavy swell and poor visibility. This hurricane crossed the coast at 4 p.m. on August 11, its center passed just north of Savannah, Ga., between 5 and 6 p.m. on this day. Winds of hurricane force were experienced all along the coast between Savannah and Charleston. Tides were very high north of the center, Charleston, S.C., recorded 10.7 feet above mean low tide. The total property damage along the coast resulting from this hurricane was estimated at \$3,000,000, perhaps 20 persons lost their lives as a result of it. As the hurricane passed inland it diminished in intensity, though it continued to cause very heavy rains which in turn produced record-breaking floods. The storm recurved after it passed inland and as it continued to diminish in severity its positive identity was lost on August 17.

The hurricane of August 5-17 was the second one in August. The first one in August also caused damage to property when it crossed the coast line near the Texas-Louisiana boundary. The other two storms which reached full hurricane intensity did not cause property damage, due to the fact that during their maximum intensity they did not cross any coast lines.

Storms of tropical origin also occur over the (North and South) Indian Ocean and over the (North and South) Pacific Ocean. During 1940

there were 25 typhoons, or storms of tropical origin, observed over the North Pacific Ocean.

RICHMOND T. ZOCH.

### HYDROPONICS (Soil-less Agriculture).

See BOTANY.

ICC. See INTERSTATE COMMERCE COMMISSION.

**ICELAND.** An island state situated 190 miles east of Greenland, its northernmost shores touching the Arctic Circle. Area, 39,709 square miles; population (Jan. 1, 1939), 118,888. Chief towns: Reykjavik (capital), 37,366 inhabitants in 1939; Akureyri, 4930; Hafnarfjordur, 3652; Vestmannaeyjar, 3506. Births in 1938 numbered 2326; deaths, 1204; marriages, 644. Elementary education is compulsory and there is virtually no illiteracy. Reykjavik has a university.

**Production and Trade.** Fishing is the chief industry. Potatoes, turnips, and hay are the principal crops. Sheep raising is important. Imports in 1939 totaled 61,151,000 crowns (krónur); exports, 69,654,000 crowns, including 142,000 tons of sea products valued at 53,000,000 crowns (crown averaged about \$0.20 in 1939). Wool, frozen mutton and sheepskins are other exports. Livestock in 1938: 592,000 sheep, 49,000 horses, 37,000 cattle.

**Finance.** Budget estimates for 1940 were: Revenues, 18,594,830 crowns, expenditures, 17,857,448. The public debt on Dec. 31, 1938, totaled 47,161,000 crowns. The crown was devalued by 18 per cent on Apr. 5, 1939, and again by 11 per cent in September, 1939; in 1940 it equalled 15.5 United States cents at par.

**Communications.** There are no railways. Highways extended 2984 miles in 1939. The local air line carried 1100 passengers and 5328 lb of mail in 1938-39. Including fishing boats, the merchant fleet in 1939 comprised 638 ships of 43,080 gross tons.

**Government.** The Constitution of May 18, 1920 (amended in 1934) provides for a constitutional monarchy. The King exercises executive power through a responsible cabinet. Legislative power rests conjointly with the King and the Althing, the oldest parliament in the world, established 930 A.D. The Althing consists of 49 members elected by the people. One-third of its members are elected to the upper chamber by the whole Althing; the other two-thirds form the lower chamber. Ruler in 1940, King Christian X of Iceland and Denmark. Prime Minister, Hermann Jónasson (Progressive), appointed July 29, 1934. In 1940 his government represented a coalition of all parties except the Communist party, which had three members in Parliament.

Iceland was acknowledged by the Act of Union of Nov. 30, 1918, to be an independent, sovereign state having a personal union with Denmark through a common king. This treaty expires in 1943, when it may be denounced by either Iceland or Denmark. In 1938 the Althing voted to terminate the union with Denmark upon expiration of the treaty, and a popular referendum was to have been held on this issue during 1940 (see under History).

**History.** The referendum to determine Iceland's future relationship with Denmark (see above) was interrupted by the German military occupation of Denmark on Apr. 9, 1940. On May 10 the Althing passed two resolutions entrusting the Government of Iceland with the Royal power given to the King under the Constitution and authorizing the government to assume com-

plete charge of Iceland's foreign affairs, controlled by Denmark under the Act of Union.

On April 16 the State Department at Washington announced receipt of a telegram from Iceland's Prime Minister stating that his government was anxious to establish direct diplomatic relations with the United States. The appointment of a consul general of Iceland in New York and of an American consul in Reykjavik was provisionally recognized by an exchange of telegrams between the two governments on April 23-24. Meanwhile the Icelandic Government had proposed the establishment of direct diplomatic relations with Great Britain. Britain complied by recognizing the Icelandic secretary at the Danish Legation in London as chargé d'affaires and agreeing to name Charles Howard Smith, former British Minister at Copenhagen, as Minister to Iceland.

The British Minister arrived in Iceland on May 10, accompanied by a British armed force of unstated size which occupied the island. The British Government announced that the military occupation was undertaken to forestall "a sudden German descent on Iceland." The British communiqué issued May 10 stated in part:

His Majesty's Government have given explicit guarantees to the Icelandic Government that this force has been landed to insure the security of Iceland against a German invasion and that any further measures that may have to be taken will be designed for that purpose. This force will be withdrawn upon the conclusion of hostilities.

His Majesty's Government have made it plain to the Icelandic Government that they have no intention or desire to interfere with the existing administration of the island, further, that they are prepared at once to negotiate with the Icelandic Government an agreement on trade matters which it anticipated will bring material advantages to the inhabitants.

British officials asserted there was reason to fear a German seizure of Iceland with the aid of Nazis planted on the island previous to the European War. A number of German expeditions had visited Iceland shortly before the outbreak of the conflict, ostensibly for scientific investigations, and the British contended that there were many more than the normal quota of Germans in the country when the war began. Iceland was completely defenseless except for a handful of policemen. Nevertheless the government registered a formal protest against the British occupation. Before the end of 1940, it was indicated that some 60,000 British, Canadian, and Norwegian troops, with accompanying air and naval units, were occupying fortified positions in strategic points around the island. Great Britain contracted to purchase the entire fish catch and new trade channels opened with the United States enabled the islanders to obtain essential supplies of food and other commodities. The United States Government advanced Iceland a small loan for the further development of its trade.

Consult Vilhjalmur Stefansson, *Iceland: The First American Republic* (New York, 1939); P. E. Mosely, "Iceland and Greenland: An American Problem," *Foreign Affairs*, July 1940, pp 742-46. See CANADA, DENMARK, and GREAT BRITAIN, under History.

**IDAHO.** Area, 83,888 square miles (includes water, 534 square miles). Population, Apr. 1, 1940 (census), 524,873; 1930, 445,032. Boise City, the capital, had (1940) 26,130 inhabitants.

**Agriculture.** Idaho harvested, in 1940, some 2,724,000 acres of the principal crops. Tame hay, covering 995,000 acres, or about three-eighths of the harvested area, gave 2,287,000 tons; in value,

about \$14,637,000. Wheat, a close second, on 957,000 acres, grew 24,383,000 bu. (\$13,898,000); potatoes, on 124,000 acres, 32,860,000 bu. (\$9,858,000); dry beans, 113,000 acres, 1,667,000 100-lb. bags (\$3,375,000); sugar beets, 72,000 acres, 1,128,000 tons (1939's somewhat smaller crop was valued at \$4,147,000); barley, 170,000 acres, 5,950,000 bu. (\$2,380,000); dry peas, 70,000 acres, 1,120,000 bu. (\$2,016,000); oats, 138,000 acres, 5,106,000 bu. (\$1,481,000); apples for market, 2,160,000 bu. (\$1,620,000).

**Mineral Production.** Nevada's approximate 1940 production (actual 1939 figures in parentheses) of silver, lead, zinc, gold, and copper was valued at \$37,652,600 (\$29,794,144), of which silver, 17,235,000 oz. (17,222,370 oz.), accounted for \$12,256,000 (\$11,690,336); lead, 207,600,000 lb. (181,962,000 lb.), \$10,380,000 (\$8,552,214); zinc, 141,300,000 lb. (95,098,000 lb.), \$9,184,500 (\$4,945,096); gold, 145,000 oz. (116,662 oz.), \$5,075,000 (\$4,083,170); copper, 6,700,000 lb. (5,032,000 lb.), \$757,100 (\$523,328). As given by the U.S. Bureau of Mines in 1940, Idaho's production of native minerals totaled \$31,738,606 for 1938. Fully nine-tenths of this amount was ascribed to silver, lead, zinc, gold, and copper.

**Education.** For the academic year 1939-40, Idaho's inhabitants of school age (from 8 years to 18) plus 38,432 others admissible to public schools were reported to number 143,892. Enrollments of pupils in the public schools totaled, for that year, 120,987: this comprised 86,739 in elementary study and 34,248 in high school. The year's expenditures for public-school education amounted to \$11,076,151. The 3107 teachers in elementary positions and the 1406 in high schools averaged, respectively, \$939.35 and \$1273.35 in yearly pay.

**History.** At the general election on November 5 a vacancy left in the U.S. Senate by the death of William E. Borah was filled by the choice of another Republican, John Thomas, to serve the remaining four years of the unexpired term; Thomas had previously become Senator by the Governor's temporary appointment. Chase A. Clark (Dem.), Mayor of Idaho Falls, was elected Governor, defeating by 2303 plurality C. A. Bottolfsen, the Republican incumbent, who ran for re-election.

The popular vote went to Roosevelt (Dem.) for President and against Willkie (Rep.), by 127,835 to 106,555.

**Officers.** Idaho's chief officers, serving in 1940, were: Governor, C. A. Bottolfsen (Rep.), Lieutenant Governor, Donald S. Whitehead; Secretary of State, George H. Curtis; Attorney General, J. W. Taylor; Auditor, Calvin E. Wright; Treasurer, Myrtle P. Enking; Superintendent of Public Instruction, John W. Condie.

**ILLINOIS.** Area, 56,665 square miles, including 622 square miles of water but excluding the State's part of Lake Michigan. Population, April, 1940 (census), 7,897,241; 1930, 7,630,654. Population of cities (1940): Chicago, 3,396,808; Peoria, 105,087; Springfield, the capital, 75,503. The urban population—dwellers in places of 2500 or more—rose (1930-40) by 3.1 per cent, or 173,923 to 5,809,650. The rural group, rising by 4.6 per cent or 92,664, attained 2,087,591, thus more than making up loss sustained during the decade 1920-30.

**Agriculture.** Farmers in Illinois harvested 18,532,000 acres of the principal crops in 1940. The acreage of corn fell below the under-average total of 1939, and the remarkably high yield, to the acre, attained in 1939 was not repeated. On 7,551,000

acres were produced 332,244,000 bu. of corn, estimated as worth \$205,991,000 to the growers. The soy beans, though gathered from an increased acreage, did not maintain the huge production of 1939: soy beans, on 2,008,000 acres, produced in 1940, 35,140,000 bu. (value about \$24,958,000). Tame hay, oats, and wheat thus all again out-ranked soy beans: 3,399,000 acres of tame hay made 4,515,000 tons (value, \$32,960,000). Wheat, 1,782,000 acres, grew 40,155,000 bu. (\$28,108,000); oats, 3,177,000 acres, yielded an unusual crop of 152,496,000 bu. (\$45,749,000). Also important were barley, 135,000 acres, 4,928,000 bu. (\$2,267,000); potatoes, 39,000 acres, 3,549,000 bu. (\$2,804,000). Farms numbered 213,439 in 1940 and averaged 145.4 acres.

**Manufactures.** Yearly production of manufactured goods in Illinois totaled \$4,795,201,154 for 1939; \$5,304,282,629 for 1937. Other totals for 1939 (each with that for 1937 subjoined) · 12,980 (11,764) establishments employed 596,560 (668,841) persons for wages of \$750,239,085 (\$862,793,453), paid for material, etc., and contract work \$2,593,215,612 (\$2,985,246,895), and added to material, by manufacture, \$2,201,985,542 (\$2,319,035,734).

**Mineral Production.** As reckoned by the U.S. Bureau of Mines in 1940, the native minerals produced in Illinois in 1938 had a total value of \$130,155,803. Coal and petroleum furnished somewhat less than four-fifths of the whole. A trebling of the yearly value of the yield of petroleum for 1938, as against 1937, offset by far the chief part of losses in the production of coal and most of the other native minerals. The rise in petroleum yield went still faster in 1939, but leveled out in 1940, into fairly stable production that approximated 146,000,000 bbl. a year. For 1939 the output of petroleum attained 94,302,000 bbl., as against 24,075,000 for 1938 (value, \$30,100,000). Among two dozen new fields discovered in 1939 several were in so-called old territory at the eastern edge of the State; all were in its southern half. Deep production in the Devonian formation started in the Salem field in November, 1939; and the Salem pool, source of more than half the State total for the year, took rank second only to the East Texas field among the Union's producing areas.

The production of coal recovered to a total of some 46,450,000 net tons for 1939, from 41,912,000 tons (value, \$71,838,000) for 1938. Coke (not accounted a native mineral) was produced to the total of 1,884,240 net tons (1939) and 1,734,511 tons in 1938; in respective values, \$11,963,932 and \$11,706,788. Coal output (1940): 49,495,000 tons.

The production of pig iron, a great non-native mineral industry of Illinois, rose to 2,860,577 gross tons for 1939, from 1,519,572 for 1938; by value, to \$57,718,814, from \$30,899,012. The production of open-hearth steel rose to 3,292,745 gross tons (1939) from 1,950,224 (1938).

**Education.** Inhabitants of school age in Illinois (from 6 years to 21) were stated to number 1,936,806 in 1937. For the academic year 1938-39 (the latest for which the data that follow had appeared) enrollments of all pupils in public schools totaled 1,314,178: this comprised 941,707 in elementary study and 372,471 in high school. The year's expenditure for public-school education amounted to \$133,666,916, current; and with the addition of capital outlay and debt-service, \$201,362,473. Teachers numbered 48,919; their pay for the year averaged \$1682.62.

**History.** Governor Horner died on October 6 after a lingering illness that had kept him from his desk most of the time for nearly two years; he had nearly finished his eighth year in office. His last months were marked by persistent efforts on the part of Lieutenant Governor Stelle and a clique in the Legislature to supplant him on the obvious ground of his physical incapacity and thus to effect Stelle's succession. Stelle overplayed his part in the plan, proclaiming on his assumed authority, on the eve of the State primary and at the moment of Horner's summoning a special session of the Legislature, his own assumption of the Governor's office (April 8). Simultaneously he issued his own summons for the meeting of the Legislature, which Horner had just summoned. Stelle's attempted coup did not help him at the primaries on April 10. Harry B. Hershey won from him the Democratic nomination to be candidate for Governor. Meeting on April 30, the houses of the Legislature sent committees of notification to the Governor's mansion, ignoring Stelle's claims, and Stelle, tacitly dropping his pretension to the higher office, took his place as presiding officer of the Senate. The brief Legislative session dealt with several matters presented in Horner's summons, chiefly the liberalization of the provisions of the State for old-age assistance.

The Director of the State's Department of Public Works, F. L. Smith, died in a bath tub on March 9. He was at the time a defendant in a suit for an accounting of a sum that had been collected on behalf of a campaign, then being planned, for a third term for Horner. Smith had reportedly wounded himself a few days before in a suicidal attempt; the coroner's verdict ascribed his death to suicide by drowning for which, however, no sufficient rational motive appeared.

New efforts on behalf of the Chicago Drainage Canal were started by Illinois in the U.S. Supreme Court, to gain permission to draw more water from Lake Michigan, for diversion through the canal and down the Illinois River. Six other of the States bordering on the Great Lakes—Minnesota, Wisconsin, Michigan, Ohio, Pennsylvania, and New York—took steps to oppose this effort, and the increasing prospect of agreement on the part of the United States and Canada on the long-pending plan to improve the Great Lakes and the St. Lawrence as a waterway was cited in the press as unfavorable to the demands put forward by the State of Illinois.

The State Supreme Court (October 11) held unconstitutional the State's act of 1939 for wages, on public works, at prevailing rates.

**Chicago.** An agreement between Chicago and the owners and creditors of transit lines, concluded in May, subject to a popular vote of ratification, called for the reorganization of the several lines as a united system. The city undertook to give the projected company liberal terms as to the use of streets, paving, and the division of the cost and returns of the unfinished municipal subway; the new transit company was to spend \$102,000,000 in the course of eight years, for cars, structure, and other renovation. (See *RAPID TRANSIT*.) The city acquired the lands needed for expanding the Chicago Air Field to 620 acres. County Judge Jarecky, the usual arbiter of taxes in Cook County under its system of court review in advance of tax-collection, voided \$39,000,445, or about one-fifth, of the total levy for 1938, so called, set by Chicago and the other taxing units in the county.

The rate of the year's tax, for Chicago, was \$9.12 per \$100.

A man alleged to hold a controlling position in commercialized gambling in Chicago, William R. Johnson, prosecuted in Federal Court, was convicted (October 12) of evading \$1,887,864 of Federal income tax. See *FOUNDATIONS; PLANNING; RAPID TRANSIT; SEWERAGE AND SEWAGE TREATMENT; TUNNELS; WATER WORKS*.

**Elections.** The popular vote at the general election, November 5, gave Roosevelt (Dem.) 2,149,934 for President, a moderate plurality of 102,694 over the 2,047,240 for Willkie (Rep.). Republicans, none the less, gained the two chief offices in the particular bestowal of the State: Dwight H. Green (Rep.), for Governor, with 2,197,778, defeated Harry B. Hershey (Dem.), who had 1,940,833, by 256,945; C. Wayland Brooks (Rep.), 2,045,924, for U.S. Senator, beat the incumbent, James M. Slattery (Dem.), 2,025,097, by a small margin; while 16 Republicans and 11 Democrats were elected U.S. Representatives. Elections to the Assembly produced Republican majorities of five in either house.

**Officers.** The chief officers of Illinois, serving in 1940, were: Governor, Henry Horner (Dem.), who died in office and was succeeded by the Lieutenant Governor, John Stelle; Secretary of State, Edward J. Hughes; Auditor, Edward J. Barrett; Treasurer, Louie E. Lewis; Attorney General, John E. Cassidy; Superintendent of Public Instruction, John A. Wieland.

**ILLITERACY.** See the countries under *Education*.

**IMMIGRATION AND NATURALIZATION SERVICE.** See *IMMIGRATION, EMIGRATION, AND NATURALIZATION*.

**IMMIGRATION, EMIGRATION, AND NATURALIZATION.** The Immigration and Naturalization Service of the U.S. Department of Justice administers the Federal immigration and nationality laws.

**Immigration and Emigration.** During the fiscal year which ended June 30, 1940, 70,756 persons left their homes in foreign countries and were admitted to the United States for the first time for permanent residence, a decrease of 12,242 from the 1939 total. Visitors, transients, and resident aliens returning from abroad numbering 138,032 were admitted, a decrease of 47,301, or about 25 per cent from 1939. While this does not include cruise passengers, travelers between continental United States and outlying possessions and persons habitually crossing and recrossing the international land boundaries, it is thus clear that the number of aliens being admitted into the United States from abroad is relatively small. However, unsettled international conditions have made it imperative that the qualifications and credentials of all aliens coming to the United States be examined with even more thoroughness than heretofore.

The greatest volume of movement into and out of the United States takes place across the land boundaries. During fiscal 1940 there were 50,102,398 such entries (including each individual crossing of the border by any traveling alien or United States citizen), of which 28,121,041 were by aliens and 21,981,357 were by citizens. The total number of admissions into the United States, after inspection by officers of the U.S. Immigration and Naturalization Service, was 51,822,280.

The admissions of aliens who commenced their permanent residence in the United States and the

departures of aliens for permanent residence in other countries are shown in Table I. The admissions for permanent residence from countries which are assigned quotas under the Quota Act of 1924 are shown in Table II.

TABLE I—IMMIGRANT ALIENS ADMITTED AND EMIGRANT ALIENS DEPARTED, FISCAL YEARS 1939 AND 1940, BY COUNTRIES OF LAST OR INTENDED FUTURE PERMANENT RESIDENCE

Countries	Immigrants		Emigrants	
	1939	1940	1939	1940
All countries.	82,998	70,756	26,651	21,461
Europe ..	63,138	50,454	13,770	9,143
Albania	229	152	31	21
Belgium	683	1,713	121	61
Bulgaria	129	87	36	21
Czechoslovakia	2,896	1,074	145	39
Denmark	306	250	199	140
Estonia	93	75	17	17
Finland	411	233	197	231
France	1,907	2,575	469	542
Germany and Austria	33,515	21,520	4,211	1,978
Great Britain				
England	2,739	5,850	1,639	998
Scotland	277	263	651	312
Wales	42	45	47	18
Greece	907	811	470	261
Hungary	1,348	1,902	124	136
Ireland (Eire)	1,101	749	676	322
Italy	6,570	5,302	1,829	1,534
Latvia	168	288	18	13
Lithuania	290	262	43	24
Netherlands	1,259	2,097	165	108
Northern Ireland	88	90	158	75
Norway	527	488	455	276
Poland	3,072	702	315	81
Portugal	422	448	283	448
Rumania	421	333	126	83
Soviet Union	59	40	112	114
Spain	257	259	133	447
Sweden	342	518	557	437
Switzerland	1,237	1,211	163	119
Yugoslavia	1,090	652	302	192
Other Europe	753	465	78	95
Asia	2,162	1,913	1,627	2,368
China	642	643	524	998
Japan	102	102	804	1,078
Palestine	1,066	850	62	66
Syria	207	111	42	29
Other Asia	145	207	195	197
America	17,139	17,822	8,954	8,163
Canada	10,501	10,806	965	769
Newfoundland	312	272	69	35
Mexico	2,640	2,313	5,117	4,584
West Indies	2,231	2,675	1,453	1,300
Central America	530	639	425	470
South America	915	1,115	922	1,004
Other America	10	2	3	1
Africa	218	202	101	93
Australia	159	156	66	126
New Zealand	54	51	23	36
Philippine Islands	119	137	2,090	1,516
Pacific Islands	9	21	20	16

NOTE 1.—The number of immigrants shown above as admitted include not only quota immigrants as shown in Table II but non-quota immigrants, being wives of citizens, husbands who married citizen wives prior to July 1, 1932, children of citizens, etc. It will also be noted that this table is based on the country of last residence of the immigrant. These figures do not, therefore, agree accurately with the immigration quota figures included in Table II, because the quota under which any immigrant is admitted is that of the country of his birth, not that of the country of his last residence. NOTE 2.—Immigrants admitted from the "barred zone" of Asia are mainly persons of the white race.

The number of aliens debarred at ports of entry during 1940 was 5300. Of these 3127 were not permitted to enter because they were without valid consular visas, and 1296 were refused entry because they were likely to become public charges.

**Repatriations and Deportations.** The Immigration and Naturalization Service is authorized to remove to other countries at government expense aliens who have fallen into distress or need public aid from causes arising after their entry and who want to be so removed. Such aliens may not be

re-admitted except upon the approval of the Secretary of State and the Attorney General. Under these provisions, 1575 applications were received during the fiscal year 1940. Of these 1475 were granted and 1151 aliens were so repatriated.

TABLE II—ANNUAL QUOTAS ALLOTTED UNDER 1924 ACT, AND QUOTA IMMIGRANTS ADMITTED, FISCAL YEARS 1939 AND 1940, BY COUNTRIES OR REGION OF BIRTH AND SEX

Nationality or country of birth	Annual quota	Quota immigrants admitted in	
		1939	1940
All countries	153,774	62,402	51,997
Albania	100	97	88
Belgium	1,304	307	441
Bulgaria	100	105	92
Czechoslovakia	2,874	2,176	1,979
Danzig, Free City of	100	177	100
Denmark	1,181	282	255
Estonia	116	107	98
Finland	569	461	282
France	3,086	817	741
Germany and Austria	27,370	32,759	26,083
Great Britain and N. Ireland			
England		2,096	1,974
Northern Ireland		154	134
Scotland	65,721	506	488
Wales		72	42
Greece	307	381	346
Hungary	869	1,087	1,432
Ireland (Eire)	17,853	1,418	966
Italy	5,802	4,155	3,905
Latvia	236	223	184
Lithuania	386	365	294
Luxemburg	100	24	24
Netherlands	3,153	637	1,093
Norway	2,377	465	456
Poland	6,524	6,512	4,354
Portugal	440	404	417
Rumania	377	499	469
Soviet Union	2,712	1,727	1,614
Spain	252	253	225
Sweden	3,314	324	411
Switzerland	1,707	605	617
Yugoslavia	845	850	651
Other Europe	500*	193	175
Asia	1,649*	835	797
American colonies		419	374
Other quota regions	1,850*	370	396
Sex Male		31,699	26,463
Female		30,703	25,534

\* Includes aliens to whom visas were issued during the latter part of the preceding year which were charged to the quota for that year.

\* Quota for colonies, dependencies, or protectorates included with allotment for the European country to which they belong.

During the fiscal year, 6954 aliens were deported under warrants of deportation, and 8594 deportable aliens were allowed to depart at their own expense without warrants of deportation. The total of enforced departures was thus 15,548, as compared with 17,792 during the previous year. The use of more effective methods in preventing illegal entry and the present impossibility of obtaining transportation for aliens deportable to many European countries are among the reasons for this decrease. The principal classes of aliens deported under warrants were, in order, "entered without valid visa," "criminals," "previously debarred or deported," and "remained longer than authorized." Over half of the aliens deported, or 3902, were returned to Mexico; 1503 were returned to Canada; 228 to Italy; and 202 to Great Britain and Northern Ireland.

**The Border Patrol.** Unsettled international conditions always have an effect upon the problems of the Border Patrol. Consequently, assisted by increased appropriations, the equipment and personnel of the Border Patrol is being enlarged. An act of Congress on June 27, 1940, appropriated \$2,000,000 to provide for adding 769 persons to the Border Patrol force, increasing the number of patrol cars from 309 to 500, and for adding a number of

autogiros, more radio equipment, water craft, horses, firearms, and other accessories.

During the fiscal year, officers of the Border Patrol patrolled 7,895,348 miles and questioned 987,274 persons. Criminal prosecutions totalling 2846 resulted from Border Patrol apprehensions of persons for violation of the immigration laws. These were disposed of by 2766 convictions and but 80 acquittals and dismissals.

**Naturalization.** The desire of aliens to become citizens of the United States continued with increasing intensity. In the fiscal year 1940, 203,536 declarations of intention were filed, as compared with 155,691 in 1939 and 150,673 in 1938. Petitions for naturalization numbered 278,028 (213,413 in 1939 and 175,413 in 1938) and certificates of naturalization issued, 235,260 (188,813 and 162,078).

The nations to which aliens admitted to citizenship during the fiscal year, 1940, formerly owed allegiance were: British Empire, 59,680; Italy, 37,357; Poland, 26,964; Germany, 25,802; Soviet Russia, 15,598; Czechoslovakia, 9059; Yugoslavia, 6908; Hungary, 6291; Sweden, 5746; Greece, 4378; all other countries, 37,477.

Among the causes of these increases were the Congressional barring of aliens from WPA employment and the refusal of some States to grant them old-age benefits, the increasing attractiveness of United States citizenship because of international conditions, and the enactment of the "Alien Registration Act, 1940," which requires aliens to register and be fingerprinted.

**New Legislation.** Of the numerous proposals advanced in Congress affecting aliens, several of importance were enacted into law.

Under the Act of Mar. 2, 1929, an alien of good moral character not ineligible to citizenship and not subject to deportation who entered the United States before June 3, 1921, but in whose case there is no record of admission for permanent residence, is permitted to apply to the Immigration and Naturalization Service to create a valid record of entry for immigration and naturalization purposes. By the Act of Aug. 7, 1939, Congress extended this privilege to aliens who had entered the United States before July 1, 1924. The result was that there were 31,565 applications for the creation of such records during 1940, more than double the number received in 1939. Each of these requires thorough investigation to determine whether or not the alien is entitled to have such a record created.

The President's Reorganization Plan No. V, approved June 4, 1940, transferred the Immigration and Naturalization Service from the Department of Labor to the Department of Justice. International conditions had emphasized the need for closer scrutiny and control of the alien population. It was thought that this could be accomplished more easily if the Service were more completely co-ordinated with the police functions of the Department of Justice.

The Alien Registration Act, 1940, approved on June 28, 1940, requires that a record be made and kept of aliens in the United States (including Alaska, Hawaii, Puerto Rico, and the Virgin Islands) and adds to the classes of aliens who are subject to deportation. Under its provisions, aliens are to be registered and fingerprinted when they apply for their visas at the offices of United States consuls abroad. Those aliens who were in the United States sixty days after the passage of the Act were required to be registered and finger-

printed before Dec. 27, 1940. Other aliens who remain in the United States thirty days or longer must apply for registration and fingerprinting within such period. Alien children less than 14 years of age are to be registered through the parent or legal guardian. When they reach the age of 14 years, they themselves must within thirty days thereafter apply for registration and fingerprinting. Foreign government officials and their families are exempt from the requirements to be registered and fingerprinted.

The information required in registration includes data relating to the alien's name, address, date and place of birth, citizenship, personal characteristics, date and other facts concerning the arrival in the United States, length of time in the United States, activities in which engaged including those of a subversive nature, military service, naturalization status, relatives in the United States, and criminal record, if any.

Aliens must also report changes in their addresses. Every alien resident who changes his residence is required to report the change within five days to the Immigration and Naturalization Service. All other aliens not permanently residing in the United States who have been registered must notify the Service of their addresses at the end of each three months of stay in the United States. Parents or legal guardians are to give notices of changes of addresses of aliens less than 14 years of age.

Registration of aliens took place at all first and second class post offices and at post offices in all county seats. The total number of aliens who registered, including those who registered in the Territories and consular offices, and alien seamen, was approximately 4,900,000.

The Alien Registration Act also specifies deportation for aliens who have been convicted of unlawfully possessing or carrying automatic weapons or sawed-off shotguns, or who smuggle other aliens into the United States for gain, or who are convicted of subversive activities. The applicability, in relation to the deportation of all alien violators, of the Narcotic Act of Feb. 18, 1931, and of the Act of Oct. 16, 1918, relating to anarchistic and other subversive activities, was also enlarged.

In the same Act, the Attorney General was given a measure of discretion in suspending deportation in certain classes of worthy cases where, among other things, (1) the alien is of good moral character, (2) he is not ineligible to naturalization, and (3) such deportation would result in serious economic hardship to a citizen or legally resident alien who is the spouse, parent, or minor child of the alien. If the Congress does not disapprove this suspension of deportation, the stay may be made final, the proceedings canceled, and if no record of entry for permanent admission exists one may be created upon the payment of a fee of \$18.

The Act of July 1, 1940, which amended the Quota Act of 1924, removed some of the immunities of government officials, and their families, attendants, servants, and employees. Such an official must now be "an accredited official of a foreign government recognized by the Government of the United States." Moreover, he and his family are now required to maintain the status under which they were admitted. However, such aliens may not be required to depart from the United States without the approval of the Secretary of State.

A significant improvement in the law relating to nationality was accomplished through the enactment of the Nationality Act of 1940, approved

Oct. 14, 1940. This act repeals other acts dealing with naturalization, citizenship, and expatriation and substitutes an orderly codification of their provisions, plus amendments to the former laws where experience had shown them to be weak or vague. Among the changes in the nationality law which were brought about through the enactment of this code are the following:

1. The requirements for the naturalization of persons who have served with the military forces of the United States have been simplified and the necessary proof standardized.

2. More rigid provisions have been included prohibiting the naturalization of persons who are or have been members of anarchistic or other subversive groups or who have believed in or advocated subversive doctrines or sabotage within 10 years of filing a petition for naturalization.

3. More than 100 criminal offenses against the nationality laws, which carry with them penalties up to a maximum of \$5000 or five years in prison or both, have been clearly stated.

4. A number of additional ways in which a person may lose United States nationality have been included.

5. Provision has been made for the termination of dual nationality, unless the person affected returns to the United States and takes up permanent residence within two years of attaining majority as a demonstration of election to retain United States citizenship.

6. Children born in a foreign country must be less than 18 years of age to acquire citizenship through parentage, and, if only one parent is a citizen at the time of the child's birth, the citizen parent must have resided in the United States preceding the child's birth for at least 10 years, five of which must have been after reaching the age of 16 years.

7. The practice of designating naturalization examiners to conduct preliminary hearings in naturalization cases and to make recommendations to the courts has been extended to the State courts, having been confined previously to the Federal courts.

8. Authority is granted to the head of the Immigration and Naturalization Service to determine the scope and nature of the examination to be given to petitioners for naturalization.

LEMUEL B. SCHOFIELD.

**IMPORTS.** See **TRADE, FOREIGN** and articles there referred to. For import quotas, see **CUSTOMS, BURFAU OF**.

**INCINERATION.** See **GARBAGE AND REFUSE DISPOSAL**.

**INDIA.** A dependency of the British Empire, consisting of British India, or the territories subject to British law, and the Indian States, ruled by native princes but under the indirect control of the British Parliament. Capital, New Delhi. Summer seat of government (April to October), Simla.

**Area and Population.** The total population of British India and the Indian States under British control (except Burma) was officially estimated at 365,900,000 on Jan. 1, 1939. The area and population of the British (governors') provinces and of the Indian States and Agencies at the 1931 census are shown in the accompanying table.

Registered births in the British provinces in 1938 numbered 9,398,011 (34.1 per 1000), deaths, 6,685,120 (24.3 per 1000). Populations of the chief cities at the 1931 census were: Calcutta, with suburbs and Howrah, 1,485,582; Bombay, 1,161,383; Madras, 647,230; Hyderabad, 466,894; Delhi (including Shahdara, New Delhi, and Cantonment), 447,442; Lahore, 429,747; Ahmedabad, 313,789; Bangalore, 306,470; Lucknow, 274,659; Amritsar, 264,840; Karachi, 263,565; Poona, 250,187; Cawnpore, 243,755; Agra, 229,764; Nagpur, 215,165; Benares, 205,315.

**Education and Religion.** The number of persons able to read and write is about 30,000,000. The number of pupils reported in attendance by 226,331 educational institutions in the academic year 1937-38 was 13,831,707. About one-half of the elementary schools were aided or maintained

by the State. Universities numbered 15 in British India. The 1931 census showed 229,195,140 Hindus; 77,677,545 Moslems; 12,786,806 Buddhists; 8,280,347 followers of tribal cults; 6,296,763 Christians; 4,335,771 Sikhs; 1,252,105 Jains; 109,752 Zoroastrians; and 24,141 Jews.

#### BRITISH PROVINCES AND INDIAN STATES— AREA AND POPULATION

	Area in sq. miles	Population, 1931
<i>British Provinces</i>		
Ajmer-Merwara	2,711	560,292
Andamans and Nicobars	3,143	29,463
Assam	67,334	9,247,857
Baluchistan	134,638	868,617
Bengal	82,955	51,087,338
Bihar and Orissa	111,702	42,329,583
Bombay (Presidency)	151,673	26,398,997
Aden	80	51,478
Burma	233,492	14,667,146
Central Provinces and Berar	111,095	17,990,937
Coorg	1,593	163,327
Delhi	573	636,246
Madras	143,870	47,193,602
Northwest Frontier Province	36,356	4,684,364
Punjab	105,020	24,018,639
United Provinces	112,191	49,614,833
<b>Total Provinces</b>	<b>1,318,346</b>	<b>289,491,241</b>
<i>Indian States and Agencies</i>		
Baroda State	8,164	2,443,007
Central India Agency	51,597	6,632,790
Cochin State	1,480	1,205,016
Gwalior State	26,367	3,523,070
Hyderabad State	82,698	14,436,148
Jammu and Kashmir States	84,516	3,646,243
Mysore State	29,326	6,537,302
Punjab States	31,241	4,472,218
Rajputana Agency	129,059	11,225,712
Sikkim	2,818	109,808
Travancore	7,625	5,095,973
Western India Agency	35,442	3,999,250
<b>Total States</b>	<b>490,133</b>	<b>63,346,537</b>
<b>Total Provinces</b>	<b>1,318,346</b>	<b>289,491,241</b>
<b>Total India</b>	<b>1,808,679</b>	<b>352,837,778</b>
<b>India without Burma</b>	<b>1,575,187</b>	<b>338,170,632</b>

NOTE.—Figures for the Provinces include those of the States attached to them except in the case of Madras, where they exclude Cochin and Travancore. Aden and Burma were separated from India, Apr. 1, 1937.

**Production.** About 71 per cent of the population is engaged in agriculture or stock-raising. Recent harvests in metric tons (in the 1939-40 season unless otherwise stated) were: Wheat, 10,093,400; rice, 38,532,000 (excluding several States); cane sugar, 2,770,000; tobacco, 495,800 (excluding most Indian States); cotton, 907,200; barley (excluding Indian States), 2,119,500 (1938-39); corn (excluding Indian States), 2,080,800 (1938-39); coffee (incomplete returns), 16,000 (1938-39); tea, 205,000 (1938-39).

Mineral production (in metric tons) in 1939 (except when otherwise specified) was: Steel (ingots and castings), 1,035,000; coal (British provinces only), 25,044,000; crude petroleum, 328,000; copper (smelter), 6800; iron ore, 1,790,000 (1938); pig iron, 1,785,000 (1938); manganese ore, 492,000 (1938); cement, 1,142,000 (1937). Indian mills produced about 1,159,513,000 lb. of cotton yarn in the year ending Mar. 31, 1938. Jute production in 1939 totaled 1,748,100 metric tons.

**Foreign Trade.** Merchandise imports in the calendar year 1939 totaled 1,549,600,000 rupees; exports, 1,814,400,000 rupees. In 1938, imports were 1,502,100,000 rupees; exports, 1,623,700,000 rupees. For distribution of trade see 1939 YEAR BOOK, p. 358. Also see **TRADE, FOREIGN**.

**Finance.** For the fiscal year ending Mar. 31, 1941, revenue was estimated at 926,400,000 rupees;



expenditures at 925,900,000 rupees. Actual receipts in 1939-40 totaled 943,300,000 rupees; expenditures, 877,600,000 rupees. The funded debt amounted to 4,502,300,000 rupees and £280,100,000 on Mar. 31, 1940, as compared with 4,379,200,000 rupees and £297,380,000 a year earlier. The average exchange value of the rupee was \$0.3016 in 1940 and \$0.3328 in 1939.

**Transportation.** On Mar. 31, 1939, railway mileage totaled 41,172. The State railway budget for 1940-41 estimated receipts at 1,030,000,000 rupees and expenditures at 954,600,000 rupees. In 1938-39 the tonnage of vessels which entered and cleared in the interport trade was 16,444,179 and 16,082,155 respectively. Highways in 1940 extended 319,131 miles. Under construction in 1940 was a motor highway between North-West Frontier Province and Baluchistan, to link Quetta and Peshawar. Its course runs through gorges in mountains that stand 11,000 ft. high. The principal Indian cities are connected with British, Dutch, and French air lines to the Far East and, via Hong Kong, with the American trans-Pacific service. In August, 1939, there were also nine internal air routes covering 5247 miles.

**Government.** The King of Great Britain and Northern Ireland also bears the title of Emperor of India. The Constitution, known as the Government of India Act, 1935, provided for an Indian federation and provincial autonomy. Provincial autonomy went into effect Apr. 1, 1937, when elective legislative assemblies with responsible ministries were established in the 11 Governors' Provinces under direct British rule. In October-November, 1939, the All-India Congress ministries in eight of the 11 provinces resigned and on Nov. 5, 1939, the Governor General utilized his emergency powers to restore all governing powers in these provinces to the appointive British governors (see 1939 YEAR BOOK, p. 360). Parliamentary government was retained in the other three provinces throughout 1940.

The federation scheme provided for the union under a central government of the 11 Governors' Provinces and the 584 Native States, ruled by Princes owing suzerainty to the British Crown. For different and often contradictory reasons federation was opposed by most of the politically vocal elements in India (see preceding YEAR BOOKS). Following the outbreak of the European War, the Governor General announced Sept. 11, 1939, that no further steps toward federation would be taken until peace was concluded.

In the meantime executive powers were concentrated in the hands of the Governor General, or Viceroy, who is appointed by the Crown, usually for five years, and assisted by an appointive Council, composed of high officials responsible for the various administrative departments. The Governor General also holds the separate office of Crown Representative (established Apr. 1, 1937) through which he performs the functions of the Crown in relation to the Native States. Pending the federation of the Governors' Provinces and Native States, the Governor General remains under the direction of the Secretary of State for India in the British Cabinet, and the Central Legislature of British India, established in 1921, continued in existence. The Legislature consisted of a Council of State of 32 elected and 26 nominated members (serving five years) and a Legislative Assembly of 102 elected and 39 nominated members (serving three years). The Central Legislature's actions

were not binding on the Governor General and his Cabinet.

The All-India Congress, the most powerful Indian political party, captured 57 of the 102 elective seats in the Legislative Assembly in the 1934 elections. Due to delay in putting the federation scheme into effect, the Governor General extended the life of the 1934 Legislative Assembly by four successive acts to Oct. 1, 1941. Governor General and Crown Representative, the Marquess of Linlithgow, who assumed office Apr. 18, 1936, and whose term was extended in 1940 for an additional year from April, 1941.

## HISTORY

**Political Developments.** The All-India Congress continued throughout 1940 its efforts of 1939 (see YEAR BOOK, 1939) to obtain a pledge of immediate independence from Great Britain as the price of its co-operation in the European War. This demand was opposed by the Princes of the Native States, by the All-India Moslem League, and various other groups. While making conciliatory offers, the British held to their demand for an accord between the Indian political and religious groups as a prerequisite to further self-government. When this stalemate remained unbroken, the All-India Congress, under the leadership of Mohandas Karamchad Gandhi, resorted to passive "civil disobedience" during the last quarter of the year.

Speaking at Bombay on January 11, the Viceroy renewed his offer of eventual Dominion status, but a conference between him and Gandhi on February 5 proved fruitless and on March 1 the Working Committee of the All-India Congress threatened once more to renew civil disobedience. Meanwhile on February 15 the Congress elected a Moslem, Maulana Abul Kalam Azad, as its president in an effort to heal the Hindu-Moslem breach and undermine the position of Ali Jinnah, leader of the All-India Moslem League.

**Gandhi's Leadership Endorsed.** At the annual convention of the All-India Congress held at Ramgarh in March, a serious revolt against Gandhi's moderate policies and methods was staged by the radical wing of the movement led by Subhas Chandra Bose. Bose demanded immediate violent steps to attain complete independence and the adoption of an industrialization policy for India in place of Gandhi's program for developing handicraft industries. The Bose faction was decisively defeated by Gandhi, supported by the party's "old guard," on March 18, and Gandhi thereafter assumed unquestioned control of the Congress's independence campaign. The Ramgarh convention voted him complete authority to launch non-violent civil disobedience at his discretion. On March 20 it passed a resolution rejecting any participation in the European War and demanding the immediate election of a constituent assembly by universal adult suffrage to determine India's future constitutional status.

While Gandhi began preparations for a civil disobedience campaign, the All-India Moslem League held its annual conference at Lahore. On March 23 it adopted a resolution rejecting an all-India federation and urging the union of the predominantly Moslem areas in a group of autonomous states. Jinnah declared that the All-India Congress's program meant "the complete destruction of all that is most precious in Islam" and would lead to civil war. He said Moslem India would support the



British in the European War as "our practical interests are to have Britain win."

The Moslem League's position was denounced by those Moslems affiliated with the All-India Congress. But it caused Gandhi to delay the civil disobedience campaign, and this in turn precipitated more violent attacks upon Gandhi and his followers by the extremist Bose faction of the Congress party. The Indian Government arrested the secretary-general of the Bose faction on April 12, and on April 18 official warning was given that Britain would take "full measures" to repress civil disobedience. At the same time Lord Zetland, Secretary of State for India, called for a resumption of negotiations among all of the interested groups on India's future. He said Britain was anxious to help India attain Dominion status at the earliest possible moment and recognized that the people of India should play a vital part in shaping their future, but that it could not permit the drafting of a new Constitution without its participation. Lord Zetland renewed the offer "to associate the political parties in India with the Central Government."

**Effect of European Situation.** This appeal evoked little response. The outbreak of the threatened civil disobedience campaign appeared imminent when the German invasion of the Low Countries on May 10 caused the Congress leaders to re-appraise the situation. Gandhi, Pandit Jawaharlal Nehru, and other Congress leaders declared they had no desire to embarrass Britain while she was fighting a life and death struggle with Nazi Germany, but they nevertheless insisted that the independence issue could not be postponed until after the war.

Germany's success in over-running the Netherlands, Belgium, and France was reflected in the decision of the All-India Congress working committee on June 21 to discard the principle of non-violence in dealing with internal disorder or external aggression. This decision was taken in defiance of Gandhi's views. It revealed alarm as to India's fate if Britain was defeated. On June 25 the British Government, in view of the possible severance of communications with India, authorized the Viceroy and his officials to govern India without consulting the home government.

Another conference between Gandhi and Lord Linlithgow on June 29 failed to break the stalemate. On July 2 Subhas Chandra Bose was arrested in Calcutta along with other Congress leaders following the launching of a passive resistance movement in Bengal Province to secure removal of the "Black Hole" monument. The Bengal Government on July 23 yielded to this agitation and agreed to destroy the monument. Meanwhile the All-India Congress working committee on July 7 and the executive committee on July 28 adopted resolutions offering to co-operate in Britain's war effort if the British would recognize India's right of complete independence and establish an Indian Government commanding the support of a majority of the elected members of the existing Legislative Assembly.

In reply the Viceroy and the new British Secretary of State for India, L. S. Amery, on August 8 renewed Britain's pledge of a "free and equal partnership in the British Commonwealth" after the war. They again invited representatives of the All-India Congress and other groups to join the Viceroy's Council immediately. In addition, they advanced the new proposal that a war advisory council be established immediately, com-

posed of representatives of all Indian interests, including the Native States. This offer was rejected as inadequate by the Congress working committee on August 22, although the All-India Moslem League hailed it as a "progressive advance" toward its objective.

**Civil Disobedience.** Thereafter the breach between the British Government and the All-India Congress gradually widened. Gandhi was re-elected as director of the civil disobedience campaign on September 17 with only the seven Communist members opposing him. He began to introduce passive resistance a step at a time, while insisting that no action be taken that would hinder Britain in the prosecution of the war. The conditional offer to co-operate in Britain's war effort was withdrawn. Nehru and various other Congress members were selected by Gandhi publicly to oppose Indian participation in the European conflict. They were arrested by the authorities for violation of the Defense of India regulations. The government meanwhile proceeded much more energetically against Bose's extremist faction, arresting many of the leading members. The Secretary of State for India stated before the British Parliament on November 20 that the government recognized Gandhi's right of conscientious objection, but could not grant his followers the right to urge the Indian people not to enlist, co-operate in the manufacture of munitions, or contribute to war funds.

An appeal to all Indian factions to formulate immediately a mutually acceptable plan of government that would enable India to join in the struggle against Hitler was issued December 23 by a group of British members of Parliament acquainted with Indian affairs. They asserted that the British people were "irrevocably resolved to give India full political freedom." On the same date a win-the-war movement was launched in Bombay, in opposition to the All-India Congress policy, by the former Congress premier of the Central Provinces, Dr. Narayan Bhaskar Kare, and a former Indian Communist leader, Mahendranath Roy.

**India's War Contribution.** Despite the opposition of the All-India Congress, the Indian Government proceeded to mobilize India's economic and military resources for the European war on an increasing scale. Indian troops, mostly Moslems, had been sent to Aden, Singapore, and France in 1939. During 1940 heavy reinforcements were dispatched to Egypt and Great Britain. In mid-November 60,000 were serving overseas. The British Government on March 1 announced that it would share the cost of maintaining Indian troops overseas. It advanced £34,000,000, one-fourth as a loan, to modernize the Indian Army and agreed to meet a large share of the cost of emergency war preparations, while India was expected to pay the remainder of the emergency costs and all of the normal defense costs.

Upon the German break-through on the Western Front, Sir Robert Cassels, commander-in-chief of the Indian Army, on May 31 announced that 100,000 more men would be recruited. In November it was announced that an army of 500,000 men was in process of creation. The air force was quadrupled. The land force was partly mechanized and motorized. The increased officer corps was provided largely by commissioning Indians from the ranks of the professional army. A voluntary Civic Guard for home defense duties was organized, and an air training scheme inaugurated for air force

recruits. Compulsory military service for European British subjects in India was introduced and the Viceroy was authorized to conscript British Indian subjects and industries for war purposes should it prove necessary. As in 1914-18, the native Princes made generous offers of men and money toward the British cause and some units of their State armies were incorporated in the Indian Army. The Royal Indian Navy was doubled.

Indian industry was called upon not only to supply most of the arms, munitions, and supplies for these new forces but also to supply British and Dominion forces in Egypt, Singapore, and other defense centers in the Near and Far East. A Department of Supply was established in the Central Government to co-ordinate war production. On October 25 representatives of British colonies, dependencies, and Dominions throughout the Near and Far East met in New Delhi to co-ordinate their war efforts and to increase the flow of war materials to the British Isles and to the Mediterranean fronts.

In connection with the mobilization of India's economic resources, the Indian Government during the year imposed import and export licensing systems covering a wide range of products. On April 6 a heavy tax was placed on excess business profits. Plans were announced for the construction of airplane, shipbuilding, and automobile assembly plants. War orders produced a boom in many sections of Indian industry, but rising commodity prices without increased wages provoked a number of serious strikes and riots and provided mass support for the Congress party's civil disobedience campaign. The war also eliminated markets for about 20 per cent of the country's normal export trade and new outlets had to be found.

**Other Events.** There were also a number of fatal riots between hostile religious groups during the year. A fight between rival Moslem sects at Lahore on March 19 cost 29 lives. In February and August there were new outbreaks of guerrilla warfare between tribesmen and British forces in the Waziristan sector of the Northwest-Frontier Province (see *AFGHANISTAN*). On March 13 Sir Michael Francis O'Dwyer, former Lieutenant Governor of the Punjab, was assassinated by a Sikh during a meeting in Caxton Hall in London. The prohibition law introduced in Bombay Province by the provincial legislature in 1939 was invalidated by the provincial High Court on July 3, 1940.

See *BIRTH CONTROL*; *INDUSTRIAL CHEMISTRY*; *LABOR CONDITIONS*; *GREAT BRITAIN under History*. Consult James Frederick Green, "India's Struggle for Independence," *Foreign Policy Reports*, June 1, 1940.

**INDIA, Portuguese.** See *PORTUGAL under Colonial Empire*.

**INDIANA.** Area, 36,354 square miles, including water (but not the State's part of Lake Michigan), 309,000 square miles. Population, Apr. 1, 1940 (census), 3,427,796 (1,887,712 urban and 1,540,084 rural); 1930, 3,238,503. Indianapolis, the capital, had (1940) 386,972; Fort Wayne, 118,410; Gary, 111,719; South Bend, 101,268.

**Agriculture.** Indiana harvested, in 1940, 10,048,000 acres of the principal crops; all of this but about half a million acres was in five extensive crops—corn, wheat, hay, oats, and soy beans. Corn, on 3,937,000 acres, made 145,669,000 bu. (estimated value to the farmer, \$90,315,000). Wheat, on 1,546,000 acres, grew 30,147,000 bu. (\$21,706,000); tame hay, 2,171,000 acres, 2,828,000 tons (\$21,776,000);

oats, 1,110,000 acres, 49,950,000 bu. (\$15,484,000); soy beans, still a novel and rising feature of farming, 814,000 acres, 10,989,000 bu. (\$8,791,000). A sixth crop, potatoes, on 51,000 acres, yielded 4,335,000 bu. (\$3,425,000).

**Manufacturing.** Yearly production of manufactured goods in Indiana totaled \$2,227,667,013 for 1939; \$2,497,547,946 for 1937. Other totals for 1939 (each with that for 1937 subjoined): 4338 (3939) establishments employed 277,468 (313,342) persons for wages of \$345,474,473 (\$402,116,998), paid for materials, etc., and contract work \$1,257,438,203 (\$1,478,567,753), and added to material, by manufacture, a value of \$970,228,810 (\$1,018,980,193).

**Mineral Production.** Indiana's production of native minerals, for 1938 (as published by the U.S. Bureau of Mines in 1940), totaled \$47,892,364. Coal furnished half of this total; cement, stone, and clay products, most of the remainder. Outside of the total was the important production of coke, iron, and steel, not included among the native minerals. The output of coal was 18,565,000 tons for 1940, 16,650,000 for 1939, and 14,758,484 (value, \$23,968,000) for 1938. Indiana quarried 3,782,410 short tons of stone (value, \$6,486,996) in 1938. Much of this was a fine dimension stone, oolitic limestone, used mainly for building; the yearly value of the sales of such stone rose to \$4,127,310 for 1939, from \$2,605,983 for 1938. The output of clay products (exclusive of pottery and refractories) amounted to \$4,088,658 for 1938. Emulation of Illinois and Michigan, which were developing deposits of petroleum not far over the borders, inspired much drilling in Indiana; thus 176 wells began producing in 1939; they helped raise the small yield of petroleum (995,000 bbl for 1938) to 1,443,000 bbl. for 1939. In 1940 the output of petroleum amounted to 4,843,000 bbl.

Largely or wholly apart from industry in native minerals, Indiana's output of coke, pig iron, and open-hearth steel rose, for 1939, well above the low totals of 1938; coke, to 4,878,033 net tons, from 2,904,779, and by value to \$28,532,944, from \$18,278,201; pig iron, to 2,621,268 gross tons, from 2,023,269; open-hearth steel, to 5,791,520 gross tons, from 3,435,360.

**Education.** For the academic year 1939-40 enrollment of pupils in all public schools of Indiana numbered 671,364: this comprised 461,730 in elementary study, 194,910 in high schools and 14,724 other. The year's expenditure for public-school education totaled \$69,669,356. The teachers numbered 23,252; they averaged \$1293.69 yearly pay.

**History.** The Hoosier Democratic Club, an institution that had flourished since the days of Governor McNutt, was attacked in both Federal and State proceedings. As a successful means of marshaling State employees and others, to elicit from them contributions toward the campaigning expenses of State officers, the club—nicknamed the Two Percent Club—had attracted wide notice and some imitation elsewhere. The club's mission did not suit the popular sentiment behind the Federal Hatch Act; the State itself had a Corrupt Practices Act, which forbade, among other things, some proceedings resembling those of the club; but the Legislature had, in 1937, specifically exempted it. Glenn W. Funk, a Republican candidate in Marion County, started suit in April, under the State's act, to restrain the club from further activity, and he asked a declaratory judgment voiding the exception that the Legislature had made in its favor,

This suit brought no immediate result. But the Federal Treasury, holding that funds raised through the club in a series of years should have paid income taxes, investigated the accounts of the club's treasurers and called upon several unnamed leading Democrats to make good the failure to pay income taxes to the total of about \$250,000. It was reported on May 17, in the press, that these leaders had undertaken to pay. McNutt himself was said not to have been among those thus held liable.

A political group in the State supported the proposals of the Townsend old-age pension plan; this group, combined with the adherents of Governor Townsend, attempted at the State Democratic convention (June 27) to name its own candidate for Governor, but failed to prevent the nomination of Lieut. Gov. Henry F. Schricker. In Indianapolis were started prosecutions (similar to those that had produced convictions in 1939 in Kokomo) for conspiracy to divert the services of the WPA to the alleged conspirators' own purposes. In the course of a dispute among labor unions, the Indiana and Michigan Electric Company's lines of transmission were dynamited in nine places, near South Bend; the police were reported (February 7) to have got a confession from the suspected dynamiter. See PORTS AND HARBORS.

**Elections.** The popular vote for President, at the general election, November 5, gave Willkie (Rep.), a native of the State, a small plurality over Roosevelt (Dem.). The vote was: Willkie, 899,466; Roosevelt, 874,063.

For United States Senator, Raymond E. Willis (Rep.), defeated for the same office in 1938, was elected over Sherman Minton, the Democratic incumbent, by 888,070 to 864,803. For Governor, Henry F. Schricker (Dem.) defeated Glen R. Hillis (Rep.), by 889,620 to 885,657.

The State Election Board excluded from the ballot the Communist and Greenback candidates.

**Officers.** Indiana's chief officers, serving in 1940, were: Governor, M. Clifford Townsend (Dem.); Lieutenant Governor, Henry F. Schricker; Secretary of State, James M. Tucker; Auditor, Frank G. Thompson; Treasurer, Joseph M. Robertson; Attorney General, Omer Stokes Jackson (died) and Samuel D. Jackson (successor); Superintendent of Public Instruction, Floyd I. McMurray.

**INDIAN AFFAIRS, Office of.** The Office of Indian Affairs (created in 1824) is the agency of the Federal Government which administers matters relating to Indians. It has jurisdiction over 361,816 Indians in continental United States and 32,000 Indians, Eskimos, and Aleuts in the Territory of Alaska. The Federal Government does not provide pensions for Indians as is widely believed, but it does provide certain welfare services and exercises certain supervision over their resources.

These services originated as protection for the white man, and constituted partial compensation to the Indian for land cessions. They have continued because of the special relationship of the Indian to the Federal Government, and the consequent unwillingness of local governments to provide essential public services. The Constitution of the United States gives to the Congress the power to regulate "commerce . . . with the Indian tribes," and the authority to raise and spend money "for the general welfare." In addition it vests in the President and the Senate the power to make treaties and in the Congress the power to implement such treaties by legislation and appropriations. It

is principally from these sources and from numerous court decisions based upon them that the peculiar relationship of the Federal Government to the Indians has arisen. Subject to certain exceptions Indians are considered wards of the Federal Government and it exercises extensive powers over matters affecting their welfare.

Until 1871 the United States treated the Indian tribes as sovereign but dependent nations and dealt with them through treaties. These treaties were negotiated primarily to protect the white man and to secure land for him from the Indians. The United States generally offered money and usually promised to provide education and health facilities, and other services. The money—of little use to the Indians—was placed in trust for them in the Treasury of the United States, and expended for their welfare. As these funds became depleted Congress began to appropriate funds gratuitously with which to continue the welfare services already begun. For the fiscal year 1940 these gratuity appropriations amounted to \$34,755,777 and were designated for education, health, agricultural extension work, the construction and operation of irrigation facilities, forestry and grazing, land purchases, organization of tribal self-government, and similar services.

Livestock farming is perhaps the major occupation of Indians. Here the co-operative movement—nothing new to Indian tribes—is making rapid headway. On Jan. 1, 1940, there were 150 Indian livestock associations. Forestry is another major occupation of Indians. In the northwest states, in portions of Arizona and New Mexico, and in Minnesota and Wisconsin, Indians own and operate large stands of commercial timber. Other Indians are farmers. The Pimas in southern Arizona were doing irrigated farming when the Spaniards first found them. Others, especially in the Northwest and in Alaska, derive their livelihood from fishing. There are several co-operative salmon canneries among the Indians in Alaskan communities.

Sickness and disease are still major problems among the Indians, especially tuberculosis, trachoma, and children's diseases. The Federal Government provides hospitals, and field nursing services to Indians under its jurisdiction. An outstanding piece of medical research in trachoma has recently been completed on the Ft. Apache Reservation in Arizona with the discovery that trachoma is definitely caused by a filterable virus. Sulfanilamide treatment is producing amazing results, lending hope that in the near future the Indians may be rid of this dread disease which for years has produced blindness and even death among them in many sections of the country.

Through the Indian Arts and Crafts Board, created by statute within the Indian Service, native arts are being more fully developed. Through co-operative arrangements with the Department of Agriculture, through the Indian branch of the CCC, and through tribal organizations, the conservation of natural resources, particularly of soil, water, and forests is being encouraged in all Indian areas.

Indians are citizens of the United States, but are not, as a rule, subject to the jurisdiction of the states in which they live. Lands held in trust for them by the United States are not subject to state and local taxation. For this reason states do not usually provide essential public services for Indians. In many instances the Federal Government secures these services from the states or local units of government by paying their costs. Consequently

more than half of all Indian children attend local public schools, their tuition being paid by the Federal Government. In areas where there are only Indians it is usually necessary for the Federal Government itself to provide these services.

The Indian population is increasing at a more rapid rate than the general population, and in many areas is tending toward racial purity rather than intermarriage.

JOHN COLLIER.

**INDO-CHINA.** The southeastern peninsula of Asia, consisting of Burma, Federated Malay States, French Indo-China, Straits Settlements, Thailand, and the Unfederated Malay States. See **BRITISH MALAYA**; **BURMA**; **FRENCH INDO-CHINA**; **THAILAND**.

**INDUSTRIAL BUILDINGS.** See **ARCHITECTURE**.

**INDUSTRIAL SAFETY.** See **ACCIDENTS**; **LABOR CONDITIONS** under *Health and Safety*; **LABOR LEGISLATION** under *Health and Safety*.

**INDUSTRY.** See **BUSINESS REVIEW**; **MANUFACTURES**, **CENSUS OF**.

**INFANTILE PARALYSIS.** See **BENEFACCTIONS** under *Warm Springs Foundation*.

**INFANT MORTALITY.** See **BIRTH CONTROL**; **CHILDREN'S BUREAU**, **VITAL STATISTICS**.

**INFLATION.** See **BANKS AND BANKING** under *Credit Control Policy*. **BOLIVIA** and **ECUADOR** under *History*.

**INFLUENZA.** See **BIOLOGICAL CHEMISTRY**; **PUBLIC HEALTH SERVICE**.

**INHERITANCE.** See **LAW** under *Succession*.

**ININI, Territory of.** See **FRENCH GUIANA**.

**INNER MONGOLIA.** See **CHINA**; **MONGOLIA**.

**INSECTS AND INSECT CONTROL.** See **ENTOMOLOGY**, **ECONOMIC**; **ZOOLOGY**.

**INSTITUTE FOR ADVANCED STUDY.** See **ADVANCED STUDY**, **INSTITUTE FOR**.

**INSURANCE. General.** No legitimate complaint regarding the treatment accorded the insurance industry during 1940 was heard in underwriting circles, nor indeed was there justification for criticism, for companies in each of the major divisions of the business—life, fire, casualty, and marine—reported increases in the amount of new writings, of indemnity in force, in total assets, and in net surplus accounts.

Despite the decrease in the market value of certain securities carried in their portfolios, a number of the fire companies, because of favorable loss records upon their writings, were able to declare extra dividends and at the same time set aside contingency reserves to take care of possible future security declines or excessive loss claims. While managing underwriters continued to speculate upon the possibility of regulation of the insurance industry by the Federal government, no definite move to that end emanated from Washington. The supervision of insurance interests by the States was never more efficient than at present and company officials would regret any change from the existing status.

A decision of great importance to the fire and casualty fraternity was that rendered by the United States Supreme Court in April, upholding the constitutionality of the Virginia law requiring that 50 per cent of the commission allowed upon business in the State, whether written by outside brokers or agents, be paid agents domiciled in the

commonwealth for countersigning policies. Even more drastic legislation was enacted in Montana, requiring as it does that local agents of the State receive full commission upon risks located in Montana regardless of where the business was written. The passage of these laws and the likelihood that similar statutes would be advocated in other States caused lively concern to company officials and to many agents as well, and resulted in a series of conferences between the two interests in an effort to agree upon a uniform resident-agency law that would protect business producers and at the same time not add to the operating costs of the carriers. Discussions as to rates of commissions upon contract and various classes of fidelity and surety bonds have been under review by managers and general agents for some time, and while a program has not yet been worked out distinct progress has been attained justifying the prediction that a graduated scale of compensation will be reached in the near future. The contention of the agents is that through the reduction in rates upon many forms of indemnity effected in recent years—a practice that continues—their incomes have steadily declined. The counter of company officials is that by virtue of rate reductions and broadening of coverages the agents can offer more attractive indemnity to clients and prospective assureds, and hence are able to earn a greater dollar return.

**War-Time Reorganizations.** As is true in most other lines of endeavor the European war has had a direct effect upon the insurance industry here, and the further development of events both in this country and abroad will be closely followed by American underwriters. As soon as the low countries of Europe were invaded by Germany, and later when Italy entered the war, the assets of such insurance companies of the conquered nations as were operating in the United States, were "frozen" under direction of the Washington authorities. To preserve their business in this country several Scandinavian companies transacting fire reinsurance, reorganized their United States branches as domestic corporations. Other companies arranged to the same end, securing New York charters prepared to transfer from the European headquarters to these shores promptly should such procedure be deemed desirable. The large percentage of foreign institutions operating in this country, however, are British, and these, so far as their business here is concerned, are practically domestic corporations; each having deposit capital and complying with regulations even more rigorous in some respects than those applicable to home organizations. While it is inconceivable that any of the British companies would want to deplete their American funds by remitting to home offices at this time, those operating in New York would be barred from sending in excess of \$50,000 from free funds during any quarter under the laws of the State. No question as to the financial strength of any of the British corporations represented here has been raised, and the insurance department of the Empire State, as well as that of several other States, has assured property-owners of that fact.

**National Defense Operations.** The associations of life, fire, casualty, surety, and marine companies have each assured the Federal government of their complete sympathy with and willingness to co-operate to the utmost in making the National defense plan effective. The National Board of Fire Underwriters, at its annual meeting in May, tendered the full service of its engineering staff to

assist in designing fire protection facilities for cantonments, war and navy construction plants, and in such other direction as might be required. Engineers of the National Board were in Washington by the close of the year working in close conjunction with Army and Navy officers. At the same time field men of the fire companies were checking with unusual care potential fire hazards in manufacturing plants, particularly those engaged in war contracts, while safety engineers of the casualty companies were performing similar service in checking the operations of machines, and in recommending use of the most efficient safety devices.

**Marine.** Naturally the first impact of the European war felt by insurance interests here concerned the marine companies. Profiting by the lessons learned during the World War marine underwriters promptly devised an effective plan for meeting the unusual calls certain to be made upon them, and at their weekly and oftentimes daily conferences, altered the original program to conform to constantly changing situations. To facilitate handling business the underwriters formed the American Cargo Marine Reinsurance Clearing House in June, through which a distribution of risks is effected. The Clearing House would also supply an avenue for excess cargo reinsurance, should demand therefor develop.

With the extension of the war area the considerable volume of cargo insurance once placed with American companies was largely lost, while shipments to Britain in the main consisted of war material, coverage of which is carried by the government of that country. This loss of business was offset in large part, however, through the increased demand for indemnity on cargo shipments to South American countries. The increase in the number of vessels lost through submarine attacks, induced the entry of many ships of an obsolete type into service, which in their journeys are often forced to leave direct and charted lanes in order to avoid danger zones, thereby prolonging the length of voyages and increasing the general marine hazard. The heavy demand for shipping facilities resulted in a substantial increase in the cost of vessel repairs, which are estimated at from 5 to 10 per cent greater than figures ruling in peace times. As an offset, the marine-writing companies have profited through the heavy calls for additional insurance and from increased values of cargoes.

Although Congress enacted the so-called Bland bill, authorizing the Maritime Commission to set up an insurance bureau for insuring or reinsuring war risks on American hulls and cargoes in the event sufficient coverage could not be secured in home companies, no call has yet been made for Government aid, for the facilities of the private companies have proved adequate to meet every demand upon them.

A gratifying gain in premiums was had from inland marine insurance during 1940, and was accompanied by a satisfactory loss ratio. The major claim under an inland marine cover was caused through the collapse of the Tacoma Narrows Bridge on November 7. The loss to underwriters will probably be determined only after extended litigation, but it will doubtless run well into the millions of dollars, and go upon record as being the worst bridge loss ever suffered by insurance companies.

A heavy and unusual loss sustained under inland marine policies was the death of thousands of turkeys upon mid-western farms as the result of the

wind and snow storm that swept the territory on November 11. When all claims are in, it is expected the interested companies will pay close to \$2,000,000 on this account.

**Fire.** Partly because of increased demand for war coverage of various forms, but mainly due to increased writings in their automobile and inland marine departments, the fire companies were enabled to offset the loss in income caused by numerous rate reductions on properties, and at the same time score an over-all increase in premiums for 1940, estimated to be 6 per cent greater than the returns of 1939, which totaled \$1,019,715,911 for all types of carriers—stock, mutual, reciprocal, and Lloyds. Fire losses during 1940 totaled \$306,469,520 (\$313,498,840 in 1939), according to the tabulation of the National Board of Fire Underwriters. (See FIRE PROTECTION.)

The arrangement entered into by the Stock Company Association with the Home Owners Loan Corporation (q. v.), under which properties the latter are compelled to take over, granted insurance at a 25 per cent reduction in rate, failed to meet the sanction of several State insurance departments—including New York—which prohibited operation of the plan within their respective borders, on the broad theory that it was discriminatory. The allegation of the parties to the arrangement was that it effected a marked saving in accounting practice by the insurance offices, and at the same time guaranteed the prompt and full payment of all earned premiums. The merits and shortcomings of the proposition have been debated by the insurance commissioners of the country. The contract now in force will expire early in February, 1941. Losses on HOLC business from 1935 to June, 1940, inclusive, totaled \$21,000,000, of which \$17,000,000 represented fire losses and \$4,000,000 was due to wind or hail. The potential premiums on the business approximate \$6,000,000 annually.

Anticipating a demand for bombardment insurance might develop in the United States, fire companies prepared a policy of such character and listed rates at which the indemnity would be issued. However, the interest of property-owners is confined thus far to inquiring whether, if called for, protection of such character was available, and what its cost would be. Company executives, familiar with the frightful damage wrought through bombing activities in Britain and in Continental Europe, have guardedly consented to write the business in order to meet a supposed need.

As a direct result of the National war preparedness program of the government, goods ordinarily turned out by industrial plants are being shunted aside altogether, or produced in limited quantities and after extended delay. This condition has had a disturbing effect upon the writing of use and occupancy insurance, or as it is often called "business interruption insurance." Indemnity of this character assumes liability for loss suffered by an assured while waiting for the replacement of building and machinery in plants destroyed by fire, and obviously the longer the delay in securing new equipment the greater the loss to the insurance companies. So threatening has the situation become that the companies are now limiting closely the liability assumed upon any one risk, and may be forced to increase the rates, unless there is early improvement in conditions. Another notable development in the fire field was the creation by several of the leading companies of service offices at strategic centers in various parts of the country, the

purpose being to supply the needs of agents and assureds more promptly and efficiently, particularly as to risks calling for peculiar types of coverage with which local representatives as a rule are not fully informed.

In point of premium income that had by the fire companies from their automobile business is second only to that derived from the long established straight fire lines, and if the rate of increase of the past few years continues it will not be long before the automobile division will surpass as to premium volume that of any other risk classification. In 1939 the total premiums from automobile business aggregated \$644,313,000; greater by \$48,141,110 than the figures of the preceding year. That the record of 1939 was attained in 1940 is generally agreed, though the exact amount had not been determined at the close of the year. The loss record under the fire and theft features of the automobile policy again proved satisfactory, but losses resulting from collision still proved excessive, despite the increased income derived from the coverage and the general application of the deductible clause, under which assured in consideration of a reduction in rate assumes liability for losses up to a stipulated amount. The comprehensive type of policy, adopted by the fire companies some three years ago and which greatly broadens the coverage, has proven highly popular with motorists, and now constitutes at least 85 per cent of the total indemnity written.

How to handle insurance placed by institutions financing the purchase of motor cars, has long been a troublesome problem for underwriters, and while efforts to outline a program that would solve the question were put forth several times during 1940, all proved futile. Meantime, as a counter to the move of the underwriters, several large financing corporations launched insurance companies of their own through which indemnity is furnished upon automobiles in which they have a mortgagee interest. Banks in different cities, too, were active in loaning funds with which to purchase cars, working in such connection with local insurance agents who place the indemnity.

**Casualty.** A rough calculation of the income derived in 1940 from the major casualty lines in workmen's compensation and public liability shows that it will be not far from \$350,000,000, which will be a two point gain over the aggregate of the previous year. In both of these divisions rate reductions were applied, and the conditions of the liability policies were materially broadened, embracing under a single contract forms of protection either not previously granted at all or written under separate instruments. Rates for workmen's compensation insurance are predicated upon the loss experience of each particular State, and, of course, upon the awards provided injured workers or their beneficiaries under their respective statutes.

That the loss experience for the year 1940, taken as a whole, has been rather favorable is evidenced from the downward trend of rates. This policy naturally has worked against any marked gain in premium income by the carriers. Some increase will result from the present activity of industry engaged in turning out war material, but insurance companies will not profit through increased premiums before 1941. A new method of rate-making for compensation risks, determined upon early in 1940, more accurately measures the loss experience of individual risks, and has found considerable

favor with plants carrying large amounts of indemnity. As Arkansas enacted a compensation law in November, Mississippi alone, of all States of the United States is now without any such legislation.

Despite aggressive solicitation and the broadening of policy coverages, it yet remains true that but 35 per cent of the motor cars of the United States carry personal liability or property damage insurance, probably because many motorists feel they cannot afford to pay the premiums demanded for the coverage. If the volume of business written were increased and the loss percentage kept within bounds, insurance companies would be able to reduce their rates, a process that would continue steadily as the aggregate insurance in force was increased. To meet the non-insured situation a compulsory automobile liability measure was introduced in the New York legislature patterned after the law in force in Massachusetts for the past 10 years, though eliminating certain provisions in the Bay State statute that have proved to be highly objectionable.

A marked increase in the amount of fidelity coverage was scored by virtually all companies, and with satisfactory profit. The great demand for indemnity, so far as surety offices were concerned, was for bonds covering projects of varied types ordered by the Federal Government as part of its defense program. Corporations given contracts for the building of naval and freight vessels and airplanes, especially, were required to furnish completion bonds, and these aggregated enormous amounts. Although rates for the indemnity were fixed at low figures as a patriotic move on the part of underwriters, the premiums still totaled large figures.

Healthy income gains were made in the personal accident and health line, and the same holds as to machinery and steam boiler indemnity; the material gain in the latter division, however, was due to the renewal of three-year business originally issued in 1937.

**Life Insurance.** Developments in the life field included steady progress in the amount of insurance in force, which gained \$3,500,000,000 to reach a year-end total of \$117,500,000,000, or an average of about \$4000 per family. Payments to policyholders and beneficiaries totaled close to \$2,700,000,000, an increase of \$59,000,000 over 1939 and 16 times the amount disbursed in 1900. Policy loans, which reached new peaks during the depression period, stood at \$2,767,000,000 at the close of 1940, a drop of \$131,000,000 for the year. Continued low interest kept dividends down. Because of the interest decline a number of companies raised their annuity rates and still others are expected to follow suit early in 1941. Mortality and expenses, the other factors affecting dividends, were highly favorable. With a view to protecting policyholders from heavy mortality resulting from the unduly large purchases of insurance by men called to military service, plans were studied for excluding the death benefit from policies issued in future to those enrolled for active military duty.

See CO-OPERATIVE MOVEMENT; LAW under *Private Law*.

GEORGE A. WATSON.

**INSURANCE, Government.** See FEDERAL CROP INSURANCE CORPORATION; FEDERAL HOME LOAN BOARD; FEDERAL HOUSING ADMINISTRATION; SOCIAL SECURITY BOARD.

**INTER-AMERICAN BANK.** See **FINANCIAL REVIEW** under *Latin America*; **INTERNATIONAL BANKING**; **PAN AMERICANISM**.

**INTER-AMERICAN UNION OF THE CARIBBEAN.** An organization composed of representatives of governments and cultural organizations of countries and possessions bordering on the Caribbean Sea, with headquarters at Havana, Cuba. It was organized for the purpose of convening meetings "to further closer relations and to contribute toward the development of cultural as well as economic and tourist relations among the nations in this portion of the New World."

The Second Conference of the Caribbean was held at Ciudad Trujillo, Dominican Republic, May 31-June 6, 1940, with official representatives of the United States and most of the other republics of that area in attendance. The conference was devoted mainly to discussion of subjects of a cultural and economic nature listed on the agenda. However political issues were raised before a special committee formed to consider matters not included in the agenda. The head of the Cuban delegation, Secretary of State Miguel Angel Campa, introduced a motion calling for the independence of all the colonies of European powers in this hemisphere and administration of those unable to maintain their independence under a joint mandate of the 21 American republics. The motion provided that the matter be brought before the American Foreign Ministers when they met in Havana in July. It was approved by the committee, with the United States and several other delegations abstaining from voting on the ground that they were not authorized to consider political issues. The same committee approved a resolution for the restriction to citizens of the American republics of control and operation of all airlines in the hemisphere.

See **PAN AMERICANISM**.

**INTER-GOVERNMENTAL COMMITTEE ON REFUGEES.** See **DOMINICAN REPUBLIC** under *History*; **REFUGEES**.

**INTERIOR, U.S. Department of the.** See **UNITED STATES** under *Administration* and separate articles on the following branches of the Department: **FISH AND WILDLIFE SERVICE**; **GENERAL LAND OFFICE**; **GEOLOGICAL SURVEY**; **INDIAN AFFAIRS, OFFICE OF**; **LAND UTILIZATION, OFFICE OF**; **MINES, BUREAU OF**; **NATIONAL PARK SERVICE**; **RECLAMATION, BUREAU OF**.

**INTERNAL REVENUE.** See **PUBLIC FINANCE**.

**INTERNATIONAL BANKING AND FINANCE.** The nations of the world found it necessary to adjust their monetary and financial systems to wartime conditions during 1940. The totalitarian countries, which had previously established comprehensive government control systems, needed few further adjustments. The European countries occupied by Germany, no longer concerned with their own armaments, nevertheless had to defray the heavy costs of military occupation, largely through the issuance of paper money by their central banks. Public finance in the occupied countries was disrupted through the difficulty of collecting taxes under the abnormal conditions prevailing. This was particularly true in the case of France, which was divided into occupied and unoccupied portions with separate government authorities in each, and virtually no intercourse between them.

Great Britain adopted a very drastic system of foreign exchange control which went far beyond

the relatively mild restrictions imposed at the outbreak of the war. When the conflict began, provision was made for separate official and free sterling markets. So long as the conflict was in its initial relatively inactive stages, the quotation of free sterling was not much different from the official rate. Early in 1940, it was quoted above \$3.96. With the collapse of France, however, free sterling broke severely, declining below \$3.20 at the beginning of June. On June 7, a new series of regulations went into effect greatly limiting the use to which free sterling balances could be put, while sharply contracting the sources of free exchange by limiting severely transfers of such balances owned abroad. The free sterling rate rebounded, and by September the difference in quotation between official sterling of \$4.03½, and free sterling was only nominal, although transactions in the latter were few.

By the end of the year, Great Britain was carrying on her financial relations with the rest of the world on three different bases. With the sterling area, settlements were made with sterling deposits in London or resales of securities held by British investors. A system of bilateral exchange agreements on an official sterling basis was effected with nearly all other countries with which the British Empire maintained trade relations. Only in the case of the United States and Switzerland were payments made in the currencies of these countries. In effect, this meant that gold and dollar resources still held by Great Britain were freed almost entirely for making payments in the United States. As a result of the heavy purchases completed in America during the year and advance payments on contracts calling for future deliveries, the gold reserves of Great Britain were largely exhausted by the end of 1940, and a substantial part of American security holdings and dollar balances had been liquidated. British Empire countries, particularly Canada and South Africa, still held substantial gold and liquid balances of their own, however.

The extent to which the United Kingdom's liquid resources were depleted during the year is shown by the following table, in millions of dollars, which was released in Washington shortly after the turn of the year by Secretary of the Treasury Morgenthau:

**GOLD AND DOLLAR EXCHANGE ASSETS OF THE UNITED KINGDOM (000,000 OMITTED)**

Type of assets	Aug 31, 1939	Dec 31, 1940
Gold	\$2,038	\$ 292
Official dollar balances	50	54
Private dollar balances	545	305
Marketable United States securities	950	616
Direct and miscellaneous investments in United States	900	900
Total gold and dollar exchange assets	\$1,483	\$2,167

The United States received the largest volume of gold imports that any country has yet reported in one year, as a result of enormous shifts of yellow metal to this country to pay for armaments and for safekeeping. Foreign exchange transactions in the United States were in greatly reduced volume, however, for trading was suspended in currencies of European countries occupied by Germany as a result of the Treasury's orders to freeze assets in this country of Norway, Denmark, Belgium, Luxemburg, the Netherlands, France, Latvia, Estonia, Lithuania, and Rumania, and their nationals. Transactions in the pound sterling, while effected freely by American banks, were mostly at



the official rate, the domestic institutions acting merely as agents of the Bank of England in the transactions. The quotation of the yen was little changed through the year, because of the severe foreign exchange restrictions in effect. Approximately \$100,000,000 of gold was shipped by Japan to this country.

Changes in major foreign exchange rates during 1940 were as follows:

## FOREIGN EXCHANGE RATES, 1940

[Average of noon buying rates for cable transfers in New York. In cents per unit of foreign currency]

Month	United Kingdom <sup>a</sup> (free pound)	Italy (lira)	Germany (reichsmark)	Sweden (krona)	Spain (peseta)	Switzerland (franc)	Australia <sup>b</sup> (pound free)	Canada <sup>c</sup> (dollar free)
January	396.39	5 0470	40 118	23 806	9 950	22 419	315 82	88 018
February	396 34	5 0467	40 117	23 807	9 950	22 418	315 79	86 654
March	375 91	5 0470	40 114	23 816	9 814	22 417	299 50	82 883
April ...	352 59	5 0452	40 115	23 691	9 144	22 418	280 90	84 238
May	327 36	5 0426	40 025	23 791	9 130	22 253	260 80	80 970
June	360 16	5 0161	39 965	23 804	9 130	22 461	287 04	80 072
July	380 47	5 0123	39 978	23 836	9 130	22 684	303 11	86 927
August	397 88	5 0334	39 951	23 813	9 130	22 755	317 02	86 865
September	403 42	5 0357	39 926	23 810	9 130	22 784	321 47	85 469
October	403 26	5 0389	39 975	23 814	9 130	23 148	321 29	86 318
November	401 56	5 0196	39 983	23 818	9 131	23 202	321 57	86 922
December	403 50	5 0439	39 982	23 824	9 132	23 201	321 50	86 563

Month	British India (rupee)	Hong Kong (dollar)	China (yuan)	Japan (yen)	Argentina (peso)	Brazil (milreis free)	Chile (peso, official)	Mexico (peso)
January	30 140	24 629	7 833	23 438	29 772	5 0132	5 1670	16 663
February	30 163	24 572	7 012	23 438	29 773	5 0237	5 1655	16 654
March...	30 179	23 247	6 409	23 438	29 773	5 0269	5 1650	16 652
April...	30 198	21 834	5 992	23 438	29 773	5 0291	5 1649	16 656
May	30 120	20 288	5 083	23 438	29 773	5 0232	5 1670	16 654
June	30 106	22 388	5 760	23 432	29 773	5 0329	5 1678	18 365
July	30 149	23 582	6 048	23 432	29 773	5 0259	5 1678	19 913
August	30 132	22 510	5 476	23 431	29 773	5 0219	5 1680	19 988
September	30 162	22 623	5 206	23 435	29 773	5 0107	5 1680	19 941
October	30 170	23 077	5 682	23 439	29 773	5 0153	5 1680	20 331
November	30 166	23 396	5 845	23 439	29 773	5 0156	5 1663	20 400
December	30 178	23 585	5 690	23 439	29 773	5 0169	5 1665	20 448

Rates for French, Norwegian, Danish, Netherlands, and Belgian exchange not quoted since German occupation. <sup>a</sup> Official rate \$4 0 1 1/2  
<sup>b</sup> Official rate \$3 228 <sup>c</sup> Official rate 90 909 1/2

Gold reserves of central banks and governments were reported by the Board of Governors of the Federal Reserve System as follows:

facilitate new investment. Some time will have to elapse, however, before the practical potentialities of this new international agency can be measured.

## GOLD RESERVES OF CENTRAL BANKS AND GOVERNMENTS

[In millions of dollars]

End of month	Total <sup>1</sup>	United States	Argentina	Sweden	Switzerland	South Africa	Java	Mexico
1939—December	25,776	17,644	466	308	549	249	90	32
1940—January	25,983	17,931	466	258	536	253	90	27
February	26,274	18,177	472	218	527	268	90	23
March	25,777	18,433	482	173	520	272	90	25
April	26,020	18,770	403	179	515	279	100	27
May	26,269	19,209	403	189	501	298	100	28
June	27,139	19,963	403	199	493	302	98	31
July	27,642	20,463	403	173	488	305	103	33
August	28,068	20,913	402	153	490	308	103	30
September	28,391	21,244	385	152	490	314	109	25
October	28,676	21,506	369	150	500	328	109	28
November	28,961	21,801	353	157	501	351	129	32

<sup>1</sup> Total includes gold holdings last reported only as of November, 1939 or earlier for some countries <sup>2</sup> Since April, 1940, reports on certain Argentine gold reserves no longer available

**Latin America.** Latin American countries were confronted with peculiar monetary problems of their own because of the loss of European markets for their products and the tendency of British Empire countries to curtail purchases there to conserve exchange for war implements bought in the United States. Apart from limited aid obtained from the Export-Import Bank (q.v.) and the Exchange Stabilization Fund in the United States, and special sales of commodities for stock piles to subsidiaries of the RFC (q.v.) and the War Department, interest centered in the completion of negotiations for the establishment of an Inter-Ameri-

**Central Banking Policies.** Central banking activity in the normal sense was virtually suspended all over the world because of the very abnormal economic conditions created by the war. The relatively mild financial controls provided by central banks were universally regarded as altogether inadequate to solve the problems produced by the conflict, and far more drastic measures, especially price fixing and direct production controls, were resorted to in greater or lesser degree by nearly all governments. Because of these direct controls, there was less concern about the expansion of currency in circulation and the inflation of bank de-



posits reported by most countries. In Germany, the rise in currency circulation was less marked than in the year before, outstanding Reichsbank notes increasing from 11,798,000,000 reichsmarks on Dec. 30, 1939, to 13,198,000,000 reichsmarks on Nov. 30, 1940. The fact that countries harboring German armies of occupation were made to finance their cost helped to reduce the financial burden of financing the war to the Reich government to some extent.

The Reichsbank reduced its rediscount rate from 4 to 3½ per cent on April 9. The only other important changes in discount rates of leading central banks during the year was a reduction by the National Bank of Belgium from 2½ to 2 per cent early in January and a rise in the Swedish central bank rate from 3 to 3½ per cent on May 17. The paucity of central bank rate changes emphasizes the minor role played by central bank policy under wartime conditions.

JULES I. BOGEN.

**INTERNATIONAL LABOR ORGANIZATION.** A permanent diplomatic and administrative association, having in its membership more than 40 nations of the world, including the United States. Its objective is the improvement of labor conditions. Its machinery consists of an annual *Conference* of representatives of the member nations, and an *International Labor Office* controlled by a *Governing Body*, the latter consisting of 32 persons, 16 of whom represent the governments, 8 the employers, and 8 the workers, meeting quarterly.

The annual Conferences draw up draft conventions and recommendations affecting industrial conditions which are presented to the competent authorities in each member nation for ratification or adoption. Up to July, 1940, the Conference had adopted 67 Draft Conventions, and 874 ratifications had been registered. The International Labor Office, which is situated at Geneva, Switzerland, acts as a secretariat for the annual Conference and as a research agency for the collection and dissemination of information bearing on the problems of labor and industry throughout the world.

The International Labor Organization maintains offices in various member countries to provide contact with social, labor, and industrial trends. At the present time there are branch offices in Washington, D C, London, Shanghai, Paris, and New Delhi. In November, 1940, a new office was opened in Montreal, Canada, through the co-operation of the Canadian Government and on the invitation of McGill University to provide service for the member countries in the Western Hemisphere during the European conflict.

In June, 1940, President Roosevelt submitted to Congress the Draft Conventions adopted by the International Labor Conference in 1939. These relate to the protection of native laborers in the matter of contracts of employment; arrangements for the eventual abolition of penal sanctions for breaches of contract of employment by indigenous laborers; the protection of migratory workers with respect to recruiting, placing, and conditions of labor; and regulation of hours of work and rest periods in road transport. The last mentioned Convention establishes a basic 8-hour day and 48-hour week for persons employed in commercial motor transport.

From July, 1939, to July, 1940, member countries registered 22 ratifications of I.L.O. Conven-

tions. In the United States two bills were introduced in Congress in 1940 to implement the I.L.O. Conventions on Minimum Age at Sea and Ship-owners' Liability for Sick and Injured Seamen. These were among the five Maritime Conventions ratified by the United States in 1938. Legislation to implement the Convention on Officers' Certificates of Competency was enacted by Congress in 1939.

Since the United States joined the International Labor Organization, full tri-partite delegations—representing government, employers, and workers—have been sent to every I.L.O. Conference. The International Labor Organization joined with the Peruvian Government in holding an Inter-American Conference on Social Security in Lima, Peru, in early December, 1940. The occasion was the dedication by the President of Peru of the largest hospital for workers in South America.

A citizen of the United States, Hon. John G. Winant, was elected Director of the International Labor Organization in 1938, taking office in January, 1939. Three other United States' citizens are at the present time on the Governing Body:—Hon. Carter Goodrich, United States Government representative, Chairman; Henry I. Harriman and Robert J. Watt, elected by the employer and worker delegates respectively. Director of the Washington Office is Ethel M. Johnson, 734 Jackson Place, Washington, D C.

**INTERNATIONAL LAW. Literature.** *Books:* "The Int. Law of John Marshall" (1939, pp. XIV, 386) by B. M. Ziegler; reviewed, 34 *Am Jnl. of Int. Law*, 542; "Making Int. Law Work," (London, 1939; pp. 214) by Keeton & Schwarzenberger; *La Notion de l'Abus du Droit dans le Droit International* (Paris, 1940; pp. VI, 188), Trifu Selea. From Moscow on May 15, came the announcement of a work by F. Koshevnikoff which is expected to provide the first chapter of a text book on International Law from the standpoint of the Soviet Union.

*Current Articles:* "The Reality of International Law," 18 *Foreign Affairs*, 244 (P. C. Jessup), "In Support of Int. Law," 34 *Am Jnl Int Law*, 505 (*id*); "Changing Conceptions of," *ib* 503 (P. M. Brown); "The Needs of," *ib* 699; "Positivism, Functionalism and Int.-Law," *ib* 260 (H. J. Morgenthau); "Status of the British Commonwealth in Int. Law," 3 *U of Toronto L Jnl* 348 (P. E. Corbett).

**Radio Conferences.** The Third South American Radio Conference, with representatives from 10 countries, met at Santiago, Chile, January 13-17, and adopted resolutions to modernize broadcasting, secure protection of authors through uniform practices, and for short wave news transmission. It was followed by the Second Inter-American Radio Conference on January 18-27, representing all independent, western hemisphere nations. Subjects included: Allocation of radio frequencies and need of additional ones for aeronautical services; uniform time and signals; short-wave broadcasting; frequency tolerances; suppression of non-essential radio; freedom of radio communications; aviation aids, and international radio police services for law enforcement (See also PAN-AMERICAN UNION.)

**Nationality.** Dr. Albert Einstein, famous German scientist, renounced his former nationality and took the oath of allegiance as an American citizen in the Federal Court at Trenton, N.J., on October 1. By the U.S. Act of Congress of June

28, all resident aliens were required to be registered and fingerprinted. A total of over 4,900,000 responded.

#### Current articles

"The Nature of Nationalism," 33 *Am. Pol. Science Rev.*, 1001 (H. Kohn); "Expatriation of American Minors," 38 *Mich. L. Rev.* 585 (L. B. Orfield); "Minimum Standard of the Treatment of Aliens," *ibid.* 445 (E. M. Borchard); "Constitutionality of State Legislation Affecting Aliens," 17 *N.Y.U.L. Quar.* 242 (P. Weiden).

**Territory.** Since the outbreak of the second World War more European territory has changed masters than during any like period since Napoleon's ascendancy. (See *EUROPEAN WAR*.) Territorial integrity seems to have been repudiated by the totalitarian states, nor did their aggressions affect Europe only. Because of the extensive colonies held by Britain, France, and Netherlands in the western hemisphere, the independent powers there feared that the invaders might extend their activities by claiming the colonies. To avert such changes was the chief purpose of the Second American Foreign Ministers' Meeting which provided for "a regime of provisional administration" of such colonies, pending their acquisition of independence or return to their former status.

**Antarctica.** Admiral Byrd's report of finding 900 miles of Antarctic coast, previously uncharted, following Ellsworth's air survey of 81,000 square miles, caused the lower South American states to assert claims to this latest of the continents to be explored. Chile has filed a demand for all of it between 53° and 90° W longitude, and has entered into an agreement with Argentina as regards other portions. But the United States claim harks back to Lieutenant Wilkes who, nearly a century ago, explored the region as far as 45° W longitude. See *POLAR EXPLORATIONS*.

**Boundaries.** The truce agreement between Honduras and Nicaragua in their boundary dispute (1939 *YEAR BOOK*, 372) expired early in the year and the conciliation commission which arranged it was not reconvened, but each power had signed a non-aggression pact and friendly relations have continued. "International Boundaries: Functions and Problems" afforded the subject of a work by S. W. Boggs (1940, pp. XVII, 272).

**Waters.** "The Hemisphere Zone of Security and the Law," 26 *A.B.A. Jnl.* 860 (W. S. Master-son); "Marginal Seas Around the States," 2 *La. L. Rev.*, 252 (G. Ireland). The opinion, replete with citations, in *People v. Stralla*, 98 Cal. 440, 34 *Am. Jnl. Int. Law*, 143, recognizes Santa Monica Bay as a "harbor," subject to State police jurisdiction.

**Extraterritoriality.** The face-saving "treaty" of December between Japan and its puppet President, Wang-Ching-wei, provides for the abolition of extraterritoriality in China, which would mean merely the substitution of Japanese judges in the courts for Chinese and Whites.

See the general subject discussed in 51 *Jurid. Rev.* 303 (T. Baty). Cf. "Extraterritorial Validity of *Ex Parte* Divorces," 28 *Ky. L. Jnl.* 247 (E. Rosenbaum); "Extraterritorial Application of Workmen's Compensation Acts," 26 *Va. L. Rev.*, 95; "Extraterritorial Effect of Foreign Decrees and Seizures," 88 *U. of Pa. L. Rev.*, 983; "Application of the Anti-Trust Laws to Extraterritorial Conspiracies," 49 *Yale L. J.*, 12 (R. T. Molloy).

**Treaties. General.** See Vitta, *La Validité des Traités Internationaux*, (Leiden, 1940; pp. X, 247); *Les Clauses de Révision dans les Traités internationaux multilatéraux*, de Papres Guerre, 20 *Revue de Droit International et de Législation*

Comparée 529; "Enforcement of Multipartite Administrative Treaties in the United States," 34 *Am. Jnl. of Int. Law*, 661 (H. Reiff); "Extent of the Treaty Making Power," 28 *Georgetown L. Jnl.*, 184 (Feidler & Duran); "Retroactive Effect of Ratification," 34 *Am. Jnl. of Int. Law*, 51 (J. M. Jones).

**Commercial Pacts.** January 5, United States-Canada (supplementary); United States-Chile (provisional), January 8, Anglo-French-Turkish, January 17, Spanish-Bulgarian, January 18, Spanish-French; January 23, Brazil-Argentina; January 31, France-Greece, February 3, Britain-Turkey, February 21, Yugoslavia-Slovakia (renewal), February 23, France-Hungary; February 12, Germany-Soviet Russia; February 15, Britain-France, March 1, France-Belgium, Britain-Belgium, March 18, Britain-Spain, March 20, Italy-Rumania; March 25, Soviet Russia-Iran, April 2, Britain-Denmark; April 10, Hungary-Yugoslavia, April 20-24, Germany-Rumania; April 26, France-Switzerland; May 4, Japan-Uruguay, May 26, Soviet Russia-Yugoslavia, June 6, Britain-Rumania; June 8, Germany-Greece, June 13, Germany-Turkey, June 20, Britain-Brazil, June 21, Italy-Japan (Manchukuo), June 28, Soviet Russia-Finland, July 20, Germany-Hungary; October 6, Argentina-Brazil ("the most important commercial accord in South American history"), October 11, Italy-Finland.

**Reciprocity pacts** with twenty countries had been concluded by the United States, when, on April 12, the act authorizing them was extended for another three years. The list (See 1939 *YEAR BOOK*, p. 763) includes twelve Latin-American states and negotiations have been in progress with Argentina (which sent a trade delegation to Washington in November), Chile, and others; but the Second World War has seriously retarded the movement's progress and on July 11, the State Department transferred to the newly created "Division of Commercial Treaties and Agreements," the functions of the former "Division of Trade Agreements."

**United States-Dominican Republic.** In September, President Roosevelt announced the termination of the Dominican receivership by which, since 1905, the former had supervised the collection of the latter's revenues, reserving 55 per cent for the payment of certain Dominican bonds. Holders of the latter now complain that their security has been impaired.

**Non-Aggression Pacts** to the extent of nine have now been ratified by most of the American nations. See 34 *Am. Jnl. Int. Law* 279 n. 3. Stuyt, "Survey of International Arbitrations," 1794-1938 (The Hague, 1939; pp. 12, 479; reviewed *ibid.* 554, where the author's 409 arbitrations are contrasted with the 540 of Darby's, "Modern Pacific Settlements," the difference being due to the lack of documents for the latter); Wambaugh, "The Saar Plebiscite," (1940; pp. xvi, 489). On February 13, Japan denounced its arbitration and conciliation treaty of 1933 with Netherlands Yugoslavia and Hungary signed a "perpetual friendship" pact on December 12.

**War.** The Japanese invasion of China, now nearing the end of its fourth year, began without a declaration of war, and the invader, for reasons of technical advantage, has never acknowledged that "war" between Japan and China existed. In a case before the British Court of Appeal, the umpire's finding that operations constituting war were in progress was upheld *Kawasaki Kisen Kabushiki v. Bantam S.S. Co.*, 55 *L. Times Rep.* 503, 34 *Am. Jnl. of Int. Law*, 533; discussed in 26 *Va. L. Rev.* 226. See Willoughby, "Japan's Case Examined" (1940; pp. x, 237); "The Enemy Problem in the present War," 34 *Am. Jnl. of Int. Law*, 443 (R. M. W. Kempner).

**Neutrality.** "Its Present Status," 34 *Am. Jnl.*

*Int. Law*, 391 (Q. Wright); "Scandinavia: The Background for" (1940; pp. 358 & index; A. L. Olson; reviewed *ib.* 537); "Neo-Neutrality" (*Columbia Univ. Press*, 1939, G. Cohn, chiefly valuable as a book of reference, 34 *Ill. L. Rev.* 372); "American Neutrality: Trial and Failure" (1940; pp. xiv, 190; C. G. Fenwick); "The 300 Mile Neutral Belt," 26 *A.B.A. Jnl.* 237 (P. S. Wild); "The Arms Embargo Repeal," 28 *Ky. L. Jnl.*, 210 (A. Vandenbosch); see also 25 *L. Quar.* 255 (H. R. Wellman); 28 *Georgetown L. Jnl.*, 82 (W. J. Deem).

**Private.** See Raape, *Deutsches Internationales Privatrecht* (Berlin, 1938; vol. ii, pp. 141-397), reviewed 34 *Am. Jnl. Int. Law*, 186 where the author is termed "the leading writer on the Conflict of Laws still remaining in Germany"; Cock, *Tratado de Derecho Internacional Privado* (2d ed., 1940, pp. 275).

**Assimilation (Conflict) of Laws.** "Public Policy and the Conflict of Laws," 49 *Yale L. Jnl.*, 1027 (A. Nussbaum); "India, Burma and Far-eastern Cases on the Conflict of Laws," 1935-39, 22 *Jnl. Comparative Legislation, etc.*, 53-73 (S. V. Fitzgerald); "El Principio Rebus sic Stantibus como Causa de Extinción de las Obligaciones Internacionales Contractuales," 36 *Revista de Derecho Internacional*, 117 (A. P. Mendez).

**Contracts:** 53 *Harv. L. Rev.*, 792 (P. W. Thayer); 28 *Georgetown L. Jnl.*, 447 (Schmittthoff), 18 *Canadian Bar Rev.*, 77 (J. D. Falconridge; Bills of Lading).

**Property:** 28 *Georgetown L. Jnl.* 739 (A. H. Robertson).

**Succession** in Guatemala, 3 *Revista de la Facultad de Ciencias Jurídicas y Sociales de Guatemala*, 20 (M. C. Fiallos).

**Tort** on the high seas, 18 *Canadian Bar Rev.*, 308 (J. D. Falconbridge).

**Enforcement.** "Jurisdiction to Determine Property Rights of Foreign Government," *Lamont v. Ins. Co.*, 281 N.Y. 362, discussed in 25 *Cornell L. Quar.* 459; 14 *St. John's L. Rev.*, 419; 26 *Va. L. Rev.* 824; "Foreign Corporations and Venue in the Federal Courts," 38 *Mich. L. Rev.* 1047 (T. R. Vogt); "Procuring Evidence Abroad," 14 *Tulane L. Rev.* 29 (T. Helpern).

**Property.** The Cardenas policy of seizing alien property in Mexico (1939 *YEAR BOOK*, 373) continued. See Mexico under *History*. Under date of January 12, the Standard Oil Co. of N.J., issued an 80-page pamphlet reviewing the situation since 1934. A reply entitled "The True Facts about the Expropriation of the Oil Companies' Properties" was published by the Mexican government. Other publications are: "Expropriation in Mexico" (1940, pp. xii, 204, (R. B. Gaither); the two latter are reviewed, 34 *Am. Jnl. Int. Law*, 769); "Mexican Supreme Court Decision in the Expropriation Cases," *ib.* 297 (A. K. Kuhn); "The Mexican Expropriations," 17 *N.Y.U.L. Rev.* 327 (Kunz).

On December 4, the Rumanian premier decreed the expropriation of all oil properties, including fixtures, and all watercraft owned and used by companies with Jewish stockholders.

See also LAW; LEAGUE OF NATIONS; WORLD COURT, and the various nations.

C. SUMNER LOBINGIER

**INTERSTATE COMMERCE COMMISSION (ICC).** The Interstate Commerce Commission, established by act of Congress in 1887, is the oldest regulatory agency of the Federal Gov-

ernment. The carriers subject to its jurisdiction transport the greater part of the freight and commercial passenger traffic in the United States. Created originally for the purpose of improving conditions affecting railroad transportation, it has also for many years exercised certain powers over water carriers engaged in rail-water transportation in connection with railroads as well as over pipe lines. Since 1935 it has been charged with the regulation of motor carriers, and in 1940 Congress enacted the Transportation Act of 1940 which enlarged its powers over water carriers.

Under this new legislation, which for the most part will become effective early in 1941, common carriers engaged in transportation by water between a place in one State and a place in another State will have to secure certificates of convenience and necessity from the Commission, and contract carriers similarly engaged will have to obtain permits. If such carriers were in bona fide operation on Jan. 1, 1940, the issuance of a certificate or permit is mandatory upon the seasonable filing of an application therefor. Provision is made for exempting certain water transportation from regulation under this law, which in general is similar to that now applied to rail and motor carriers. Common carriers will be required to publish tariffs showing their rates or charges to be filed with the Commission, and contract carriers will have to publish and file schedules of minimum rates or charges. The Commission is empowered to require changes in such rates and charges after a full hearing. Water carriers subject to the law may be required to file reports of their affairs with the Commission.

The changed conditions which have almost revolutionized land transportation in the past quarter of a century have had an important effect on the Commission's work. Railroad mileage in the United States increased steadily until 1916 and since that year has slowly declined. The figure for 1938 was almost exactly the same as that for 1909. In 1940 the Commission authorized the abandonment of 2278 miles of line, offset by authorized new construction of only 37 miles. Since 1935 more than 100,000 motor-carrier operators have sought operating authority under the motor-carrier act, and the Commission's identification plate appears on 280,431 motor vehicles. Of these 46,216 were issued in 1940.

A considerable part of the Commission's routine work in 1940, as in former years, had to do with the regulation of railroad rates, the authorization of securities issued by railroads, the collection and publication of statistics relating to railroads and other carriers, enforcement of statutes for the promotion of safety in railroad operation, and the discovery of violations of criminal and penal statutes intended to prevent illegal practices on the part of shippers and carriers.

The extraordinary number of bankrupt railroads in recent years has added to the work of the Commission, which under the bankruptcy act must approve plans for the financial reorganization of such railroads. In 1940 the Commission approved reorganization plans for seven class I railroad systems.

The Commission's work in the regulation of motor carriers has passed beyond the initial stage, which was occupied chiefly with applications for operating rights. The emphasis has now shifted to safety, enforcement, and rates. Rules have been prescribed concerning safety and insurance, and revised tariff rules to facilitate ascertainment of

applicable rates have been adopted. Safety inspectors have been added to the field staff, who, in co-operation with representatives of State governments, are engaged in educating motor carriers in methods of operation designed to reduce highway accidents and secure compliance with the Commission's safety regulations. With the object of promoting safety of operation the Commission has prescribed qualifications and maximum hours of service of certain classes of employees of motor carriers, including private carriers of property by motor vehicle.

See RAILWAYS; UNITED STATES under *Administration*.

**INTERSTATE COMPACTS.** See LAW.

**INVESTIGATION, Criminal.** See FEDERAL BUREAU OF INVESTIGATION.

**INVESTMENT COMPANIES.** See FINANCIAL REVIEW.

**IOWA.** Area, 56,146 square miles, including water, 561 square miles. Population, Apr. 1, 1940 (census), 2,538,268; 1930, 2,470,939. Des Moines, the capital, had (1940) 159,819 inhabitants; Sioux City, 82,364; Davenport, 66,039; Cedar Rapids, 62,120; Waterloo, 51,743; Dubuque, 43,892. The State's urban population, 1,084,231 (1940) exceeded that of 1930 by 104,939; the rural population, 1,454,037 (1940), while still predominant, had lost 37,610 in the decade.

**Agriculture.** Farmers in Iowa harvested 20,961,000 acres, approximately, of the principal crops in 1940; eight crops accounted for all but some hundreds of thousands of acres. Corn, occupying 9,031,000 acres, made 460,581,000 bu. (51 bu. to the acre), and was estimated as worth \$267,137,000 to the growers. Oats, on 5,166,000 acres, gave 206,640,000 bu. (about \$55,793,000); tame hay, 4,381,000 acres, 6,572,000 tons (\$39,432,000); soy beans, 733,000 acres, 15,026,000 bu. (\$10,518,000); barley, 462,000 acres, 14,553,000 bu. (\$5,530,000); potatoes, 60,000 acres, 6,120,000 bu. (\$4,284,000); wheat, 341,000 acres, 8,121,000 bu. (\$5,441,000); flaxseed, 180,000 acres (a sharp increase over lately preceding years), 2,520,000 bu. (\$3,301,000). Farms, in 1940, totaled 213,318; their area averaged 160 1/2 acres.

**Mineral Production.** As stated in 1940 by the U.S. Bureau of Mines, Iowa's production of native minerals totaled \$24,794,058 for 1938; coal contributed nearly one-third of this total, cement was a close second, and stone and clay products made up most of the remainder. The coal output was 2,908,000 tons for 1940, 3,050,000 tons for 1939, and 3,103,187 tons (value, \$7,963,000) for 1938. Makers' shipments of portland cement, fairly close to yearly production, fell off a little, to 4,717,295 bbl. (1939), from 4,759,390 (1938); but their yearly value rose somewhat, to \$7,771,503, from \$7,327,048. The clay products (other than pottery and refractories) attained \$2,868,233 for 1938.

**Education.** For the academic year 1939-40, Iowa's inhabitants of school age (from 5 years to 21) were reckoned at 677,263. Enrollments of pupils in the public schools numbered 505,862; this comprised 364,071 elementary, 139,410 high-school, and 2381 junior college enrollments. The year's expenditures for public-school education totaled \$37,250,768, plus \$7,202,358 of capital outlay and \$5,514,500 of interest or principal paid on debt. Salary paid in the year to 25,151 teachers in public schools averaged \$1007.03.

**History.** The popular vote at the general election on November 5 was prevailingly Republican.

It gave Willkie (Rep.) 632,370 for President, a moderate plurality over Roosevelt (Dem.), who obtained 578,800. The State's Republican Governor, George A. Wilson, was re-elected, defeating John K. Valentine (Dem.). As neither Senator's term was to expire the State's two Democratic incumbents remained in the United States Senate. Farmers' dissatisfaction with some of the agricultural policies of the Roosevelt administration accounted, in prevalent opinion, for the strength of the Republican vote.

**Officers.** Iowa's chief officers, serving in 1940, were: Governor, George A. Wilson (Rep.); Lieutenant-Governor, Bourke B. Hickenlooper; Secretary of State, Earl G. Miller; Auditor, C. B. Akers; Treasurer, Willis G. C. Bagley; Attorney-General, Fred D. Everett; Secretary of Agriculture, Mark G. Thornburg; Superintendent of Public Instruction, Jessie M. Parker.

**I.R.A.** Irish Republican Army. See IRELAND, IRELAND, NORTHERN, and GREAT BRITAIN under *History*.

**IRAN (PERSIA).** A kingdom of southwestern Asia. Capital, Tehran (Teheran); sovereign in 1940, Riza Shah Pahlevi, who was crowned Apr. 25, 1926.

**Area and Population.** Area, about 628,000 square miles; population, estimated at 15,000,000, including besides the dominant Iranians large minorities of Turks, Kurds, Leks, Baluchis, and Gipsies. There are about 3,000,000 nomads. Estimated populations of the chief cities: Tehran and district, 360,000; Tabriz, 219,000; Meshed, 139,000; Shuaz, 119,000; Isfahan, 100,000; Hamadan, 99,000.

**National Defense.** Iran in 1939 had an active army of 3200 officers and 116,800 men, with one mechanized brigade equipped with 100 new Skoda tanks and 5 aviation regiments with 280 aircraft, mostly of British construction. The navy consisted of 2 sloops, 5 patrol vessels, and several smaller craft in the Persian Gulf and several motor patrol boats in the Caspian Sea. There is also an armed police force of 7 regiments and 15 battalions.

**Education and Religion.** Despite rapid extension of educational facilities in recent years, the population remains largely illiterate. There were 4939 schools with 273,680 pupils in 1937, and some 900 Iranians were studying in foreign universities, mostly at government expense. The people are mainly Moslems of the Shiite sect; there are also about 50,000 Armenians, 40,000 Jews, 30,000 Nestorians, and some native Christians, Bahaists, and others.

**Production.** Agriculture and stock raising are the main occupations, but the oil industry is the chief source of government revenue. Production of the chief crops in 1937-38 was estimated as follows (in metric tons): Wheat, 1,942,300; barley, 706,900; rice, 382,100; beet sugar, 25,200 (in 1939-40); tobacco, 15,900; sesamum, 7500; cotton, 32,900. The 1938 wool clip was about 18,100 metric tons. Dates, raisins, and other fruit are widely grown. The output of crude petroleum in 1939 was 78,151,332 bbl. (78,320,840 in 1938), giving Iran fourth rank among world producers. Carpet making remains the leading industry. Cement, matches, cotton and woolen yarns and fabrics, refined sugar, silk textiles, and iron and steel are new industrial products fabricated with government backing. There is a large oil refinery at Abadan.

**Foreign Trade.** For the year ended Mar. 21, 1939, merchandise imports were valued at 1,072,-

700,000 rials (1,445,200,000 in 1937-38), while exports were 2,501,300,000 rials (2,394,600,000 in 1937-38). Crude petroleum normally accounts for about three-fourths of the value of all exports (1,877,262,000 rials in 1937-38). The chief imports are cotton piece goods, machinery and tools, sugar, vehicles. Normally, trade is carried on mainly with the Soviet Union, Great Britain, Germany, and the United States (see *TRADE, FOREIGN* for commerce with United States). Foreign trade has been a government monopoly since 1931.

**Finance.** Budget estimates for the year ended Mar. 21, 1941, placed receipts at 3,094,977,000 rials (1,930,096,700 in 1939-40) and expenditures at 3,210,973,000 (2,613,482,000). Oil royalties (amounting to £4,568,674 in 1938) are kept in a reserve fund and omitted from the budget. In addition to regular budget expenditures, £2,000,000 from the reserve fund was spent on the army in 1940-41. The recognized foreign debt on May 15, 1939, was £991,120. The rial was pegged at 17.1133 rials to the U.S. dollar (1 rial = \$0.0585) on Dec. 21, 1939, instead of the previous official fixed rate of 80.50 to the pound sterling.

**Transportation.** The railways, with over 1000 miles of line in 1940, are of recent construction. The 866-mile Trans-Iranian line from Bandar Shahpur on the Persian Gulf to Bandar Shah on the Caspian Sea was completed Aug. 26, 1938. Under construction in 1940 were the lines Tehran-Tabriz, of which the Tehran-Zinjan section was completed Oct. 4, 1940; Tehran-Meshed, opened from Tehran to Semnan in September, 1939; and Tehran-Yezd. Highway mileage (1939), 15,043. The important Meshed-Bandar Shah highway, 126 miles long, connecting Eastern Iran with the Caspian Sea was opened in November, 1939. An air line connects Tehran and Kermanshah with Baghdad in Iraq. The port-improvement project at Now-Shahr on the Caspian Sea was completed in 1940. Improvements on the Persian Gulf ports of Bandar Shahpur and Khorramshahr (formerly Mohammerah) were under way.

**Government.** Executive power is exercised by the Shah, acting through his cabinet appointees. The parliament (Medjliss) of 136 members, elected for two years, sanctions measures proposed by the Shah and his cabinet. Premier in 1940, Dr. Ahmed Matine-Daftary, appointed Oct. 26, 1939. There are no political parties.

**History.** During 1940 the European whirlpool of war threatened repeatedly to suck Iran into the conflagration. Russia, Turkey, Germany, and Great Britain all strove to draw Riza Shah Pahlavi into open or tacit alliances through material inducements or threats. Britain signed a technical-financial agreement with Iran on February 16 under which the British were reported to have agreed to supply arms to the Iranian army. Numerous German army officers and political agents were said to have arrived in Tehran early in the year and to have worked against British, Turkish, and, to some extent, Russian influence.

Turkish diplomacy was particularly active in attempting to strengthen and extend the Saadebad non-aggression pact signed by Turkey, Iran, Iraq, and Afghanistan on July 8, 1937. The Moscow press in mid-February reported that Turkey was trying to align Iran, Iraq, and Afghanistan behind its anti-German stand. About the same time it was announced in Turkey that consultations under the Saadebad accord were in progress, with a view to converting it into a military alliance. The result of

these consultations was not made public up to the end of 1940.

On April 5 the Medjliss ratified a reciprocal trade balancing pact with the Soviet Union, replacing a commercial pact that expired June 21, 1938. Soviet commercial representatives in Iran were given diplomatic status and authorized to side-step the Iranian foreign trade monopoly by dealing directly with private firms as well as with the Iranian Government. Iran also granted the U.S.S.R. storage and retail sales facilities for petroleum products. In return Moscow was reported to have granted Iran permission to ship its products to Germany across Soviet territory. This accord was hailed as a considerable diplomatic victory in Moscow. Another agreement concluded September 22 authorized Soviet trains to enter Iran and vice versa. Relations between Moscow and Tehran remained far from cordial, however. The Soviet Government on various occasions assumed threatening attitudes and early in July was reported to have demanded the cession of a strip of Iranian territory along the Soviet frontier.

In accordance with the decision reached in 1939 for the resumption of diplomatic relations with the United States, a new Iranian Minister presented his credentials to President Roosevelt on Feb. 13, 1940. Near the year's end, a "friendly agreement" was reached between the Iranian Government and the Presbyterian Board of Foreign Missions in New York for the termination of the Board's educational work of more than a century in Iran. The government, which was taking over all foreign educational institutions, agreed to pay \$1,200,000 in installments for the Board's properties.

Internal conditions were adversely affected by the European War, which curtailed Iran's chief export markets and cut off imports of machinery and other items ordered to speed the Shah's industrialization and modernization program. Nevertheless construction of railways, ports, and highways continued (see above under *Transportation*). Legislation approved during the year authorized a tax in foreign currency on the tonnage of foreign steamers calling at Iranian ports; provided for repayment of government loans from the Mellie Bank in seven years; and authorized the abolition of corporations and monopolies owned exclusively by the government and the transfer of their functions and assets to the reorganized Ministry of Finance.

Settlement of a dispute over oil royalties between the Iranian Government and the Anglo-Iranian Oil Co. was announced August 25. To compensate for the drop in the value of the pound sterling, the company undertook to pay the government £1,500,000 sterling for 1938 and 1939, in addition to royalties already paid for those years, and to pay £4,000,000 sterling in round numbers for each of the years 1940 and 1941. The company received a written assurance that this arrangement did not affect the terms of the concession. The net profit of the company declined from £6,109,477 in 1938 to £2,986,358 in 1939.

See *AFGHANISTAN, IRAQ, TURKEY, and UNION OF SOVIET SOCIALIST REPUBLICS under History*.

**IRAQ (IRAK).** An Arab kingdom occupying the basin of the Tigris and Euphrates Rivers in Mesopotamia. Capital, Baghdad. King, Feisal II, who succeeded to the throne Apr. 4, 1939.

**Area and Population.** Area, 116,600 square miles; population, estimated at 3,670,000 on Jan. 1, 1938. Chief cities, with estimated populations

(1938): Baghdad, 340,000; Mosul, 98,000; Basra, the chief port, 62,000. Language, Arabic.

**Education and Religion.** Despite free primary education, illiteracy remains high. Latest available education statistics show 777 state and private elementary schools, with 110,106 pupils; 47 intermediate schools (11,396 pupils); 16 secondary schools (2233 pupils); 12 vocational and professional schools (2019 students); and 4 colleges (905 students). In 1935 there were 3,136,632 Moslems, 101,375 Christians, 90,970 Jews.

**Defense.** Compulsory military service for men from 19 to 25 years of age was introduced in 1936. The standing army and air force in 1938 was about 28,000 men, with a war strength of 40,000, and about 50 airplanes. A British military mission aids in training the army, which is mainly British-equipped. There was a police force of 10,339 officers and men on June 30, 1939.

**Production.** The principal occupations are agriculture, stock raising, and petroleum mining. Most of the petroleum output goes from Kirkuk, Iraq, by pipeline to Haifa, Palestine. The other pipeline to Tripoli, Syria, was closed in 1940 (see *History*). Petroleum production was 4,116,000 metric tons in 1939 (4,363,000 in 1938). The chief crops are cotton (about 16,500 bales in 1939), dates, wheat (600,000 metric tons in 1938), barley (1,138,400 metric tons, 1938), rough rice (360,000 metric tons, 1938), tobacco (4000 metric tons, 1938). Several large irrigation projects are expanding the area under cultivation. The 1938 wool clip was 8300 metric tons.

**Foreign Trade.** Total imports in 1939 were valued at 8,156,179 dinars (9,361,002 in 1938); exports, excluding petroleum, gold bullion and currency, 3,759,401 dinars (3,688,835 in 1938). During 1939 oil pumped through the pipeline from Kirkuk to Haifa amounted to 1,811,916 metric tons. Other leading exports were dates, barley, wheat, wool, hides and skins, and cotton. The United Kingdom supplied 30.1 per cent of the 1938 imports; Japan, 14.8; United States, 9.1; Germany, 7.4. Of the 1938 exports, the United Kingdom took 24.2 per cent; United States, 15.1; Japan, 9.6; India, 8.1; Syria, 8.1. See **TRADE, FOREIGN**.

**Finance.** For the fiscal year ended Mar. 31, 1941, ordinary budget estimates placed receipts at 6,426,500 dinars and expenditures at 6,666,780 dinars. Actual general budget receipts for 1939-40 were 5,993,712 dinars; expenditures, 6,235,270. The deficit of 241,558 dinars was cancelled by a surplus of 957,356 dinars in the capital works budget (receipts, 3,074,088; expenditures, 2,116,732). Capital works receipts include oil royalties. The public debt on Dec. 31, 1939, was unofficially estimated at 5,752,000 dinars. The dinar, equal to the pound sterling, averaged \$4.44 in 1939 and \$4.89 in 1938.

**Transportation.** Completion in 1940 of the Baiji-Mosul railway link gave Basra and Baghdad direct connections with Mosul, and with Europe via Syria and Turkey. Through train service started on July 19. The mileage of main-line railways in 1939 was 753 miles. Highways totaled 4065 miles in 1940. The Iraq section of the important new Haifa-Baghdad highway was being asphalted. Of the seven air lines serving Iraq at the beginning of the European War, four continued in operation in 1940, including the international services of Imperial Airways, Royal Dutch Air Lines, and Air France. The Iranian State Air Lines operated a weekly service between Baghdad and Tehran. During the 1938-39 fiscal year 260 steam-

ers of 1,328,324 gross registered tons entered the port of Basra. With the spread of the European War to the Mediterranean in June, 1940, much of Iraq's trade was diverted to Basra from Syrian and Palestine ports.

**Government.** Iraq became an independent State on Oct. 3, 1932, when the mandate for Iraq held by Great Britain was abolished and the kingdom was admitted into the League of Nations. An Anglo-Iraqi alliance was concluded June 30, 1930. The constitution of Mar. 21, 1925, made Iraq a constitutional, hereditary monarchy with a parliamentary government. There is a Senate of 20 members nominated by the King for eight years and a Chamber of 150 elected Deputies. There are no stable political parties. Feisal II, born May 2, 1935, became King Apr. 4, 1939, when his father, Ghazi I, was killed in an automobile accident. During his minority power is exercised by the Regent, Emir Abdul Ilah, uncle of the King.

**History.** Internal political difficulties and the growing danger of direct involvement in the European War beset Iraq during 1940. Nationalist elements in the army, inspired either by the desire for personal advancement or for elimination of British influence and treaty rights in Iraq, made further trouble for Premier Nuri es-Said and other pro-British leaders. On January 18 the Minister of Finance in General Nuri's cabinet, Seyyid Rustum Haidar, was mortally wounded by a dismissed police inspector. There was suspicion that the assassination was inspired by military and other elements seeking to overthrow the government. Premier Nuri inaugurated a strict inquiry into the circumstances of the crime. At the same time he announced his intention of proceeding with electoral reforms designed to strengthen representative government in Iraq.

Opposition to these policies led to the resignation of the cabinet on February 20 and the formation of a new government, headed by General Nuri as Premier and Foreign Minister on February 22. Another military revolt like that suppressed in 1939 was narrowly averted during the cabinet crisis. The Chief of the Iraqi General Staff and other high army officers openly objected to the inclusion of Gen. Nuri es-Said and Gen. Taha el-Hashimi, the Defense Minister, in the new cabinet. Firm action by the Regent, supported by General Nuri and his colleagues and by the British, overcame this opposition. However on March 31 another reorganization of the ministry was deemed advisable. General Nuri surrendered the Premiership to former Premier Rashid Ali Al-Gailani but retained control of the Ministry of Foreign Affairs.

The anti-British elements were placated in part by the restrictions of Feb. 28, 1940, on land sales to Jews in Palestine (q.v.) and by British support of the Turkey-Iran-Iraq-Afghanistan bloc in its efforts to stave off Soviet and German control. After Italy's entrance into the European War and the collapse of France, Nuri es-Said and the Minister of Justice hastened to Ankara on a "secret" mission. On June 26 an agreement between Turkey and Iraq for the joint defense of French-mandated Syria in collaboration with Great Britain was announced at Ankara. Like Turkey, Iraq feared that Italy would seize Syria from France and use it as a base for further expansion in the Near East. After discussing the future status of Syria with Turkish officials in Ankara and with Syrian politicians at Aleppo, Beirut, and Damas-

cus, the two Ministers returned to Baghdad on July 5. There General Nuri declared that both the Iraq and Turkish governments favored complete independence of Syria from France. When the French forces in Syria accepted the Franco-German armistice, the Iraqi Government approved the decision of the British-controlled Iraq Petroleum Co. to divert to Haifa, Palestine, the oil that previously flowed through the pipeline from the Kirkuk, Iraq, fields to the port of Tripoli, Syria.

See **AFGHANISTAN, ARABIA, IRAN, PALESTINE, SYRIA AND LEBANON, and TURKEY** under *History*.

**IRELAND (EIRE).** A sovereign, independent state, affiliated for certain purposes with the British Commonwealth of Nations; comprising the 26 counties of Southern Ireland formerly designated the Irish Free State. The name was officially changed to "Ireland" in English and to "Eire" in Gaelic by the Constitution effective Dec. 29, 1937. As used in the official sense, Ireland excludes the six counties of Northern Ireland (q.v.).

**Area and Population.** The area is 26,601 square miles and the population was estimated at 2,934,000 on June 30, 1939, as compared with 2,965,854 at the 1936 census. The decline in population was attributed chiefly to emigration to the United Kingdom and elsewhere. Living births in 1939 numbered 56,097 (19.1 per 1000); deaths, 41,730 (14.2 per 1000); marriages totaled 14,934 in 1938 (5.1 per 1000). Populations of the chief cities in 1936 were: Dublin with suburbs, 467,691; Cork, 80,713; Limerick, 41,395; Waterford, 27,962.

**National Defense.** See *History* below.

**Religion and Education.** School attendance is compulsory and there is practically no illiteracy. Attendance at elementary schools averages 470,000; excluding the cost of administration, the estimated state expenditure on elementary education for the year 1939-40 was £3,749,697. Secondary school enrollment (1937-38) was 36,092. University attendance was 5326 in 1939-40. The institutions of higher learning are Trinity College, Dublin, and the University of Ireland, the latter with constituent colleges at Dublin, Cork, and Galway. According to the 1936 religious census, there were 2,773,920 Roman Catholics, 145,030 Episcopalians, 28,067 Presbyterians, 9649 Methodists, and 11,754 others.

**Production.** Agriculture, stock raising, manufacturing, and fishing are the principal occupations. Yield of the chief crops in 1939 (in metric tons) except where otherwise indicated was: Wheat, 259,400; rye, 1300; barley, 75,000; oats, 548,300; potatoes, 3,046,600; beet sugar, 58,600; scrutched flax (excluding tow), 900; turnips, 2,506,000 long tons (1938); mangels, 1,544,000 long tons (1938); hay, 4,593,000 long tons (1938). On June 1, 1938, there were 4,056,209 cattle; 3,196,601 sheep; 958,805 swine; 441,970 horses; 19,630,230 poultry. The sea fisheries yielded 9500 metric tons of fish valued at £230,000 in 1939. Gross value of output of electricity undertakings in 1938 was £1,999,215; output of malting and brewing establishments was valued at £8,355,568.

**Foreign Trade.** General merchandise imports in 1939 were valued at £43,200,000 (£41,404,903 in 1938); exports of Irish products were valued at £26,600,000 (£23,878,720 in 1938). Livestock and foodstuffs accounted for 90 per cent of the exports. For distribution of trade, see 1939 YEAR BOOK, p. 379. Also see **TRADE, FOREIGN**.

**Finance.** For the fiscal year ending Mar. 31, 1940, actual revenues were £32,389,000 and expend-

itures £34,395,000, leaving a deficit of £2,007,000. The gross public debt on Mar. 31, 1939, was £61,438,000, net debt, £30,876,000. The Irish pound is convertible into the pound sterling. The average exchange value of the Irish £ was \$4.9440 in 1937, \$4.8894 in 1938, \$4.4354 in 1939, \$3.83 in 1940.

**Transportation.** The total length of railways, first track, on Jan. 1, 1939, was 2511 miles. Receipts aggregated £5,473,500 in 1939. Highways extended 48,550 miles in 1940. Air service between Ireland and England was continued throughout 1940, but the British terminus for the Irish air line, *Aer Lingus Teoranta*, was transferred from the Speke Airport (Liverpool) to an airport farther inland. British Airways, Ltd., resumed transatlantic air-mail service between the United States and Great Britain, via Foynes, Ireland, on Aug. 3, 1940.

**Government.** Under the Constitution proclaimed Dec. 29, 1937, there is a President elected by popular vote for seven years. He summons and dissolves Parliament on the advice of the Prime Minister, signs and promulgates laws, appoints judges, appoints a Prime Minister nominated by the Dáil, approves other cabinet ministers nominated by the Prime Minister, and commands the armed forces. The Oireachtas (Parliament) includes two houses: the Dáil or House of Representatives of 138 members elected by popular suffrage, and the Senate of 60 members (43 elected on a vocational basis, 6 elected directly to represent the two universities, and 11 nominated by the Prime Minister). Executive power is exercised by the government, or cabinet, which is responsible to the Dáil. For further particulars, see 1937 YEAR BOOK. President in 1940, Dr. Douglas Hyde (assumed office June 25, 1938).

The composition of the Dáil following the election of June 17, 1938, was: *Fianna Fáil*, 77; United Ireland party, 45; Labor, 9; Independents, 5; Farmers, 2. Members of the *Fianna Fáil* government, as reorganized Sept. 27, 1939, were: Prime Minister, External Affairs, Education, Eamon de Valera; Deputy Prime Minister and Finance, Seán T. O'Kelly; Local Government and Public Health, Patrick J. Ruttledge; Supplies, Seán F. Lemass; Industry and Commerce, Seán MacEntee; Agriculture, Dr. James Ryan; Co-ordination of Defensive Measures, Frank Aiken; Lands, Thomas Derrig; Justice, Gerald Boland; Defense, Oscar Traynor; Posts and Telegraphs, Patrick J. Little.

#### HISTORY

The de Valera Government in 1940 continued its efforts to avoid involvement in the European War, while striving to end the partition of 1920 by peacefully establishing its jurisdiction over Northern Ireland. It had to contend with the growing threat of civil war from the illegal Irish Republican Army, which urged the subjugation of Ulster by force of arms. Following German occupation of the entire French Atlantic coast in June, there developed acute danger of a German attempt, with I.R.A. collaboration, to seize Ireland as a base for air and sea warfare against Britain and its vital overseas trade. Seeking to forestall such an attack, the British Government brought increasing pressure upon Dublin to conclude a mutual defense pact or to permit British use of the naval bases in southern Ireland that Britain had turned over to Ireland by the Anglo-Irish accords of Apr. 25, 1938, (see YEAR BOOK, 1938, p. 351).

**Struggle with I.R.A.** Aroused by the mounting violence of I.R.A. activities late in 1939 (see



YEAR BOOK, 1939), the government took vigorous steps to reassert its authority early in 1940. On January 3 it won the Dáil's approval, 82 to 9, of amendments to the Emergency Powers Act and the Offenses Against the State Act. The amendments authorized the government to intern native-born citizens suspected of illegal anti-government activities. Both Prime Minister de Valera and Minister of Justice Boland told the Dáil that the government's policy of conciliation had failed and that firm measures were necessary. The Minister of Justice said that "a highly organized body" (the I.R.A.) was receiving large sums of money from the United States and had accumulated stores of explosives and arms to further its rebellion.

Following validation of the amendments by the Supreme Court on February 9, soldiers and police carried out a series of raids that netted a number of I.R.A. leaders and uncovered additional arms, munitions, and supply dumps in various parts of the country. The Roman Catholic Primate and Bishops joined in the effort to curb the I.R.A. by issuing pastoral letters condemning its terroristic activities and declaring membership in the organization a sin. Nevertheless there were demonstrations against the de Valera Government on the March 24th anniversary of the 1916 Easter rebellion, and recurrent terrorist outbreaks.

Six I.R.A. members, arrested in a Dublin raid on February 17 and sentenced by a military tribunal, started a hunger strike on February 25 to force the government to recognize imprisoned I.R.A. members as prisoners of war. The government stood firm against this maneuver to obtain recognition of the I.R.A. activities as legitimate warfare. One of the prisoners died on April 16 and another on April 19. The four survivors then abandoned their strike. On April 25 a powerful time bomb exploded alongside detectives' headquarters in Dublin Castle, wrecking the lower yard of the castle and shaking the entire capital. On May 7 two motor-cycle detectives carrying mail bags to the British High Commissioner in Dublin were fired upon and seriously wounded by six gunmen in the center of Dublin.

While German armies were driving steadily ahead in Belgium and Northern France, the Dublin police during a raid on the home of Stephen Carroll Held in the Templeogue suburb on May 22 uncovered evidence that prominent I.R.A. members were collaborating with German agents and aiding them to collect information on Ireland's defenses. Held, who was of German extraction, and Mrs. Iselt Stuart, prominent society matron, were arrested along with a number of other I.R.A. members suspected of "fifth column" activities on behalf of Germany. On June 7 Held was charged with having a used parachute, secret codes, radio transmitting set and military information in his home, and with having received \$20,000 in United States currency between October, 1939, and May, 1940, for use by the I.R.A. Two other I.R.A. members were executed on September 6 for killing two detectives during a raid on a Dublin hideout on August 17. The I.R.A. meanwhile was carrying on an even more active terrorist campaign in Northern Ireland (q.v.).

**Defense Preparations.** To meet the growing threat from within and without, the government on May 27 placed the standing army and reserves on a war footing and called for volunteers to expand the armed forces and to establish home defense units. The two opposition parties pledged their full

co-operation with the government in resisting aggression and suppressing treasonable activities. The Prime Minister on May 27 appointed a National Defense Council of eight (3 government, 3 United Ireland, and 2 Labor members) to serve as a supreme war commission.

A drastic defense bill, giving the government sweeping emergency powers and imposing the death penalty for treachery, was rushed through Parliament on June 5-6 by unanimous vote. The Prime Minister and his colleagues addressed repeated appeals to the country to rally for its defense. Extensive preparations were made to deal with an invasion by air. Mine fields were laid at strategic points along the coast. Air raid shelters were built in Dublin. Stocks of essential supplies were accumulated. The censorship regulations were drastically tightened on August 24.

The Irish army with its reserves had totaled only about 25,000 men in the spring. By mid-September about 100,000 men were ready to take the field and another 100,000 were enrolled in local defense organizations. The army, however, had virtually no tanks, aircraft, and other modern weapons. On September 15 eight regional commissioners were appointed to assume governmental powers in their districts if invading forces succeeded in cutting off parts of the country from Dublin.

**Neutrality Violations.** The danger of a German invasion was emphasized by a number of incidents that brought the war close to Ireland. During August German planes bombed and machine-gunned five ships along the Irish coasts. On August 20 a German plane, containing an air map of Ireland with routes to the Foynes airport marked in red, crashed on a mountain in County Kerry. Its crew of six men was interned. On August 26 German planes bombed four villages in County Wexford, killing three girls. The Berlin Government apologized for each of these incidents, and the de Valera Government did no more than register formal protests. The German Minister continued his activities in Dublin, although the British complained that his Legation served as headquarters for espionage activities in Great Britain, and that the Reich was financing I.R.A. activities by way of the United States. More bombs were dropped on the night of December 20.

**Anglo-Irish Relations.** The I.R.A. campaign of terroristic bombings in Great Britain to force the withdrawal of British authority from Northern Ireland (see YEAR BOOK, 1939, p. 380) waned markedly in 1940 following the hanging in Birmingham on February 7 of two young Irish terrorists convicted of a bombing outrage that cost the lives of five persons in Coventry. The executions aroused deep anger in Ireland, where many anti-Republican elements had joined in petitioning the British Government to reprieve the condemned men.

In June and July, when a German invasion of Ireland appeared imminent, the British Government proposed the establishment of a joint defense committee, including representatives of Ireland, Northern Ireland and Britain, to cope with this threat. The Northern Ireland Government consented to these negotiations only under severe pressure from London. However Prime Minister de Valera declared that his government could not consider the proposal unless Northern Ireland agreed to end the partition and accepted Dublin's policy of strict neutrality. The Northern Ireland Government emphatically rejected this course and the discussions ended in mid-July. It was unofficially reported that



Dublin had agreed to align itself with Britain in case of a hostile attack. In the meantime Irish officials made it clear that they would resist British as well as German attempts to infringe upon their neutrality.

The issue of Anglo-Irish collaboration was revived by Prime Minister Churchill before the House of Commons on November 5. He called attention to the growing danger from German submarine warfare and pointed out the great handicap under which British anti-submarine units in the Atlantic operated as the result of the British withdrawal from the naval bases in southern Ireland in 1938. The British press and spokesmen of the three chief British political parties all urged the Irish Government to permit the British navy to use the Irish base facilities. Prime Minister de Valera bluntly rejected these appeals in a speech before the Dáil on November 7.

**Economic Trends.** The chief economic effects of the European War upon Ireland were a rapid increase in prices and in the general cost of living, a consequent wave of serious strikes for higher wages, the growing difficulty experienced by manufacturing industries in obtaining raw materials, and the relatively favorable condition of agriculture as a result of the rising demand for Irish foodstuffs in Great Britain. A strike of 2200 municipal employees in Dublin left the city virtually without fire-fighting, public health, and street cleaning services from February 29 to March 18. There were other important strikes in the timber, relief works, textile, and highway transport industries. Unemployment, after rising to a peak of 118,000 in January, steadily declined as a result of enlistments in the armed forces, expansion of farming, and an improvement in business during the summer months. The autumn and winter saw a reversal of these trends due to the increasing effectiveness of the German blockade.

The vital export trade to Britain was carried on at prices fixed by the British Ministry of Food. Constant negotiations between the two governments were required to adjust the British scale of prices to rising production costs in Ireland. On June 25 the British Food Ministry agreed to double its imports of Irish bacon and to take the entire surplus of Irish cheese. Under a compulsory tillage scheme the acreage planted to food crops increased by 410,000 acres, or 10 per cent, in 1940. A further increase was required for 1941. To conserve foreign exchange, restrictions on security transactions were imposed on July 31.

In a Christmas Day broadcast to the United States Prime Minister de Valera said that stocks of food and raw materials were being rapidly exhausted and appealed for aid in obtaining both arms and foodstuffs. He pointed out that "probably no country of Europe is so effectively blockaded as we are." The growing scarcity of shipping led the British Government on December 27 to place restrictions on the re-export to Ireland of cattle feed, fertilizer, tobacco, oranges, lemons, and certain tools, all important to the Irish economy but which had to be imported into Britain under convoy.

See ANTHROPOLOGY; NAVAL PROGRESS.

**IRELAND, Northern.** An area, largely co-extensive with the region of Ulster, in the north of Ireland; consisting of six counties and two parliamentary boroughs, it is integrally united with Great Britain. Capital, Belfast.

**Area and Population.** The area is 5237 square miles and the estimated population on June 30,

1939, was 1,290,000 (1,279,753 at the Feb. 28, 1937, census). Living births numbered 25,254 (19.5 per 1000) in 1939; deaths, 17,549 (13.6 per 1000); marriages totaled 8623 (6.7 per 1000) in 1937. The population of Belfast (1937) was 438,112; that of Londonderry, 47,804. The census of 1937 showed 428,290 Roman Catholics, 390,931 Presbyterians, 345,474 Episcopalians, 55,135 Methodists, and 59,915 of other religious faiths. Public elementary schools in 1938-39 numbered 1700 with 191,862 pupils; preparatory, intermediate, and secondary schools numbered 210 with 37,081 students. Queens University at Belfast had 1590 students.

**Production.** Stockraising and dairying contribute materially to the proceeds of agriculture. Live-stock, Jan. 1, 1939, included 700,564 cattle, 551,262 sheep, 565,726 swine, and 6,038,001 poultry. The harvest of potatoes, the chief food crop, yielded (1938) 711,369 tons. The crop of flax, in 1938, was 4036 tons. Other agricultural production (1938), in tons, included turnips, 320,497, and hay, 824,989. The two principal manufacturing industries, linen-making, and shipbuilding, employed respectively about 70,000 and 15,000 persons. Almost all the linen (value, 1938, £5,480,000) exported from the United Kingdom originates in Northern Ireland. The shipyards of Belfast were building 200,000 tons of ships a year before the war broke out in September, 1939. Statistics for the foreign trade of Northern Ireland are included in those for the United Kingdom.

**Finance.** The budget, as estimated for the fiscal year that ended with Mar. 31, 1940, included revenues of £13,859,000 and expenditures of £13,823,000. The greater part of taxation is imposed and collected by the British Imperial authority, but Northern Ireland exercises certain powers of taxation on its own account. Taxes collected in Northern Ireland contributed, in the fiscal year 1939, more than £1,000,000 to the expenses of defense and other Imperial services.

**Transportation.** The total length of railway line is 741 miles. Canals extend 180 miles, highways, 13,043 miles. Shipping lines operate regularly between ports in Great Britain and those of Belfast and Londonderry. Other ports affording communication by sea are Newry, Larne, and Coleraine.

**Government.** Although an integral part of the United Kingdom and represented by 13 members in the British House of Commons, Northern Ireland exercises a degree of local autonomy, through a Parliament of its own and a cabinet responsible thereto. The Senate of this Parliament has 24 elected and 2 ex-officio members; the House of Commons has 52 members, all elected. The composition of the House of Commons elected Feb. 9, 1938, was: Unionists, 39; Nationalists, 8; Independent Unionists, 2; Labor, 2; Independents, 1. The chief permanent officer is a Governor (since 1922, the Duke of Abercorn). The head of the cabinet is a Prime Minister, the office was held continuously by Viscount Craigavon from the establishment of Northern Ireland in 1921 until his death in 1940.

**History.** The Irish Republican Army's underground warfare gained momentum during 1940 and was met with increasingly severe measures of repression. The IRA campaign was carried on simultaneously in Northern Ireland, Great Britain and Ireland (Eire) with the announced objective of expelling British authority from Ulster and establishing a republic embracing all Ireland.

The hanging of two I.R.A. terrorists in Birmingham, England, on February 7 was followed on February 11 by serious street fighting in Belfast, when police charged a pro-Republican demonstration. Defying the Ulster Government's ban on Easter Week demonstrations, 400 armed I.R.A. members paraded through Belfast on March 22, anniversary of the 1916 rebellion. An I.R.A. manifesto issued the same day stated that the terrorist campaign in Britain would be continued until every British soldier had withdrawn from Ireland (including Ulster) and Britain recognized the I.R.A. underground government as the only Irish government. Two days later a railroad bridge near Londonderry was dynamited and there was a clash between police and Irish Nationalists in that city. There were innumerable minor raids, bank robberies, bombings, and clashes between I.R.A. members and their opponents throughout the year. The I.R.A. campaign was directed not only against the Ulster and British governments and their supporters, but also against the de Valera government and its adherents in Northern Ireland.

The Northern Ireland authorities reacted to this campaign by harassing members and suspected members of the I.R.A. with constant police raids. When apprehended they were held for long periods without trial, particularly after the danger of a German invasion with I.R.A. assistance became acute in May. On May 24, 76 men were rounded up in overnight raids throughout Ulster. Forty more suspects were arrested in Belfast July 1, 300 were interned on July 22, 18 on July 28. In many instances the police raids uncovered stores of arms. As a result of these measures, there was a noticeable decline in I.R.A. activities during the latter part of the year. On the other hand the Catholic minority in Ulster was incensed by the police raids and on December 8 the Bishop of Down and Connor voiced a sharp protest.

The Ulster Government was concerned not only with curbing the I.R.A. but also with contributing to the British war effort and with preparations to meet a German invasion through Southern Ireland. After conferring with British officials, Prime Minister Craigavon on May 23 inaugurated an intensified recruiting drive and also authorized expansion of the police forces. As the German menace developed, the Ulster defense program was expanded. The British Government also strengthened the Ulster garrison and made preparations to rush reinforcements across the Irish Sea if a German attack was launched at Ireland.

British efforts to reach an agreement on a joint defense program with both Ireland and Northern Ireland were wrecked on the partition and neutrality issues (see IRELAND under *History*). Despite pressure from London and the urgings of a growing band of prominent Ulster residents, Prime Minister Craigavon rejected all demands for a co-ordinated military defense based upon the termination of the partition and acceptance by Ulster of Prime Minister de Valera's neutrality policy. He said Northern Ireland was prepared to co-operate with de Valera provided Ireland entered the war on the side of the Allies and Dublin undertook "not to raise any issues of a constitutional nature."

In October the Ulster Government decided to merge the Northern Ireland Home Guard with the Royal Ulster Constabulary. This produced an appeal to Prime Minister Churchill by 24 prominent Irishmen headed by General Sir Hubert Gough. They asked him to revoke the Ulster decree as a

conciliatory gesture toward southern Ireland. They asserted that the constabulary had "incurred the odium attached to a political police force of the type familiar on the Continent of Europe" and that "clashes on the border may result from the activities of this large force directed by local civilian or police officials without regard to consideration of British policy as to external affairs or to British military arrangements designed to conform to the requirements of that policy."

Secret inspections of Ulster defenses were made by the British War Minister, Anthony Eden, in July and by the Duke of Kent in October. The first German air raid on Ulster territory was made by a single plane on September 13. In connection with its war preparations, the Ulster Government offered a subsidy of £2 for every acre of new land ploughed and planted to food crops. On August 9 it banned strikes and lockouts in Northern Ireland for the duration of the war.

Viscount Craigavon (see *NECROLOGY*) died on Nov. 24, 1940, arousing hopes in some quarters that a compromise agreement could now be worked out on the partition issue that would permit of a co-ordinated defense program for all Ireland. His successor as Prime Minister and leader of the Unionist party was John Miller Andrews, former Deputy Prime Minister. He announced on December 8 that there would be no change in his government's attitude toward Eire. "We in Ulster are anxious to live on friendly terms with the people of the south," he said, "but it must be as neighbors and not as partners in an all-Ireland republic . . . Under no circumstances will the people of Ulster surrender their birthright as citizens of the United Kingdom and the empire they have had a part in building up."

See *GREAT BRITAIN and IRELAND under History*. **IRISH FREE STATE.** See *IRELAND (EIRE)*. **IRON AND STEEL.** Production of steel in the United States during 1940 reached the highest level ever recorded, according to the American Iron and Steel Institute. The volume of production reflected the influence of the war in Europe and the defense program of the United States. Production of steel ingots amounted to 66,500,000 net tons, 8 per cent above the previous record figure of 61,400,000 tons in 1929, and nearly 20 per cent greater than the 1939 output of 52,500,000 tons. About 18 per cent of finished and semi-finished steel products was produced for export trade, half of which was sold to Great Britain. There was plenty of steel to meet demands in 1940.

In producing its record-breaking tonnage the industry operated at the following average rates of ingot capacity for the four quarters of the year: 72.6, 72.7, 87.9, and 95. All existing tonnage records were broken in the fourth quarter. The "rated" capacity of the industry was about 83,000,000 tons per annum, with a practical working capacity of 85,000,000 tons.

Employment and payrolls rose far above 1929 levels. Employment throughout the year averaged about 550,000 men, nearly 20 per cent more than in 1929; and pay rolls of \$950,000,000 were 13 per cent above 1929 despite a shorter work week. Hourly wages of steel workers were at the highest level in history, nearly 30 per cent higher than 1929.

The composite price of various kinds of finished steel products was 2.26¢ per lb., 40 per cent less than the average price for 1917-18, although hourly wages are 65 per cent higher than in those years.

Domestic scrap consumption in 1940 was estimated at 41,000,000 gross tons, breaking all previous records, even rising above the 1937 figure of 38,006,272 tons.

New construction of furnaces—blast, open-hearth, and electric—was either completed or under way on a large scale in an effort to meet the tremendous demand for steel in 1941 for national defense.

Pig iron production was approximately 46,700,000 net tons, compared with 35,310,042 tons in 1939. No data are available on world production of steel, pig iron, and ferro alloys.

H. C. PARMELEE.

**IRON ORE.** Production of iron ore in 1940 was greatly stimulated to meet the war demands for steel. According to the Lake Superior Iron Ore Association, shipments from upper lake ports in 1940 aggregated 63,712,982 gross tons. This represents an increase of more than 41 per cent over 1939, but is still below the all-time high 1929 production of 65,205,000 tons. The 1939 Census of Manufactures records 100 companies operating 174 iron ore mines in the United States. Average number of wage earners was 20,126, receiving wages amounting to \$27,199,913. Salaried workers numbered 2178 and they received \$5,674,482. Production of iron ore in 1939 was 51,641,055 long tons, of which about three-fifths came from open pits. Average iron content of the natural ore was 51.01 per cent.

Estimates of iron ore mined in the United States in 1940, compared with actual output for 1939, are given by the Bureau of Mines in the accompanying table.

IRON ORE MINED IN THE UNITED STATES

(Gross tons)

	1940 est	1939 actual
Michigan	12,671,000	9,159,222
Minnesota	47,470,000	31,547,701
Wisconsin	1,267,000	972,685
S. E. States	7,239,000	6,021,781
N. E. States	3,547,000	3,112,893
Western States	1,212,000	917,448
Total	73,806,000	51,731,730

The average value of ore at the mines in 1940 was estimated at \$2.56 per gross ton; in 1939 it was \$2.89.

Imports of iron ore for 12 months of 1940 were 2,483,234 gross tons valued at \$6,210,971, compared with 2,412,515 tons valued at \$5,865,510 for the entire year 1939.

Exports for 12 months of 1940 were reported at 1,386,304 tons valued at \$4,624,555, compared with 1,057,304 tons valued at \$3,578,086 for the entire year 1939.

See MICHIGAN, MINNESOTA.

H. C. PARMFEE.

**IRRIGATION.** See AQUEDUCTS; RICI AMATION, BUREAU OF, SOIL CONSRVATION SERVICE, TUNNELS.

**ISLE OF MAN.** See GREAT BRITAIN under *Area and Population*.

**ISOTOPES.** See CHEMISTRY.

**ITALIAN AEGEAN ISLANDS.** See AEGEAN ISLANDS, ITALIAN.

**ITALIAN EAST AFRICA.** An Italian Colony in East Africa established by the decree of June 1, 1936, which merged the colonies of Eritrea

and Italian Somaliland with the newly conquered empire of Ethiopia. Capital, Addis Ababa. The area and population of Italian East Africa by provinces, according to official Italian estimates of May, 1939, are shown in the accompanying table.

ITALIAN EAST AFRICA. AREA AND POPULATION

Province (Capital)	Sq. Miles	Population
Eritrea * (Asmara)	89,274	1,500,000
Amhara (Gondar)	76,235	2,000,000
Shoa (Addis Ababa)	24,125	1,850,000
Galla and Sidamo (Jimma)	124,369	4,000,000
Harar (Harar)	79,844	1,600,000
Somaliland * (Mogadiscio)	270,972	1,150,000
Totals	664,819	12,100,000

\* Eritrea and Somaliland are not co-terminous with the former colonies; they include parts of Ethiopia (see map in 1936 YEAR BOOK, p. 240, for the former provincial boundaries).

Estimated populations of the chief cities: Addis Ababa, 150,000; Harar, 50,000; Dire Dawa, 30,000; Asmara, 23,000; Mogadiscio, 21,000; Massaua, 15,000; Gondar, 6000; Dessye, 5000. The number of permanent Italian residents was 200,000, according to census results announced in July, 1940. The native population includes some 2,000,000 Amharas, the former rulers of Ethiopia, who are Coptic Christians; more than 3,000,000 Gallas, who are part Christian, part Mohammedan, and part pagan; and the Danakil, Somalis, and numerous other tribes, mostly Mohammedan or pagan. The official languages are Italian, Amharic, Arabic, and Tigrinish.

**Religion and Education.** On Dec. 1, 1937, the Viceroy declared the Ethiopian Coptic Church independent of the Egyptian Church and appointed the Abuna (patriarch) and bishops for all of Italian East Africa.

Education was entrusted to the Italian Fascist party, which established primary schools in the principal occupied cities. In 1938-39 there were 157 elementary schools, with 15,668 pupils (11,623 natives, 3908 Italians, 137 others), and 9 secondary schools, with 1515 pupils (1497 Italians).

**Production.** Stock raising and primitive agriculture are the chief occupations. Cultivated and wild coffee (exports, 13,000 metric tons in 1937-38), cotton, sugar, flax, bananas, dates, grapes, cereals, tobacco, fruits, and vegetables are grown in small quantities. Agricultural produce is grown for export on some foreign plantations using native labor. Salt exports in 1939 were about 250,000 tons. Gold, platinum, iron, and potash are produced in commercial quantities. A 1939 census showed 4007 industrial firms in Italian East Africa with an invested capital of about 2,700,000,000 lire, and 4785 commercial firms (capital, 1,100,000,000 lire), most of them in Eritrea. A new hydro-electric power station was opened in Addis Ababa in December, 1939.

**Trade and Finance.** Imports in 1938 totaled 2,447,057,000 lire (2,062,038,000 from Italy) and exports were 191,877,000 lire (114,845,000 to Italy). The lire exchanged at \$0.0526 in 1938. Revenue and expenditure for the fiscal year ended June 30, 1940, were estimated to balance at 2,183,000,000 lire, excluding expenditures from the special fund of 12,000,000,000 lire allocated by the Italian Government in 1938 for public works and equipment. A substantial part of the regular budget receipts was contributed by the Italian Treasury.

**Transportation.** A railway connects Djibouti in French Somaliland with Addis Ababa (486 miles). Another line extends inland from Massaua

on the Red Sea to Asmara, Cheren, Agordat, and Biscia. The network of strategic motor highways, totaling 12,083 miles in 1939, was extended in 1940. A shorter motor route between the Red Sea and Addis Ababa (538 miles), via Assab, the Danakil desert and Dessye, was opened late in 1939. This asphalted road cost 675,000,000 lire and was built in 2½ years by an average daily labor force of 32,000 workmen. Three other roads from Addis Ababa to the port of Mogadiscio on the Indian Ocean were under construction—one by way of Lakes Soddu and Neghelli (916 miles), another by way of Ghignar, Imi, and Mustahil (863 miles), and the third by way of Dire Dawa, Jijiga, and Gorahai (1086 miles). Also under construction was the Imperial Road forming the main traffic artery of Addis Ababa. A network of military airlines linked the chief centers and military posts of the colony. Chief ports, Massaua and Assab on the Red Sea and Mogadiscio, Merca, and Chisimaio on the Indian Ocean.

**Government.** The Italian Government formally annexed Ethiopia and proclaimed the King of Italy its Emperor on May 9, 1936. On June 1, 1936, Eritrea and Italian Somaliland were merged with Ethiopia to form Italian East Africa. The colony is administered by a Viceroy and Governor General at Addis Ababa, assisted by a Vice Governor General, a Chief of Staff, a consultative Council of Government composed of high government officials, and the governors of the six provinces (governments). There is also a Board of Consultors representing the white colonists and native chieftains. Viceroy in 1940, the Duke of Aosta (appointed Nov. 20, 1937).

**History.** Italy's entrance into the European War on June 10, 1940, interrupted the task of the Italian conquerors in opening up Ethiopia and subjugating the guerrilla bands operating in inaccessible parts of the colony. The Italian military forces, estimated at 60,000 to 80,000 white troops and additional native units, were cut off from overseas sources of supply and confronted with enemy forces on all sides.

The collapse of France ended the resistance of French military units in French Somaliland, gave the Italians access to Djibouti, and enabled them to outflank the small British force in British Somaliland, which was conquered in August (see SOMALILAND, BRITISH; SOMALILAND, FRENCH). This gave the Italians complete control of the African shore of the Gulf of Aden and Strait of Bab el Mandeb, but they were unable to prevent British shipping from using this entrance to the Red Sea. From Eritrea and Western Ethiopia the Italian forces invaded the Anglo-Egyptian Sudan (q.v.) and Kenya (q.v.) but made relatively little progress up to the end of 1940. From bases in Italian East Africa the Italian air force made repeated raids on British military and naval bases in Aden, Kenya, and the Sudan.

Meanwhile British and South African air units continually raided Italian military and air bases and railway and highway communications throughout the colony, while British naval and air forces from time to time bombarded the ports. Traffic on the Djibouti-Addis Ababa railway was reported to have been disrupted and considerable damage done to camps and public works.

The British also helped Ethiopian leaders hostile to the Italian occupation to reorganize and strengthen their guerrilla forces. Even before Italy entered the war, reports from neighboring territo-

ries indicated that there was growing unrest among the Ethiopian tribes. A Djibouti report of June 11 stated that the Italians had executed Ras Hailu, a prominent chieftain who had aided them during the Ethiopian War. At the end of June the ex-Emperor Haile Selassie left London by air for Khartoum in the Anglo-Egyptian Sudan, where he made preparations to reconquer his kingdom with British aid. In October he moved nearer the Ethiopian border. Meanwhile on July 12 the British Government informally recognized Haile Selassie as a full ally in the struggle against the Axis powers, thus reversing its formal recognition of Italian sovereignty in 1938.

At Haile Selassie's order, his former War Minister, Ras Birru, flew from Jerusalem to the Anglo-Egyptian Sudan on June 13 to assume command of Ethiopians fighting with the British. Other leading Ethiopian exiles in Palestine also left to organize Ethiopian resistance within Italian East Africa or on its frontiers. As a result of their activities and the gradual exhaustion of supplies, the Italian position at the year end was said to be difficult.

See EUROPEAN WAR under *Campaigns in Africa*, ITALY under *History*.

**ITALIAN LITERATURE.** The literary horizon in Italy in the past few years has had varying fortunes, jolts, and indeed, many a surprise. Unfortunately for our Italian literati, disturbances have not arisen from within the ranks, for if it were so, then one would term them "polemics," a preoccupation quite consonant with the idea of literature. These disturbing factors, however, have absorbed all Italy in the past five years: national crises (Ethiopia, Albania, the present Cataclysm in Europe) have forced all cultural activities into a remote background. The 1940 season, as the one previous, again will have to forfeit its major premise to the department of history.

An event that stands in relief was the admittance of gracious and benign Ada Negri to the Royal Italian Academy. This is indeed an honor, accentuated the more so since it went to a woman. In this connection, Renzo Rendi said, in his *The Literary Scene in Italy* (See *The New York Times Book Review*, Jan. 19, 1941): "The Royal Italian Academy for the first time opened its portals to a woman. The fact caused a certain surprise, as in Italy also the idea that academies are reserved to men is widespread. But, as it was explained in the press, the academy wanted to renew an old tradition largely adopted by the ancient Italian academies of two centuries ago, in which female members were often elected."

Concurrently with Ada Negri's appointment to the Academy came the news that her recent offering, *Erba sul sagrato* (*Grass on Sacred Ground*, Mondadori), was a best seller. And in this connection also could be recorded a list of some popular books in Italy in the past season. Heading the list was Giovanni Papini's *Italia mia* (Vallecchi), then, Mosca's *Ricordi di scuola*, (*School Memories*, Rizzoli); Carlo Linati's *A vento e sole* (*With Wind and Sun*, Soc. Subalpina); Lucio D'Ambrà's *Passo di strada* (*Step Along the Way*, Mondadori); P. Bargellini's *Ritratto virile* (*Virile Portrait*, Morcelliana); F. Tombari's *I ghiottoni* (*Gluttons*, Mondadori); Trilussa's *La sincerità* (*Sincerity*, Mondadori); Emilio Cecchi's *America amara* (*Bitter America*, Sansoni). Among other volumes which enjoyed popularity were a reprinting of the famous novel of Giovanni Verga *I*

*Malavoglia* (Mondadori) and G. Mazzoni's translation of Catullus, *Poesie* (Zanichelli). An anthology of Italian literature which reached a wide public was G. Zoppi's *Antologia della letteratura italiana*. An exclusive place, if lastly, should be given to the ever increasing popularity of the famous Bompiani *Almanacco letterario*, a literary year book, unique in format and content, which with exhaustive criticism on publications, original contributions, and letters of famous authors, illustrations, sketches, and cartoons, will continue in popularity principally for its vitality and freshness.

**Fiction.** A novel of clear pattern and material continued to be read in the past season and, because of its incisive character deserves this belated discussion. Its author, A. Frateili, has been very active in literature and movements, and his latest novel, *Clara tra i lupi* (*Clara Among the Wolves*, Bompiani), may well lay claim to an artistic achievement. In an exhaustive evaluation of this novel, Angelo Mele has stated with justification that in all of Frateili's creations there is a groping for some conciliation with the spiritual restlessness of our era, accentuated by an ardent and sincere desire to define the shadowy vicissitudes of daily life. Likewise, in this novel, Arnaldo Frateili has sketched out a cross section of our times with masterly delineations of characters. The novel is persuasive enough, and the reader cannot escape an interest and sympathy for the creatures of the author's imagination. Lorenzo Ruggi, better known as the author of *Madonna del gatto nero* (*The Madonna of the Black Cat*) of some seasons back, published a little over a season ago, *Romanzo della Neve* (*The Novel of the Snow*, Cappelli); its habitat is in the Dolomites during the height of the winter sport season. But for a serious and mystic undertone the novel would give the off-hand impression of levity and gayety, of the type destined for the "smart set." A novel with this cosmopolitan formula runs, *a priori*, the dangers of numerous pitfalls, which unfortunately the author has not fully avoided. But for other redeeming qualities, the novel might have been promptly discarded. This judgment on the novel should be a source of encouragement to the author: "At a certain point in the book something akin to a fable is present which suggests moral attitudes bordering on the mystic. It is a point in the story that rises unexpectedly, imparting merit to the whole. This serious undertone appears in the form of a conception of divine providence as expressed by a nun in the story speaking with a captivating logic that arrests the reader's attention and forces him to contemplate. This is the persuasive note of the author whose gaze and meditation is ever on crests of the Dolomites."

Apparently the women writers of Italy had a banner year, and Alba de Céspedes had the distinction of having the most widely read novel of the season. Alba de Céspedes is a recent comer in the field of literature, for still fresh in memory is her volume of short stories *Concerto* (1937), a volume which gave promise of a good future. Though the present volume, *Nessuno Torna Indietro* (*No One Turns Back*, Mondadori), was published a little over a season ago, its success continued rather in the past season. The work seems to be detached from any particular formula for novel writing, and, in the main, the author seems to proceed simply and directly with the story of eight young ladies, classmates, whose destiny becomes

as varied as their distinctive characters. The highly introspective mood, so much overworked in Italian novels, is eminently absent in this volume. Although a novel of some 460 pages, it does not "give the impression of a long work, for Alba de Céspedes has a chatty, narrative style which, in a sanely descriptive way, grips firmly whatever there is to be gripped, without digressions." The novel has already been translated into French, German, and Danish. Fulvia Giuliani Barberi, another young woman writer, has apparently abandoned her career as an actress to enter the literary field. Her novel, *L'uomo che camminò nella luce* (*The Man Who Walked in the Light*, Casa Editrice Quadermi di Poesia), was well received. Fortunately for her, the novel had other qualities to make up for an obviously hackneyed theme—that of the brilliant young doctor, rich, attractive, who in the end sacrifices his life in quest of a new serum.

In the short stories, Raffaele Calzini's collection *Il Tatturmo* (*The Tatturmo*, Mondadori) may be placed at the head of the list. The stories for the most part are on attractive themes and take us all over the world. Calzini, of course, is an old hand at writing, having already over two dozen volumes to his credit. His novel, *Segantini, Romanzo della Montagna* received the Viareggio Literary Prize of 1934. A collection of stories of humility and dignity were assembled by the popular novelist, Virgilio Brocchi. Those in this volume, called *La Gran Voce* (*The Great Voice*, Mondadori), have a major theme, that of the glorification of motherhood. The story *Mater Mirabilis*, is indeed touching and representative of the rest in the collection. Grazia Deledda, the distinguished Sardinian woman writer produced a series of stories, *Il cedro del Libano* (Garzanti, Milan), dealing for the most part on children's themes they reveal the most salient characteristics of Grazia Deledda's art: "a penetrating, intuitive psychology and the mania of looking deep into the heart of man." It is well to mention again the volume of short stories assembled by the Academician, Angelo Gatti, *La Terra* (*The Earth*, Mondadori). Angelo Gatti is known as a political writer as well as literary, and he will best be remembered by his very successful novel, *Ita ed Alberto* published not many seasons ago and well in its seventh printing. The stories represented in his latest volume are about the peasants and the country-side of Piedmont, and may well be called tales of the soil.

**Criticism and Varia.** Pietro Pancrazi brought out a sort of anthology of the short story of the 19th century, *Racconti e Novelle dell'800*, published by the time-honored house of Sansoni in a revised edition of over nine hundred pages. The same house published recently Agostini Savelli's *Storia d'Italia* from its origin to the present day, in simple though scholarly presentation. The second volume on the history of the Italian theater, *Storia del Teatro Italiano*, dealing with the Renaissance, was prepared by Maio Apolonio and published also by Sansoni. The same publishers put out Emilio Cecchi's curious but scathing invective against American life, *America Amara* (*Bitter America*). This book was read extensively in Italy in the past season, and unfortunately, the author does not refrain from speaking at length on trivial, if not weak themes. Some of the chapters deal with "Father Divine," dowagers of the metropolis, students of California, etc. The book can hardly bring enlightenment as to American cultural pursuits of the day. Lin Yutang's popular book, *The Impor-*

*tance of Living* was translated and published by Bompiani of Florence. The book was popular also in Italy in the past season and a half. And speaking of translations, equally popular were Margaret Mitchell's *Gone with the Wind* (*Via col vento*), Hervey Allen's *Antony and Cleopatra*, John Galsworthy's *La Saga dei Forsyte*; Louis Bromfield's *La Grande Paggia*. All these volumes were published by Collezione Omnibus. All three volumes of John Steinbeck were translated and the *Grapes of Wrath* (*Furore*, Bompiani) went into a third printing. Manlio Lo Vecchio Musti assembled the various essays of Pirandello, *Saggi* (Mondadori, Milan), among which are to be found essays on Humor, the Subjective and Objective in Literature, the poetry of Dante, Teatro Nuovo e Teatro Vecchio, etc. In addition Musti brought out a monograph on the Sicilian dramatist, *L'Opera di Luigi Pirandello*. The house of Paravia brought out the third and last volume of Francesco Luigi Mannucci's *Storia della letteratura italiana (The Eighteenth and Nineteenth Centuries)*. The first volume, *Dalle origini alla fine del Quattrocento (From the Origin to the End of the Fifteenth Century)* and the second volume dealing with the 16th and the 17th centuries, comprise the series. The sixth volume of *Storia Universale dell'Arte*, 18th and 19th centuries was prepared by Anna Maria Brizio. Along with 400 reproductions, the house of Editrice Torinese (Unione Tipografica) is to be congratulated for the numerous expensive series it undertakes. And now mention could be made of some English volumes on Italian themes. First in order should be recorded Thomas Caldecot Chubb's *Aretino (Scourge of Princes)*, (New York), an entertaining and scholarly work with profuse information on the life and times of the early 16th century Orestes Ferrara wrote the biography of Alexander VI, *The Borgia Pope* (New York). James Whittall translated Marcel Brion's *Michelangelo* (New York). Lastly may be recorded Paul Tabor's translation of Zsolt de Harsanyi's study on the dramatic life of Galileo, *The Star Gazer* (New York).

O. A. BONTEMPO.

**ITALIAN SOMALILAND.** See **ITALIAN EAST AFRICA**.

**ITALO-GREEK WAR.** See **EUROPEAN WAR**.

**ITALY.** A kingdom of southern Europe, upon which a Fascist dictatorship is superimposed. Capital, Rome. Sovereign in 1940, King Victor Emmanuel III, who ascended the throne July 29, 1900.

**Area and Population.** Excluding Libya (q.v.), which became part of Italian national territory in 1938 and Albania (q.v.), which was annexed in 1939, Italy has an area of 119,714 square miles and a population estimated at 44,109,000 on June 30, 1940 (42,444,588 at the 1936 census, which did not include 528,542 workers and soldiers in Africa). The 1936 census showed 31,735,027 urban and 11,258,575 rural residents. Living births in 1939 numbered 1,040,413 (23.5 per 1000); deaths, 590,652 (13.4 per 1000); marriages totaled 324,843 (7.4 per 1000). In 1938 Emigrants in 1938 numbered 61,548; emigrants who returned to Italy totaled 36,892. Foreigners in Italy at the 1936 census numbered 108,597 as compared with an estimated 9,600,000 Italians living in other countries.

The city of Rome had an estimated population of 1,327,126 on Dec 31, 1939. Other chief cities with the estimated populations on Jan 1, 1939 (not including workmen and soldiers absent in

Africa and the Dodecanese), were: Milan (Milano), 1,205,542; Naples (Napoli), 920,460; Turin (Torino), 690,015; Genoa (Genova), 654,211; Palermo, 431,666; Florence (Firenze), 351,055; Bologna, 315,158; Venice (Venezia), 283,926; Trieste, 258,612; Catania, 251,978; Bari, 210,777; Messina, 202,375; Verona, 166,315; Padua (Padova), 150,203; Taranto, 151,150; Leghorn (Livorno), 134,545; Brescia, 134,340; Ferrara, 122,913; Reggio di Calabria, 121,876; Cagliari, 119,934; La Spezia, 119,067.

**National Defense.** See **EUROPEAN WAR**; **NAVAL PROGRESS**, also *History* below.

**Colonial Empire.** The total area of Italy's colonies and dependencies (including Albania and all of Libya) is 1,279,589 square miles, total population (1939 estimate), 14,186,401. They are treated elsewhere in the YEAR BOOK under **AEGEAN ISLANDS**, **ITALIAN**; **ALBANIA**, **ITALIAN EAST AFRICA**; and **LIBYA**.

**Education and Religion.** School enrollment in 1937-38 was: Elementary, 5,051,306; secondary (including technical and art), 613,588; higher education (1938-39), 77,429. Illiteracy is about 20 per cent. According to the census of 1931 there were 41,014,096 Roman Catholics (99.6 per cent), 83,618 Protestants, and 47,825 Jews.

**Production.** About 46.3 per cent of the working population is engaged in agriculture and fishing, 30.4 per cent in mining, quarrying, and industry, 8.3 per cent in commerce, and 4.6 per cent in transportation. The total number of industrial workers, according to statistics issued by the Fascist Confederation of Industrialists in 1940, is 3,825,542, apportioned mainly as follows: Building enterprises, 623,000; foodstuffs, 389,000; mechanical and metallurgical, 709,000; building materials, 541,000; textiles, 653,142; chemicals, 155,192. Agricultural production (in metric tons) for 1939 except where otherwise specified was: Barley, 245,400; rye, 151,500; oats, 586,800; wheat, 8,000,000; corn, 2,939,700 (1938); potatoes, 2,941,600; beet sugar, 420,300; olive oil, 175,300 (1938); tobacco, 42,100 (1938); silk, 2800; rice, 41,185,000 bu (1940); wine, 41,780,000 hectoliters (1938). One hectoliter equals 26.4 U.S. gal.

Mineral and metallurgical production in metric tons in 1938 (except where otherwise specified) was: Iron ore, 520,000; lead (smelter), 38,000 (1939); zinc (smelter), 33,600 (1939); pyrites, 437,000; lignite, 1,322,000; sulphur (crude), 397,000; asphaltic and bituminous rock, 258,047; marble, 457,222; marine salt, 883,420; bauxite, 360,800; mercury, 195,523; aluminum, 28,000 (1939); tin (smelter), 300; pig iron, 929,000; steel ingots and castings, 2,307,000; copper, 4700; cement, 4,587,000. Rayon production in 1939 was 54,000 metric tons; cotton (1938), 7500 metric tons. Woolen textiles, chemicals, sulphuric acid, superphosphate, copper sulphate, cheese, and alimentary pastes are other important manufactures.

**Foreign Trade.** According to the annual statement of the Bank of Italy, published in 1940, total imports during 1939 amounted to 10,000,000,000 lire as compared with 10,900,000,000 in 1938; exports to foreign countries (excluding trade with the colonies) were valued at 8,500,000,000 lire against 7,960,000,000 in 1938. For distribution of trade, see 1939 YEAR BOOK, p. 386. Also see **TRADE**, **FOREIGN**.

**Finance.** For the fiscal year ending June 30, 1940, ordinary revenues were estimated at 29,740,000,000 lire (according to a statement issued by

the Finance Minister on May 17, 1940), and expenditures at 56,140,000,000 lire, leaving a deficit of 26,400,000,000 lire. An official preliminary draft of the 1940-41 budget (issued in February, 1940) estimated ordinary revenues and expenditures at 29,002,000,000 and 34,895,000,000 lire respectively. The total deficit for the year ended June 30, 1939, was 12,278,000,000 lire. As of June 30, 1940, the total public debt was said by the Minister of Finance to be somewhere in the neighborhood of 200,000,000,000 lire. The last official statement published on the subject showed the debt to be 107,-185,000,000 lire on Aug. 31, 1935. The average exchange value of the lira was \$0.0526 in 1938, \$0.0520 in 1939, and \$0.0504 (nominal) in 1940.

**Transportation.** On June 30, 1939, Italian railways extended 14,448 miles (State, 10,551; private, 3897). For the year ending on that date, the State railways carried 107,800,000 passengers, compared with 103,047,509 in 1937-38. Total revenues in 1938-39 were 4,366,100,000 lire, total expenses, 4,153,252,000 lire. A new railway connecting the cities of Novara and Biella was opened on July 20, 1940, with a daily service in each direction of three trains. During 1940, in order to conserve fuel, the government curtailed railway transportation both before and after the country entered the war. Effective Feb. 24, 1940, 84 trains were suppressed, 56 more went out of operation on December 14 and 96 on December 19. The mileage of roads and highways in 1940 was 127,104. Statistics of civil aviation for 1938 (released by the Italian Air Traffic Bureau in 1940) were: Miles flown, 8,419,493; passengers carried, 140,815; mail carried, 1,054,670 lb.; newspapers, 659,744 lb.; baggage, 4,607,488 lb. In August, 1939, Italian air lines covered 25,373 route miles. Transatlantic service between Rome and Rio de Janeiro, inaugurated on Dec. 21, 1939, was still in operation during 1940. The Italian merchant marine on June 30, 1939, comprised 1350 vessels of 1,979,482 tons. During 1939, 12,119 vessels of 22,816,000 net registered tons entered Italian ports in the foreign trade.

**Government.** Italy's Fascist dictatorship was superimposed upon the constitutional monarchy established by the Constitution of Mar. 4, 1848. Under the law of Dec. 9, 1928, the Fascist Grand Council, consisting of (1) life, (2) ex-officio, and (3) extraordinary members, acts as "the supreme organ co-ordinating and uniting all the activities of the regime." The life members (three in 1940) are the Quadrumvirs of the March on Rome. Members in the other two categories are all appointed by the Head of the Government (Benito Mussolini).

Parliament consists of a Senate (535 members in 1940), all appointed for life by the King on nomination by the Head of the Government, and a Chamber of Fasci and Corporations, which on Mar. 23, 1939, replaced the Chamber of Deputies provided for in the 1848 Constitution. The Chamber of Fasci and Corporations is composed of about 700 National Councillors, who hold their seats by virtue of membership in the Fascist Grand Council, the National Council of the Fascist party, and the National Council of Corporations. By the law of Oct. 7, 1938, both the new Chamber and Senate were restricted to voting by a show of hands or by acclamation, instead of the former secret ballot, on measures presented to them by the Head of the Government or on measures the discussion of which had been previously authorized by him.

The cabinet as reorganized Oct. 31, 1939, consisted of: Premier, Chief of the Government, and Minister of Interior, War, Navy, Air, and Land Reclamation, Benito Mussolini; Foreign Affairs, Count Galeazzo Ciano; Italian Africa, Ottilio Tezzutti; Corporations, Renato Ricci; National Education, Giuseppe Bottai; Agriculture and Forests, Giuseppe Tassinari; Finance, Count Paolo Thaon di Revel; Justice, Count Dino Grandi; Communications, Giovanni Host Venturi; Popular Enlightenment, Alessandro Pavolini; Public Works, Adelchi Serena; Trade and International Payments, Raffaello Riccardi; Secretary-General of the Fascist party, Ettore Muti. For changes in 1940, see *History*.

## HISTORY

After nine months of "non-belligerency," marked by close diplomatic and economic co-operation with Germany and by increasing friction with Britain and France, Italy seized the opportunity presented by the French military debacle to declare war on the Allied powers on June 10, 1940, effective at one minute past midnight. Ignoring peace appeals from the Pope, President Roosevelt, and the heads of the French and British Governments, Premier Mussolini announced his decision to a great throng in the Piazza Venezia at 6 o'clock in the evening. He said in part:

We are taking up arms, after having solved the problem of our continental frontiers, to solve our maritime frontiers. We want to break the territorial and military chains that confine us in our sea because a country of 45,000,000 souls is not truly free if it has not free access to the ocean.

This gigantic conflict is only a phase of the logical development of our revolution. It is the conflict of poor, numerous peoples who labor against starvers who ferociously cling to a monopoly of all riches and all gold on earth.

It is a conflict of fruitful, useful peoples against peoples who are in a decline. It is a conflict between two ages, two ideas.

Now the die is cast and our will has burned our ships behind us.

I solemnly declare that Italy does not intend to drag other peoples bordering on her by sea or land into the conflict. Switzerland, Yugoslavia, Greece, Turkey, and Egypt, take note of these words of mine. It depends on them and only on them if these words are rigorously confirmed or not.

**Prelude to War.** During the first months of 1940 Italian policy continued along the lines laid down following the outbreak of the European War in 1939 (see YEAR BOOK, 1939, p. 387 f.). Although allied to Germany, Italy employed its non-belligerent status to extract the greatest possible economic and political concessions from all three belligerents. Italian industries and shipping were entering markets and trade routes formerly dominated by the warring powers. Moreover Italian factories were filling war orders from Britain and France, which allowed the importation of the necessary raw materials and coal through their blockade. However the economic gains of neutrality were not as great as had been hoped. The Allied blockade also became increasingly onerous, after Britain in February and March tightened its contraband control and cut off imports of German coal into Italy in Italian ships.

During this period Rome also strove to strengthen its influence in the Balkans, at the expense of Germans, British, and French alike. In particular, Mussolini sought to prevent Soviet penetration into that area and to avoid a rupture of the Balkan status quo under conditions unfavorable to Italian ambitions. Consequently Mussolini joined Hitler in restraining Hungarian revisionist aspirations



and appeared to support the peace efforts of the other Balkan powers.

Nevertheless Fascist spokesmen and the Italian press made it plain that "non-belligerency" was a temporary policy and that the Fascist regime's expansionist ambitions would be pressed as soon as the time was opportune. Mussolini's newspaper *Popolo d'Italia* declared on January 13 that "three points of Fascist policy and life must in any case remain untouched, the struggle against democracy, against bolshevism, and against the bourgeoisie." The government proceeded step by step to strengthen the military forces, tighten discipline, and speed the transformation of the economic system to a complete war basis. The cabinet on January 22 approved 63 decrees promoting economic self-sufficiency, extending the rationing of foodstuffs, and curbing profiteering and hoarding. A decree approved April 2 authorized the mobilization for war service of the entire civil population of both sexes above 12 years of age. Another created a Supreme Commission of Defense to govern in war time.

All war preparations were speeded up after the conference between Hitler and Mussolini at Brennero on March 17. There an agreement was worked out for joint Italo-German action in promoting Axis interests in the Balkans, and for Italian diplomatic support of the forthcoming German military initiatives. The German attack upon Denmark and Norway was followed by the intensification of the Italian propaganda campaign against the Allies. Hostility was whipped up by press and radio attacks of such violence as to bring protests from Paris and London. In Milan, Florence, Rome, and other cities Fascist-inspired demonstrations against Britain and France occurred with increasing frequency.

The end of April witnessed demonstrations and troop concentrations against Yugoslavia, which had taken strong measures against Axis "fifth column" elements and resisted Italo-German demands for closer co-operation. Military preparations in Albania, Libya, and Italian East Africa were made on the basis of early entry into the war. A series of warnings that Italy would soon be at war was issued by leading members of the government. Mussolini, however, remained silent on this issue until his speech of June 10. On May 9, at the celebration of the founding of the Empire four years earlier, he said: "After my speeches, you must accustom yourself to my silence. Only facts will break it."

These warlike activities, no doubt designedly, caused the Allies to reinforce their naval and military forces in the Mediterranean area and thus facilitated the German triumphs in Norway and, to a lesser degree, in the Low Countries. The German army and air force produced the "facts" that Mussolini was awaiting in demonstrating their overwhelming superiority in Norway, the Low Countries, and France. With the defeat of the French and British in the Battle of Flanders at the end of May, the Italian attitude became much more threatening. Trade negotiations with the British were broken off completely on May 31. The semi-official *Relazione Internazionale* on June 1 announced that Italy would intervene with arms. On June 3 the government postponed indefinitely the great Universal Exposition scheduled to be held in Rome in 1942. Italian ships at sea were ordered to take refuge in neutral ports on June 7. Mobilization of the military reserves and of the

civil population was begun on a gradual scale.

These tactics helped to immobilize large Allied defense forces on the Italian frontier with France and in the Mediterranean during the final German offensive, beginning June 5, which sealed the fate of France. This battle was already won when Mussolini declared war, although it was June 25 before the Franco-German and Franco-Italian armistice terms were agreed upon and placed in effect (see EUROPEAN WAR). As if to answer the widely made charges that he had entered the conflict without provocation when the issue of battle was decided in order to claim a share of the spoils, Mussolini in a letter published July 2 declared that Italian troops had battled the French on a 120-mile Alpine front during June 21-24, breaking through fortified defenses against stubborn resistance to depths of five to 20 miles.

**"New Europe" Planned.** With France out of the conflict, Fascist officials anticipated the early capitulation of Britain following a joint German-Italian offensive against the British Isles and the Mediterranean outposts of the Empire. As an equal partner in the Axis, Mussolini would then be in a position to secure Italian claims, which included complete control of the Mediterranean, North Africa, the Red Sea, and a part of Asia Minor. While German preparations for an assault on England were under way, Fascist officials and writers outlined Italy's role as a much more extensive and powerful empire in the new European order to be created under Axis auspices. The program called for the destruction of the democratic world and its reconstruction, beginning with the whole of Europe, along Fascist lines.

Efforts to adjust conflicting Italian and German ideas and interests with respect to the new European order were made at a series of conferences between Axis officials. The first German curb on Italian ambitions was imposed by Hitler during his conference with Mussolini in Munich on June 18, where details of the peace terms to be imposed on France were discussed. The Fuehrer induced the Italian Premier to moderate his claims so that the French fleet and colonial empire would not be driven into the arms of the British. At the same time Italian and German economic experts were planning the co-ordination of Axis economic resources, with the objective of providing continental raw materials for Italian war industries in place of overseas imports cut off by the British blockade and increasing Italian food shipments to the Reich.

Further conferences were held between Hitler and Count Ciano in Berlin on July 7; by Count Giuseppe Volpe di Misurata, head of the Fascist Confederation of Industrialists, and German economic experts, in Berlin early in August; by Foreign Minister von Ribbentrop of Germany and Fascist leaders in Rome on September 19-21; and by Hitler and Mussolini at the Brenner Pass on October 4 and at Florence on October 28. Beginning in August some 20,000 Italian industrial workers were sent to the Reich to relieve the labor shortage in German war industries. There was a progressive extension of this economic co-operation and a corresponding increase in German guidance of Italian policy in the economic as well as the political sphere. It was disclosed on December 5 that Italy had agreed to accept German aid in increasing agricultural production. The Reich undertook to purchase the increased output "at good prices."



**Italy at War.** Italian hopes for the early capitulation of Britain soon faded. The problem of forging the new Europe was necessarily subordinated to the task of defeating Britain and of keeping the United States and Russia out of the conflict. A warning of the hard road ahead came on June 29 when it was announced that Marshal Italo Balbo, Governor General and commander-in-chief in Libya and popular air hero, had been killed when an airplane he was piloting over Tobruk, Libya, "fell in flames during an enemy bombing raid." The London Foreign Office denied that British planes were in the Tobruk area when the Marshal's plane crashed. This aroused speculation as to whether Balbo had been shot down by Italian anti-aircraft fire in the mistaken belief that his plane was a British raider. There were also charges that the Marshal, whose wide popularity was said to have irked Mussolini, had been put out of the way because of his opposition to Italy's entrance into the war on the side of Germany. Marshal Rodolfo Graziani, Chief of Staff of the Italian Army, was appointed to succeed Marshal Balbo in Libya.

Italy received another blow to its aspirations on July 3, when the British seizure or destruction of a large part of the French fleet ended Rome's hope of getting control of the French warships and thus securing naval preponderance in the Mediterranean. At the end of July Italian air and land units took up positions in Northern France to join the German forces in an assault upon Britain. However the Fascist planes suffered a severe mauling at the hands of the R.A.F. during the first Italian raids on Britain and no further reports of Italian participation in the German air offensive were forthcoming. In mid-August the British began long-range air raids upon cities in Northern Italy.

By the beginning of September, when the German air assault on Britain failed to show the expected results, the Fascist press began to prepare the Italian people for a long, hard war. The strangulation of Italian overseas trade by the British blockade at Gibraltar and Suez was already seriously affecting Italy's economy, which was greatly dependent upon imports of raw materials. Hitler and Mussolini therefore arranged to co-ordinate their strategy and forces. Il Duce undertook to break the British hold on the Suez Canal, restore the severed communications with Italian East Africa, and aid Hitler in ousting British influence from the Balkans. Hitler assumed the task of pressing the assault and counter-blockade of the British Isles, while bringing Japan into the Axis in the hope of forestalling American and Russian intervention, and lining up France and Spain behind the Axis (see FRANCE, GERMANY, JAPAN, and SPAIN under *History* for details of these negotiations).

In August the Italian forces in East Africa registered an encouraging victory by the conquest of British Somaliland and in mid-September Fascist armies in Libya and Italian East Africa began a gigantic pincers movement designed to overcome the British defenses in Egypt (see EUROPEAN WAR under *Campaigns in Africa*). When the Italian drive into Egypt from Libya became stalled at Sidi Barrani, Mussolini on October 28 launched his invasion of Greece from bases prepared in Albania (see ALBANIA and GREECE under *History*). This offensive was apparently designed to divert British naval and military forces from Egypt and

to secure Italian air and sea bases on the Greek peninsula.

Although Mussolini conferred with Hitler in Florence on the very day he launched the Greek military venture, observers were uncertain whether or not it was undertaken with German approval. There was known to be resentment in Fascist circles over the rapid spread of German influence in Hungary and the Balkans, and in some quarters it was believed that Mussolini's invasion of Greece was intended to forestall Hitler and assure Italy of a voice in the future course of Balkan events. The Germans displayed no great concern over the disastrous outcome of the Italian attack, which was undertaken without due preparation, reportedly on advice from the Italian Minister in Athens that the Greeks would not resist. See EUROPEAN WAR under *The Italo-Greek War*.

The Italian debacle in Greece, followed by British naval and military victories in the Mediterranean and Egypt, rocked the Fascist regime in Italy to its foundations. Italian prestige was shattered throughout the world and the fruits of two decades of Fascist diplomatic activity in the Balkans, the Near East, and Africa were swept away. Contracts of Italian military missions in Ecuador and Peru were cancelled and Bolivia was reported considering similar action. The drive against the Suez Canal was rebuffed and turned into a rout which threatened the Italian colonial empire in North and East Africa. To prevent a complete military collapse, Mussolini in December was obliged to ask Hitler's aid. With the entrance of German land and air forces into Italy en route to the Libyan and Albanian fronts, Mussolini became a distinctly subordinate member of the Axis directorate and the direction of Italian policy in all fields fell increasingly under German control.

**Shake-up of Fascist Officials.** Sweeping changes among the Fascist leaders of Italy's war effort were made by Premier Mussolini in an effort to restore morale and retrieve his regime's damaged prestige. Coincident with the attack on Greece, Ettore Muti resigned as Secretary-General of the Fascist party to serve in the air force. He was succeeded by Minister of Public Works Serena, and the latter's portfolio was taken over by Giuseppe Gorla, Secretary of the National Engineers Syndicate. It was reported from London November 21 that between 50 and 60 highly placed Italian officers on the Greek front had been summarily dismissed by Mussolini.

Marshal Pietro Badoglio, Chief of the General Staff, conqueror of Ethiopia and outstanding Italian military leader, resigned on December 6. He was replaced by Gen. Count Ugo Cavallero, organizer of the Blackshirt Militia and a close associate of Mussolini. Gen. Cesare Maria de Vecchi, quadrumvir of the March on Rome and one of the most influential Fascist officials, was replaced as military and civil Governor of the Dodecanese Islands on December 7 by Gen. Ettore Bastico. The following day Adm. Domenico Cavagnari was ousted as Chief of the General Staff and Under-Secretary of State for the Navy in favor of a relatively unknown naval man, Adm. Arturo Riccardi. New men were appointed as Assistant Chief of Staff and as commander of the fleet at sea. The shake-up extended to many subordinate ranks of the army, navy, and air force. It was accompanied by a meeting of the national directorate of the Fascist party on December 5 at which, according to the official communiqué, "the

secretary of the party reported on the provisions that have been adopted for the further strengthening of the activity of the . . . party with particular reference to the problems of party structure, discipline, aid to the families of combatants, and development of the basic party organizations."

**Repercussions in Italy.** The effect of these changes in the Italian high command, following upon a series of military reverses, was to undermine public confidence in Mussolini and his regime. The Italian people had never displayed enthusiasm for the war against Britain and they were left in complete ignorance of the invasion of Greece for several days after the attack was launched. Following the British attack on the Italian navy at Taranto, Mussolini on November 18 delivered his first public speech since Italy's entrance into the European War. Addressing the provincial hierarchy of the Fascist party, he gave a glowing picture of Italian achievements during five months of warfare and asserted that victory was already within the grasp of the Axis. He sought to calm Italian misgivings by placing complete blame for the war upon Britain, deriding British claims of severe damage to the fleet at Taranto, and affirming his perfect identity of views with Hitler. He attributed the delays experienced by the Italian armies in Greece to mountainous terrain and mud, but gave his "absolute" pledge that "we shall break Greece's back." He ordered the party to initiate a vigorous drive against the "small bourgeois" and "universalistic pacifism."

The shake-up in December gave rise to a new wave of criticism and uncertainty in Italy. This was answered by an official communiqué of December 9 asserting that the "uproar that has followed changes in the Italian High Command . . . will only sharpen the will to victory of the Italian people and their reverent and absolute faith in the Duce and in the commanders who, in the name of the King-Emperor, have the responsibility and honor of conducting the nation toward its supreme military and historic objectives." The statement went on to say:

Moreover, Premier Mussolini and the Italian people know they can count on one another and are indissolubly bound in this great fight, in which the pilot has need of the greatest liberty of action, while the people are bound to place all their faith in the man who incarnates the virtues of the race and its capacity and will to power

A further blow to Mussolini's prestige came on December 22 in the form of a detailed report by Marshal Graziani on the Italian defeat at Sidi Barrani in Egypt. This gave the Italian people the first account of the extent of the disaster. It also attributed the inability of Graziani to continue his offensive to the government's failure to send him the needed motor vehicles from Italy.

Thus the year ended with Italy rife with criticism and dissension. There was dissension within the Fascist party over the conduct of the war and over the growth of German control in Italy, dissension between Fascist party leaders and professional military and naval officers, and widespread grumbling among the people at the regime. The discontent, however, was curbed by various control measures that had been introduced since the declaration of war. Government control over all news sent out from Italy was established June 10. A month later Italians were forbidden by decree to listen to enemy or neutral radio broadcasts or to pass on news from such sources. Criticisms of the government were punished with increased se-

verity. On September 10 it was announced that the head of a princely family had been arrested for an anti-Fascist remark.

In December the Fascist press intensified its campaign against pacifists, pessimists, and "scoundrels" who read the Swiss press to get news of the war from anti-Axis sources. Pitiless vengeance was promised fascism's "open and hidden enemies" within Italy. Appeals were made for the continued support of the Italian masses on the ground that fascism was a proletarian, anti-capitalist, and anti-bourgeois movement that was fighting for a social revolution. The execution of two Italian spies and imprisonment of 22 others charged with "acting in the interest of a foreign power" was announced December 22.

On December 25 the controlled press printed excerpts from Prime Minister Winston Churchill's radio appeal to the Italian people to get rid of Mussolini and make peace (see GREAT BRITAIN under *History*). But the important passages in which Churchill placed the sole responsibility for Italy's entrance into the war upon Mussolini were deleted.

**Economic Pressures.** Rising political discontent was spurred by the progressive lowering of the standard of living and the spread of economic hardship due to the blockade, a short wheat crop, the shipment of surplus food supplies to Germany, and the ever increasing financial and other sacrifices demanded by the war. The working week was extended from 40 to 48 hours on June 28. Rationing of bread, meat, and a few other staple products was introduced in July and the list was gradually extended during the remainder of the year. In December drastic cuts in food and other rations were decreed. On December 7 heavy penalties were decreed for farmers holding back products from compulsory storage and for mine owners failing to increase their output.

The Minister of Agriculture was appointed food dictator on December 29, with control of rationing and over the distribution of all foodstuffs imported or produced at home. The death penalty was authorized for serious cases of hoarding or sabotage. Similar powers over industry and over the distribution and consumption of all domestic and imported industrial materials were vested in the Minister of Corporations on December 31.

**Church-State Friction.** The efforts of Pope Pius XII to keep Italy out of the war, the pacifist sentiments expressed by some of the clergy, and the publication in the Vatican organ *Osservatore Romano* of Allied communiqués and war news deepened the hostility toward the Church latent in Fascist circles (see VATICAN CITY under *History*). Under pressure from the government, the Pope on July 5 stripped the Italian Catholic Action organization of every semblance of a political and social character.

**Italo-American Relations.** Following the visit of Under-Secretary of State Sumner Welles to Rome on his diplomatic tour of Europe in February-March, 1940, a serious effort was made in Washington to end the coolness that had developed in Italo-American relations in order to keep Italy out of the war. Early in May interchanges took place between President Roosevelt and Premier Mussolini in which the President pointed out the possibly disastrous political and economic consequences of Italian participation in the war. He was reported to have suggested the development of closer economic relations if Italy would remain

neutral. Mr. Roosevelt made at least two additional appeals to Premier Mussolini to stay out of the war, but they received a cool reception. On June 6 Mussolini's spokesman, Virginio Gayda, in turn warned the United States to keep out of the conflict on pain of "automatically giving the European powers the right to retaliate today or at any future time in American history and on American territory."

When Italy declared war, President Roosevelt on June 11 at Charlottesville, Va., publicly denounced the move as a stab in the back of France. This attack was bitterly resented by the Fascist press and was followed by steadily growing recriminations and increasing coolness between the two countries. In October the Rome correspondent of the *New York Times* was temporarily expelled from the country for reporting that Italian propaganda was directed toward securing the defeat of President Roosevelt in his campaign for re-election. Following Roosevelt's victory, the Fascist press intensified its attacks upon Washington's foreign policy and threatened America with early involvement in the war if the program of aid to Britain was extended.

See ALBANIA, BRAZIL, CANADA, COLOMBIA, ECUADOR, EGYPT, FRANCE, GERMANY, GREAT BRITAIN, GREECE, IRAQ, ITALIAN EAST AFRICA, MEXICO, NEW ZEALAND, RUMANIA, SWITZERLAND, SYRIA AND LEBANON, TANGIER, TURKEY, and YUGOSLAVIA under *History*, *ARCHAEOLOGY*; *EUROPEAN WAR*, *FASCISM*, *INDUSTRIAL CHEMISTRY*; *LABOR CONDITIONS* under *Union Movements*; and *REPARATIONS AND WAR DEBTS*.

#### IVORY COAST. See FRENCH WEST AFRICA

**JAMAICA.** A British West Indian crown colony. Area, 4450 square miles; population (Jan. 1, 1939 estimate), 1,173,645, including 19,039 East Indians. The CAYMAN ISLANDS (see below), TURKS AND CAICOS ISLANDS (see below), Morant Cays, and Pedro Cays are dependencies of Jamaica. Chief towns (with 1921 census figures) Kingston (the capital), including Port Royal (63,711), Spanish Town (8694), Montego Bay (6580), Port Antonio (6272).

**Production and Trade.** Bananas, sugar, coffee, rum, coconuts, pimento, grapefruit, logwood extract, ginger, cacao, oranges, tobacco, and logwood were the principal products. The 1939-40 sugar crop totaled 99,329 tons. Trade (1939): imports, £6,506,689; exports, £4,764,746 (sugar, £989,563; bananas, £2,439,177). There were 6914 miles of roads in 1940. Shipping (1938): 1390 vessels aggregating 4,242,295 net tons cleared.

**Government.** Finance (1938-39): revenue, £2,841,887; expenditure, £2,872,440. Budget (1939-40): revenue, £2,737,940; expenditure, £2,851,942. Public debt (Mar. 31, 1939): £6,303,139. The governor is assisted by a privy council. There is a legislative council of 30 members (the governor as president, 5 ex-officio, 10 nominated, and 14 elected). Captain-General and Governor-in-Chief, Sir Arthur Richards (appointed June 15, 1938).

**Cayman Islands.** Area, 104 square miles; population (1938), 6850. Capital, Georgetown. Chief products: coconuts, green turtle, thatch rope, and turtle shell. Trade (1938): imports, £29,555, exports, £12,744. Finance (1938): revenue, £13,253, expenditure, £11,854; public debt (December 31), £3660. Commissioner, A. W. Cardinali.

**Turks and Caicos Islands.** Area, 166 square miles; population (1938), 5300. Capital, Grand Turk. Chief products: salt (1,305,932 bu. exported

during 1939), conchs, turtle shell, sponges, and sisal. Trade (1938): imports, £25,974; exports, £23,052 (salt accounted for £18,451). Finance (1938): revenue, £14,359; expenditure, £14,660. Commissioner, H. C. N. Hill.

**History.** Jamaica was one of the British possessions in which the United States acquired the right to lease naval and air bases under the Anglo-American agreement of Sept. 2, 1940 (see GREAT BRITAIN under *History*). The areas to be leased and the provisions governing their administration were announced by the Navy Department in Washington on November 18, as follows:

- (a) Fleet anchorage at Portland Bight.
- (b) Land area to include Goat Island and the adjacent bays of approximately thirty-three square miles in and east of Gallion Harbor.
- (c) An area on Portland Bight and Portland Island for the location of defense batteries.
- (d) Approximately 100 acres in the vicinity of Williams Field Station for recreational purposes and a hospital mess.
- (e) An area of about one square mile about five miles south of May Pen along Bakers Canal for use as an emergency and auxiliary landing ground.
- (f) The right to develop resources and facilities for the Port Royal Dockyard under British control for the joint use of United States and British forces.
- (g) Reciprocal rights to be granted to both United States and British military aircraft to use the air fields established by the United States Government and His Majesty's Government, within the limits of capacity, the controlling authorities to have the first call on the available accommodation.

President Roosevelt inspected these sites on December 6 during a cruise in the Caribbean. At that time the Governor said that the increased employment and tourist trade anticipated in connection with the development of the bases would be "most welcome" and of immense benefit to the island. The depressed economic conditions and social maladjustments that had previously caused concern (see YEAR BOOK, 1939, p. 390) became worse during 1940 as a result of the war and of severe floods in November that drowned more than 80 persons. The shipping shortage forced the British Government in November to end all British imports of bananas from Jamaica. To cushion this shock to the island's economy, Britain guaranteed the banana producers three shillings per bunch up to a maximum of 12,000,000 stems of marketable fruit annually. Other measures were taken to relieve unemployment and distress among dock workers and others dependent upon the banana export trade.

The tightening of the economic depression was indicated by the curtailment of United States shipping and air services to the island, and by the revival of the agitation for political and economic reform among a section of the colored population, represented chiefly by the People's National party. A leader of this movement, named Bustamente, was arrested on September 8 and detained without trial under the Defense Regulations on a charge of inciting to bloodshed, racial war, and revolution.

The People's National party joined with unofficial native representatives of other British West Indian colonies and a group of British West Indians in New York City to form the West Indies National Council for the protection of the native populations. W. A. Domingo, elected president of the Council, was a Jamaican. The Council sent an unofficial representative to the Havana Conference in July (see PAN AMERICANISM). In connection with the establishment of the United States naval and air bases, it demanded that the British West Indian governments subject foreign (United

States) nationals to local law and custom outside the leased area, that foreign labor be barred from unskilled jobs on the bases, that foreign nationals be forbidden to interfere in political or economic affairs, and that no racial discrimination or segregation be tolerated.

The British Government early in the year adopted a program for the economic and social rehabilitation of Jamaica and other West Indian possessions (see *BRITISH WEST INDIES* under *History*) but this was modified in June with the intensification of the European conflict. During the year a considerable number of British evacuees from Gibraltar were sent to Jamaica for the duration of the war. About 1000 German prisoners were also sent to the island for internment.

**JAPAN.** A Far Eastern empire, comprising (1) Japan proper, or the five main islands of Honshu, Kyushu, Shikoku, Hokkaido, and Ryukyu, with some 600 smaller islands; (2) Formosa (Taiwan); (3) Korea (Chosen); (4) Karafuto (southern Sakhalin); and (5) Pescadores (Bokoto) Islands. In addition Japan controlled the leased territory of Kwantung and the South Manchuria Railway Zone in Manchuria and mandated territories (Marianne, Caroline, and Marshall Islands) in the North Pacific. During 1931-33 it established a protectorate over three Chinese provinces (Liaoning, Kirin, and Heilungkiang) in Manchuria and Jehol Province in Inner Mongolia, forming them into the new state of Manchoukuo. Capital of Japan, Tokyo; Emperor in 1940, Hirohito, who ascended the throne Dec. 25, 1926. See separate articles on *FORMOSA*, *KOREA*, *KARAFUTO*, *JAPANESE PACIFIC ISLANDS*, *KWANTUNG*, and *MANCHOUKUO*.

**Area and Population.** The area and population of the empire at the censuses of 1930 and 1935 are shown in the accompanying table.

JAPANESE EMPIRE AREA AND POPULATION

Island	Area sq. miles	Population, 1930 census	Population, 1935 census
Japan proper . . . . .	147,593	64,450,005	69,254,148
Korea . . . . .	85,228	21,058,305	22,899,038
Formosa * . . . . .	13,889	4,592,537	5,212,426
Karafuto . . . . .	13,934	295,196	331,943
Japanese Empire . . . . .	260,644	90,396,043	97,697,555
Kwantung * . . . . .	1,438	1,328,011	1,656,726
Mandated Pacific Is . . . . .	830	69,626	102,537

\* Including Pescadores (Bokoto) Islands, area, 49 square miles.

† Including South Manchuria Railway Zone

The estimated population of Japan proper on Jan. 1, 1940, was 72,876,000. The number of Japanese residing abroad at the end of 1938 was 1,059,913, while the number of foreigners in Japan was 28,857. Living births in 1938 numbered 1,928,321 (26.7 per 1000 as against the pre-war rate of about 36 per 1000); deaths, 1,259,805 (17.4 per 1000); marriages, 538,831 (7.46 per 1000). The estimated populations of the chief cities on Oct. 1, 1938, were: Tokyo, 6,457,600; Osaka, 3,221,200; Nagoya, 1,224,100; Kyoto, 1,159,800; Kobe, 989,100; and Yokohama, 777,500. Populations of other important cities on Oct. 1, 1937, were: Hiroshima, 326,600; Fukuoka, 308,200; Kure, 248,400; Yawata, 229,600; Sendai, 229,400; Nagasaki, 214,600; Hakodate, 211,700; Shizuoka, 211,600; Sapporo, 205,900; Yokosuka, 203,800.

**National Defense.** Military training is compulsory. Estimates of Japan's land, air, and sea strength vary. According to official estimates, the active army on Nov. 1, 1940, numbered 1,570,000

men and the trained reserves 685,000. The air force comprised 35,500 men exclusive of 16,000 trained reserves. Naval units completed at the end of 1939 were reported to include 9 battleships, 5 coast defense ships, 6 aircraft carriers, 39 cruisers, 118 destroyers, 12 torpedo boats, and 64 submarines.

**Education and Religion.** Illiteracy is confined largely to people over 50 years of age. The school enrollment in 1937 was: Kindergarten, 152,627; elementary, 11,566,912; secondary, 842,792; universities and colleges, 72,195; special and technical schools, 531,807; preparatory technical schools, 1,964,599. There is no State religion. Shintoism, with 13 different sects, and Buddhism, with 12 sects, are the principal religions. In 1940 all religious groups were brought under State control and the Christian denominations were merged in a single Japanese Christian Church (see below under *History*).

**Production.** Manufacturing normally accounts for about 32.7 per cent of the national income (estimated at 24,519,036,000 yen in 1939), commerce for 25.4 per cent, and agriculture for 17.7 per cent. Agriculture, however, supports nearly half the population of Japan proper. The Ministry of Agriculture and Forestry estimated the value of agricultural products in 1939 at 5,614,000,000 yen, including rice, 2,874,000,000 yen; silk cocoons, 883,000,000 yen; wheat, 604,000,000 yen. The crop of rough rice for 1940-41 was estimated at 549,968,000 hu. The output of other leading products (in metric tons and in 1939 unless otherwise stated) was: Wheat, 1,662,500; barley, 1,778,100; oats, 205,200 in 1938; potatoes, 1,848,100 in 1938; beet sugar, 28,100 in 1939-40; cane sugar, 138,300 in 1939-40; tobacco, 82,000; soybeans, 348,300 in 1938; raw silk, 39,325 in 1938; rayon, 108,569. The value of deep-sea fisheries products in 1937-38 was 89,877,000 yen; of coastwise fisheries, 219,600,000 yen (including sea-weed, etc.).

The value of manufactures produced in 1937 by plants employing five or more workers was 16,412,000,000 yen, out of a total industrial production of 21,349,000,000 yen. Textiles accounted for 25 per cent of the value of manufacturing output; metals and metal products, 21 per cent, machinery and tools, 15.3; chemicals, 18.9 per cent. The world's leading exporter of cotton piece goods, Japan in 1939 shipped abroad 2,445,537,000 sq. yd. valued at 403,946,000 yen. The approximate mineral and metallurgical production of Japan proper (in metric tons) was: Crude petroleum, 380,000 in 1939 (including Formosa); coal, 53,000,000 in 1938 (including Korea and Formosa); pyrites, 1,751,000 in 1936; manganese ore (metal content), 34,000 in 1936; iron ore, 470,000 in 1936; pig iron and ferro-alloys, 2,635,000 in 1937; steel ingots and castings, 5,811,000 in 1937 (including Korea); copper ore (metal content), 77,000 in 1939; aluminum (smelter), 23,000 in 1939; gold, 26,000 kilograms in 1939.

**Foreign Trade.** Preliminary estimates of Japan's trade in 1939 placed imports at 2,917,000,000 yen and exports at 3,576,000,000 yen. (These figures include commerce of Japan with other parts of the Japanese empire.) As compared with 1939, imports increased 19 per cent and exports 1 per cent in 1940. In 1938 imports were valued at 2,663,337,000 yen; exports at 2,689,677,000 yen. The principal imports (in the order of their value) were cotton, beans, wool, coal, oil cake, crude rubber, and wood pulp. Leading exports were cotton

tissues, raw silk, machinery, rayon cloth, canned goods, wheat flour, paper, wrought iron, silk tissues. The value of imports from the principal sources of supply in 1938 were: United States, 915,354,000 yen; Manchoukuo, 339,117,000 yen; British India, 172,231,000 yen; Germany, 171,170,000 yen; China, 164,611,000 yen. Of the 1938 exports, the United States took 425,123,000 yen; Manchoukuo, 316,323,000 yen; China, 312,900,000 yen. For Japan's trade with the United States in 1939 and 1940, see TRADE, FOREIGN. Also see *History* below.

**Finance.** Expenditures budgeted for the fiscal years 1936-37 to 1941-42 are shown in the accompanying table. The China Incident Account refers to expenditures on the Chino-Japanese War, which began in July, 1937.

EXPENDITURE BUDGETS  
(Millions of yen)

Fiscal year April 1-March 31	Expenditures General Account (original and supplementary budgets)		China Incident Account	Total*
1936-37	2,282 1 <sup>a</sup>			2,282 1
1917-38	2,709 1 <sup>b</sup>	2,540 0		5,249 1
1918-39	3,288 0	4,850 0		8,138 0
1939-40	4,804 5	4,605 0		9,409 5
1940-41	6,173 8	5,460 0		11,633 8
1941-42	7,994 0	4,880 0		12,874 0

\* This total overstates expenditures by the amount transferred each year from the General Account to the China Incident Account: 1917-38, 1,100,000 yen, 1938-39, 317,100,000 yen, 1939-40, 535,100,000 yen, 1940-41, 600,000,000 yen, 1941-42, not yet disclosed. <sup>b</sup> Actual expenditures. <sup>c</sup> Including in this account the 1,000,000,000 yen supplementary budget for military expenditures passed in January, 1941.

Military expenditures constituted 35.2 per cent of the total expenditures in 1932, 47.3 per cent in 1936, 76.4 per cent in 1938-39, and 61.6 per cent of the budget approved for 1940-41. Revenue receipts (exclusive of loans) increased from 1,709,600,000 yen in 1936-37 to an estimated 4,902,000,000 yen in 1941-42. However the revenue receipts represented only 40 per cent of total estimated net expenditures for 1941-42 as compared with 77.2 per cent of actual expenditures in 1936-37. Out of total authorized expenditures of 22,335,000,000 yen under the China Incident Account for the period 1937-41, 18,399,400,000 yen, or 82 per cent, was to be met by government borrowing.

The total funded public debt rose from 6,002,800,000 yen in December, 1931, to 9,854,000,000 in March, 1936, and to 27,750,000,000 in December, 1940. Additional bond issues totaling 7,574,000,000 yen were projected for 1941. The outstanding short-term debt in September, 1940, was 557,873,000 yen. The average exchange rate of the yen was \$0.2596 in 1939 and \$0.2344 in 1940.

**Transportation.** In 1938 Japan had 11,144 miles of State and 4240 miles of private railway lines. A four-year plan to improve railway communications was launched in 1939. Freight carried on government lines increased from a monthly average of 4,972,000 tons for 1921-25 to 8,549,000 tons for 11 months of 1939, and passenger traffic showed a similar increase, due mainly to the war in China. Highways extended about 594,749 miles (see ROADS AND STREETS). Air services, covering 9598 route miles in August, 1939, were further extended in 1940. The merchant marine in 1938 comprised 2187 vessels of 5,006,712 gross tons.

**Government.** Under the Constitution of Feb. 11, 1889, executive power was vested in the em-

peror, acting with the advice and aid of a ministry appointed by and responsible to him, but every law normally required the approval of the Imperial Diet of two chambers. The Upper Chamber (House of Peers) consisted in 1940 of 422 members, of whom 193 were chosen for life on the basis of rank, wealth, and other qualifications and the remainder were elected from and by special groups for seven years. The House of Representatives consisted of 466 members elected for four years. The elections of Apr. 30, 1937, divided the House into two major parties (Minseito, with 175 seats, and Seiyukai, with 172), three minor parties and various independents. The military-Fascist groups gradually extended their control over the government after the invasion of Manchuria in 1931 and in 1940 the transformation of Japan into a completely totalitarian State was initiated. See *History* below.

## HISTORY

**Economic Strain of War.** By the end of 1940 the war to establish Japanese political and economic control over China had dragged on for three and a half years, with no sign of a break in the military stalemate that developed toward the end of 1938. The year 1940, like 1939, was one of almost continuous heavy fighting in China without decisive military gains by either side (see CHINA under *History* for a full account).

The drain upon Japan's human and economic resources by this war of attrition became more and more onerous. Between 800,000 and 1,000,000 soldiers had to be maintained on fronts extending from Inner Mongolia on the north to Hainan and French Indo-China on the south. By Dec. 31, 1940, Japanese troops had suffered more than 1,000,000 casualties from death, wounds, and disease. The conflict had cost Japan approximately \$3,680,000,000, in U.S. currency, or more than twice the total national debt in 1936. During 1940, the total expenditure for war and rearmament was estimated at \$1,750,000,000. This was seven times greater than national defense costs in 1936-37, the year preceding the outbreak of the so-called "China Incident," and nearly 18 times as large as the defense budget preceding the attack upon Manchuria in 1931. The funded debt by December, 1940, amounted to \$6,500,000,000.

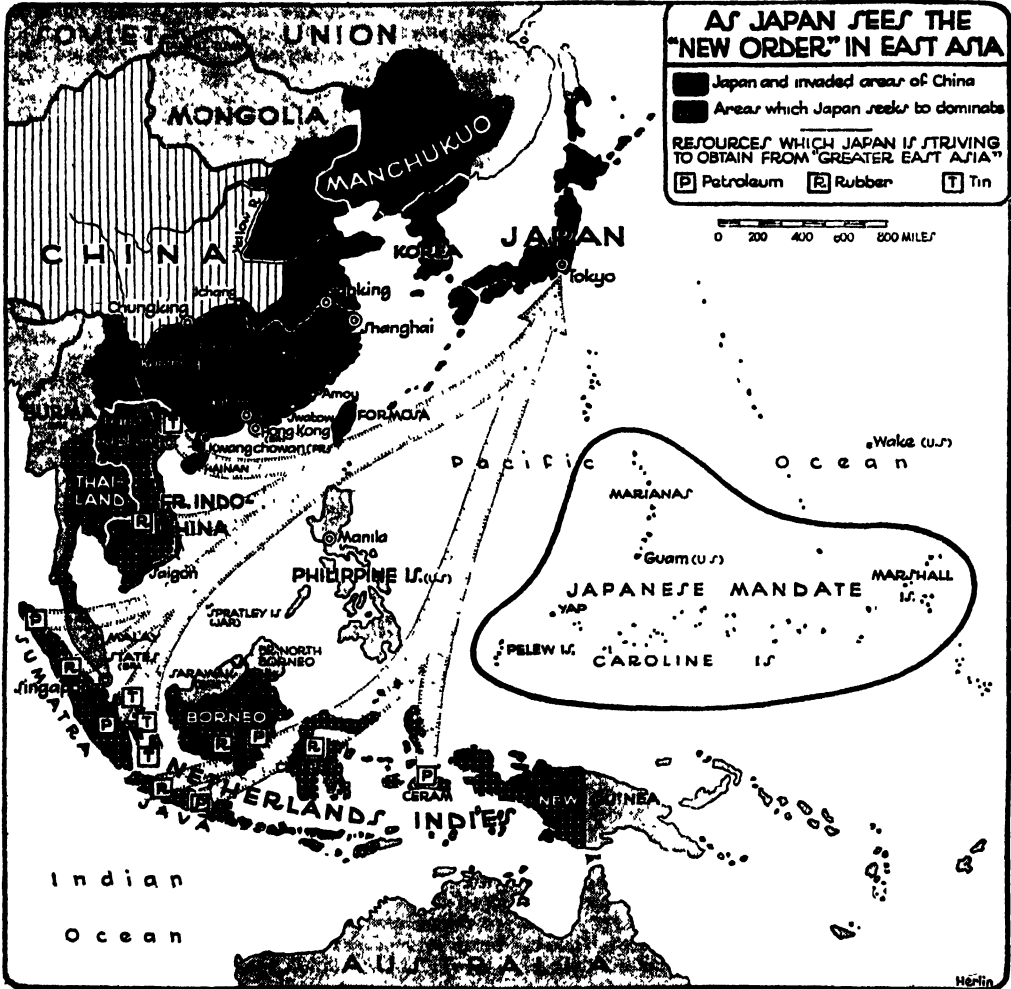
There were many evidences of the growing economic and financial strain. Serious shortages of essential commodities and materials, labor, and electric power developed. Industrial efficiency continued to decline. Prices of staple foodstuffs rose sharply while prices of such export products as raw silk slumped. The rice shortage, which developed in 1939, continued through 1940. By the end of that year coal, milk, butter, eggs, potatoes, and meat were almost unobtainable, while charcoal, sugar, matches, and gasoline were strictly rationed. The merchandise import balance with foreign currency countries increased from U.S. \$93,150,000 in 1939 to \$202,400,000 in 1940. Trade slumped sharply in the last half of 1940 and there was a growing shortage of foreign exchange. The note issue increased from 2,968,887,000 yen on Jan. 11, 1940, to 4,030,694,000 on Jan. 11, 1941. All this necessitated the progressively greater regimentation of the economic system by the government.

In January the shortage of electric power became so acute that all industries except those making armaments and munitions were partially paralyzed and more than three million workers were

rendered temporarily jobless. The manufacture and sale of all luxury articles was prohibited on July 6. Rice, the staple food of the nation, was placed under State control on November 1. The largest iron and steel company in Japan underwent forced reorganization in December as a result of the difficulty experienced in obtaining scrap and pig iron from the United States and the British Empire. As of Jan. 1, 1941, the Ministry of Finance suspended publication of foreign trade figures. On that date the *New York Times's* correspondent in Tokyo reported that while Japan's economy was severely strained, it appeared able to continue to function.

ficient to justify them in the eyes of the Japanese people.

The plan for seizing Outer Mongolia and all of Eastern Siberia, long advocated by an influential section of the Japanese high command, had been abandoned in 1939 as a result of the unexpected defeat inflicted upon the crack Japanese Kwantung Army by mechanized Soviet forces in the fighting of August–September, 1939, along the Manchoukuoan–Outer Mongolian frontier (see *YEAR BOOK*, 1939, p. 457). The other alternative was expansion southward at the expense of the French, British, Dutch, and American possessions in south-eastern Asia and Malaya. The risks of such a



Courtesy of New York Times

#### PROGRESS OF JAPAN'S EXPANSIONIST CAMPAIGN AS OF AUGUST, 1940

**Dilemma of the Militarists.** Inability to end the military stalemate in China or to relieve the growing economic pressure in Japan through exploitation of their Chinese conquests placed the military-Fascist clique in control at Tokyo in a dilemma. To avert economic collapse at home, they had either to liquidate their imperialistic adventure in China and confess their failure or to hazard another desperate gamble in the hope of gains suf-

course appeared too formidable as long as the outcome of the European War appeared in doubt. But with the collapse of France, the isolation of Britain and the entrance of Italy into the conflict on the German side in June, 1940, the military-Fascist rulers of Japan determined to stake their future upon the success of a program of southward expansion.

Speaking on May 3, a week before Hitler

launched his successful blow at the Low Countries and France, Foreign Minister Arita of Japan denounced as "sheer stupid blustering" the demands of Japanese extremists for war with Russia or the United States. He declared his policy aimed at constructing the "new order in East Asia," proclaimed as Japan's goal in 1938 (see *YEAR BOOK*, 1938, p. 158 f.), and avoiding friction with other foreign powers. But on June 29, following the Franco-German armistice, the Foreign Minister broadcast an address to the Japanese Empire picturing it as the dominant military power and "stabilizing force" in a vast area comprising not only East Asia but Southeastern Asia and the South Seas. This expanded program, described as "a new order for Greater East Asia," was formally proclaimed by Premier Prince Fumimaro Konoye on August 1.

**Progress of Southward Drive.** Taking advantage of the Allied disasters in Europe, Japan exerted increased pressure upon the British and French during June, July, and August. She forced them to capitulate in the Tientsin concession dispute, withdraw British troops from Shanghai, cut off shipments of virtually all supplies from Hong Kong and French Indo-China to the Chinese Nationalists, and close the Burma Road (see *CHINA* under *History*). Japanese pressure took the customary form of military threats and of attacks upon British and other foreign residents in Shanghai and other Japanese-occupied parts of China.

The way for a Japanese advance into French Indo-China was cleared in mid-September when Hitler offered to give Japan a free hand in French Indo-China and the Netherlands Indies in return for Japanese adherence to the Axis military alliance. Hitler also undertook to neutralize Soviet Russia while Japan was occupied in Southeastern Asia, and to force the Vichy Government to permit a peaceful Japanese occupation of French Indo-China. It was reported that Hitler's offer was accompanied by a threat to isolate Japan diplomatically and leave her exposed to attack by Britain, the United States, and Russia unless his proposal was accepted.

**Japan Joins the Axis.** Japanese acceptance of the alliance was agreed upon at an Imperial Conference—the sixth since 1900—held in the presence of the Emperor on September 19. An advance payment was obtained from Berlin on September 22 in the form of the Franco-Japanese agreement for the establishment of Japanese air bases and a garrison in the northern part of French Indo-China (see *FRENCH INDO-CHINA* under *History*). This opening wedge was obtained through German pressure upon the Vichy Government. On September 27 Japan fulfilled her part of the bargain by signing the Axis alliance pact at a ceremony in Berlin (see *GERMANY* under *History*). This fateful decision, which linked Japan's fate inextricably to that of the Axis and carried with it the imminent threat of war with both Britain and the United States, was approved in a rescript issued by the Emperor Hirohito the same day.

Once entrenched in northeastern French Indo-China, the Japanese were able to extend their influence southward toward Saigon, metropolis of the southern part of the colony, and westward into Thailand. This advance was pushed forward gradually by economic and diplomatic pressures, with the threat of military force ever present. The Japanese encouraged the Thai Government to press its territorial claims against French Indo-China,

gave it arms and diplomatic support, obtained German aid in paralyzing French resistance, and then offered to mediate the dispute. As a further step toward securing a foothold in Thailand for a future advance toward Singapore and the Netherlands Indies, the Japanese Government on December 6 signed a treaty of friendship with Thailand. In it, the two countries agreed to respect each other's territories, to maintain contact and exchange information on matters of mutual interest, and to remain neutral if either country was attacked by a third power. This assured Thailand that Japan would not give military aid to French Indo-China in connection with the territorial controversy. See *THAILAND* under *History*.

Meanwhile a Japanese economic mission in Batavia and Japanese business men, consular officials, and agents throughout the Netherlands Indies were laying the groundwork for a Japanese bid for domination as soon as Anglo-American resistance was overcome. For details, see *NETHERLANDS INDIES* under *History*.

**Obstacles to Expansion.** Japan's drive southward was unexpectedly slowed during the last quarter of 1940 by the failure of the German offensive to knock out Great Britain, the firm opposition offered by the United States, and Tokyo's inability to reach an understanding with Moscow. These developments induced Tokyo to avoid the open use of armed force for fear of precipitating a war with a major power at a time when Japan's national resources were badly strained. At the same time these obstacles encouraged the Vichy Government, the French authorities at Saigon, and the governments of Thailand and the Netherlands Indies to resist Japanese diplomatic and economic pressure.

**American-Japanese Relations.** It was the United States battle fleet, concentrated at Hawaii, and the increasingly firm opposition offered by Washington to Japan's expansionist drive that caused the greatest uneasiness in Tokyo. American influence adverse to Japan was encountered in Japanese dealings with China, the Soviet Union, Great Britain, France, French Indo-China, the Philippines, and the Netherlands Indies (see each country under *History*). In addition, Washington took successive measures of both a military and economic nature to reinforce the numerous strong diplomatic representations made by the American Ambassador in the Japanese capital.

When the Japanese-American commercial treaty, denounced by Washington on July 26, 1939, expired on Jan. 26, 1940, the State Department informed Japan that commercial relations would continue on a day-to-day basis and be regulated in accordance with future developments. This left Washington free to exert further economic pressure and if necessary to end all commercial interchange. The attacks upon United States policy in the Japanese Diet and press occasioned by this economic threat became increasingly violent later in the year when Japan's espousal of the "Greater East Asia" policy and entrance into the Axis was followed by the progressive restriction of Japanese purchases of war materials in the United States by Presidential order (see *UNITED STATES* under *Foreign Affairs*).

The Japanese Government on August 3 formally protested the embargo on exports of American high-test aviation gasoline. It was reported without confirmation or denial on August 24 that Under-Secretary of State Sumner Welles had



warned the Japanese Foreign Minister in an *aide-memoire* that a show-down between the United States and Japan would inevitably come if Japan persisted in her expansionist course. The Japanese leaders were alarmed by the American-Canadian defense accord in August, the Anglo-American base-destroyer deal in September, and negotiations between the United States, Britain, Australia, New Zealand, and the Netherlands for collaboration in the Pacific.

**War Threatened.** Japan's adhesion to the Axis alliance on September 27 was designed in part to force a reversal of American policy by confronting Washington with the threat of involvement in war on two oceans. This threat, implicit in the alliance, was reaffirmed in numerous blunt warnings from Japanese leaders and the press. Premier Konoye's statement of October 4 was typical. Asserting that Japan would recognize United States leadership in the Americas if Washington recognized Japan's leadership in East Asia, he added:

If the United States refuses to understand the real intention of Japan, Germany, and Italy in concluding an alliance for positive co-operation in creating a new world order and persists in challenging those powers in the belief that the accord is a hostile action there will be no other course open to it than to go to war.

**Limits of Axis Obligations.** The hope that Washington would be deterred by these threats proved unfounded. Instead the United States added an embargo on scrap metal exports and advanced another loan to China on September 25-26. The violently anti-American attitude of the Japanese press and individuals led the State Department on October 8 to urge all American citizens in Japan and Japanese-occupied parts of China to return home. This action and Britain's reopening of the Burma Road caused a change of tone in Tokyo. The anti-American press campaign was moderated and the Foreign Office spokesman declared (October 9) that "we wish Americans would understand that there is nothing to be alarmed about." Two days later another official declared that Japan was the judge of her obligations under the Axis alliance, which did not necessarily bind her to enter the war because of American aid to Britain.

Nevertheless the military-Fascist leaders in the saddle at Tokyo plainly indicated their determination to proceed on their course even at the risk of war with the United States. On October 23 Japan announced the abrogation, effective a year later, of her treaty with the United States, Great Britain, and Russia for the protection of fur-bearing seals in the North Pacific. After President Roosevelt's re-election, Adm Kichisaburo Nomura, former Foreign Minister, was appointed Ambassador to the United States in another effort to win American acceptance of the Japanese program for "Greater East Asia."

Foreign Minister Matsuoka gave a further explanation of Japan's obligations under the Axis alliance in a press interview on December 9. He stated that Japan was "honor bound" to fight the United States if the latter attacked Germany, but only provided Tokyo was satisfied that the United States started the trouble. He said there would be no serious clash between the United States and Japan if both countries kept "cool" and minded their own business. But in a speech to the Japan-American Society in Tokyo on December 19, the Foreign Minister said: "Japan is and will remain loyal to her allies. Japan's foreign policy will revolve in the future around the Three-Power Pact,

and to have any illusion on such an issue would do no good to anyone." He again urged the United States to keep out of the European conflict. Justifying Japan's "Greater East Asia" policy, he said that she was "not waging an imperialist war of aggression" but was "engaged in a moral crusade" in fulfillment of her "great mission as a civilizing and stabilizing force." To this the American Ambassador in Tokyo replied:

Mr. Matsuoka lived long enough in the United States to know that the American people are fundamentally peace-minded. But they are firmly determined on certain matters—their obligations and rights. He also knows that the only thing that counts is the concrete evidence of facts and actions regardless of the persuasive garb in which such facts and actions may be dressed. Let us say of nations as of men: "By their fruits ye shall know them."

Japanese activities and ambitions in the Philippines were another source of irritation to Japanese-American relations. The Tokyo Government on April 20 asked Washington to prevent the curtailment of Japanese immigration to the Philippines under a bill before the Philippine Assembly limiting the number of immigrants from any one country to 500 annually. Also see PHILIPPINES under *History*.

**Negotiations with U.S.S.R.** In the negotiations carried on with the Soviet Union during this period of growing tension with Britain and the United States, the Japanese military leaders abandoned their former haughty and intransigent attitude toward the Russians and announced their readiness to pay a high price for a Soviet-Japanese understanding that would assure them of Russian neutrality. Without concealing their deep distrust of Soviet intentions, the Rightist press in Tokyo nevertheless declared in September that Japan's traditional policy of "defending the south and advancing in the north" on the Asiatic mainland must now be reversed and that "therein lies the full possibility of adjusting Japanese-Soviet relations."

Germany acted as the go-between in these negotiations, but the terms asked by Moscow as the price of a Soviet-Japanese non-aggression pact were so high as to preclude, or at least delay, an agreement. In October Tokyo sent Lieut Gen. Yoshitsugu Tatekawa to Moscow as its new Ambassador to speed the conclusion of an accord. Predictions of an early settlement were issued from time to time by the Japanese press. Anti-Stalinist circles also confidently asserted that a "deal" between Moscow and Tokyo at the expense of China, the United States, and Britain was in the making (see letter of Alexander Barmine in *New York Times*, Nov 10, 1940).

However on December 5 Moscow officially announced that its policy of aiding Nationalist China had not been changed by Japan's recognition of Wang Ching-wei's regime in Nanking. The Japanese Foreign Office was much less optimistic about a general Soviet-Japanese agreement on all outstanding issues at the end of the year, although negotiations in Moscow were still continuing. The temporary arrangement permitting Japanese fishing in Soviet waters in the North Pacific expired on December 31 without agreement having been reached either for its extension for another year or for a permanent fisheries treaty that would remove this perennial source of controversy between the two governments. Also see CHINA under *History*.

**Internal Affairs.** The shift in Japanese foreign policy to one of accelerated southward expansion during 1940 was accompanied by the trans-



formation of the Japanese political system to full-fledged totalitarianism. The government formed Aug. 29, 1939, by Gen. Nobuyuki Abe was overthrown Jan. 14, 1940, mainly as a result of popular discontent with economic conditions (see *YEAR BOOK*, 1939, p. 393 for background of the cabinet overturn). A new cabinet was formed on January 15 with Adm. Mitsumasa Yonai as Premier. Admiral Yonai was a moderate leader who had opposed the army's proposal for a military alliance with Germany. He reappointed the War and Naval Ministers holding office under Yonai and continued the Yonai Government's cautious foreign and domestic policies.

The criticisms that the Abe Cabinet had avoided by resigning were launched against the Yonai Government when the Diet reconvened on January 21. The boldest attack upon the army's policy of expansion in China that had been made since the outbreak of the war was uttered by Takao Saito, a member of the Minseito party, on February 2. His speech, which threw the Diet into an uproar, cast doubt on the prospect of achieving the "new order in East Asia," questioned the army's assurances of the impending defeat of Chiang Kai-shek, and declared that the proposed Wang Ching-wei puppet regime at Nanking could not unify China or fulfill its pledges to Japan unless supported by a strong Japanese army. He asked what the Japanese people had gained in return for their great sacrifices in the struggle with China, which he said was being carried on "under the cloak of a holy war." The army demanded Saito's expulsion from the Diet but so great was his popular support that the government deemed it wise to wait several months before carrying out this demand. Meanwhile other members attacked the government for its failure to maintain production of consumers goods.

**The Konoye Government.** When the Allied collapse in France opened the way for the achievement of the army's aims at home and abroad, the military-Fascist clique decided to dispense with the Yonai Government. On June 25 War Minister Gen. Shunroku Hata informed his staff that posterity would never forgive them if they failed to seize the opportunities presented by the international situation. Acting on behalf of the military-Fascist clique, General Hata suddenly offered his resignation as War Minister on July 16 and on July 17 the Yonai Cabinet was forced to resign.

The political parties were completely ignored in the new government formed on July 22 by Prince Fumimaro Konoye, who had been Premier from June, 1937, to January, 1939. The new government's policies were framed by the army and navy chiefs, acting through an Inner Cabinet comprising Prince Konoye, Lieut. Gen. Eiki Tojo, Minister of War; Adm. Zengo Yoshida, Navy Minister; and Yosuke Matsuoka, Foreign Minister. In his statement issued on August 1, Prince Konoye linked the program for "a new order in Greater East Asia" with a policy of internal reconstruction along totalitarian lines and closer relations with the Axis powers.

**Totalitarian "Reforms."** During subsequent months the Konoye Government carried out a series of sweeping totalitarian "reforms." The Minseito party, last and largest of the political parties, "voluntarily" dissolved itself on August 15 to make way for the new order. The Japanese diplomatic corps, stronghold of the forces opposed to military-Fascist domination of Japan's govern-

mental and foreign policies, was purged beginning August 22 by the recall of more than 40 Ambassadors, Ministers, and other officials in foreign diplomatic posts. Many of those removed were hostile to the government's policy of closer relations with the Axis powers.

All organizations tinged with liberalism or internationalism, such as the labor unions and the Rotary clubs, were forced to dissolve. A new system for the organization of labor was decreed on November 8, providing for a special "co-operative body" for all employees in each enterprise, under "the leadership of the operator." These local labor units were to be federated into district and national bodies. Religious organizations were forced to adjust themselves to Japan's new totalitarian order. All of the Christian denominations were divested of foreign control and influence and merged in a single Japanese Christian Church, with all of their properties vested in Japanese hands. Foreign missionaries and church officials were sent home.

All forms of dictatorial control were progressively tightened. Dr. Toyohiko Kagawa, famous social reformer and religious leader, was arrested on September 4 for contributing an article considered disadvantageous to Japan to an American magazine. He was released September 17 with the understanding that he would retire to a small island in the Inland Sea and devote the rest of his life to tuberculosis work. Further curbs on the reporting of news were imposed December 14 along with other decrees extending government regulation of political and economic activities.

**Government Party Formed.** The Premier on August 28 announced that the precise form of the new totalitarian State would be fixed by a committee appointed for that purpose. While he rejected the principle of the one-party State as not compatible with Japan's national policy of "one sovereign over all," he fixed the ultimate goal as a set of corporative institutions that would control every political, economic, and cultural activity.

The committee undertook not only to formulate the structure of the new State but also to establish a political organization through which it could function. This new political agency, known as the Imperial Rule Assistance Association, contained no trace of democracy, being organized strictly on the "leadership principle" in vogue in other Fascist States. It consisted of a powerful Executive Council, created to "convey the will and ideas of those who govern to those who are governed" and functioning through local units of the association in every city and village in the country. A Co-operative Council representing the local units was to "convey the will and ideas of those who are governed to those who govern." The Premier of Japan was made *ex-officio* President of the Imperial Rule Assistance Association, with power to appoint its officers. This association was still in the formative stage at the year's end.

**Structure of New State.** In creating the structure of the new State, the Premier's committee first of all established a Supreme Economic Council, charged with directing and co-ordinating all economic activities, and a Supreme Cultural Council to control all aspects of the nation's cultural life. The Konoye Government itself undertook the organization of agricultural, vocational, and industrial associations to control their respective branches of production and of similar agencies to supervise education, sports, religion, means of communication, art, etc.

This new State system gave the military-Fascist group operating through the government an effective means of squelching opposition to its domestic and foreign policies. Nevertheless Japanese big business, which still remained influential, was alarmed at extremist demands for the introduction of complete State socialism and forced the government to curtail its program. The moderates obtained formal assurance from the Cabinet that Japanese industry would, in general, remain under private direction and control. Big business and other opposition elements also fought a military-Fascist move to reduce the membership of the Lower Chamber of the Diet and restrict manhood suffrage. The military-Fascists, in turn, were unwilling to permit the holding of elections to the Lower Chamber due in 1941. Consequently a bargain was struck under which the military-Fascists agreed to drop their plans regarding the Lower Chamber in return for the opposition's assent to the postponement of the elections for one year and a pledge to support the government's program in the meantime.

**Other Ultra-Nationalist Trends.** Symptomatic of the new ultra-nationalist policy in Tokyo was the amnesty extended on November 4 to 130 prisoners convicted of political crimes, including the fanatical nationalists who on Feb 26, 1936, assassinated a number of leading governmental officials during an unsuccessful military revolt (see *YEAR BOOK*, 1936). On December 4 former Premier Baron Kiichiro Hiranuma, ultra-nationalist leader, joined the cabinet as Minister without Portfolio. In an effort to relieve growing complaints at economic difficulties and violations of government price restrictions, Premier Konoye on December 21 appointed new Ministers of Justice and Home Affairs.

The death of Prince Kimmochi Saionji on November 25 eliminated the last of the Genro or Elder Statesmen, who guided Japan's transition from feudal hermit kingdom to a modern, quasi-democratic State (see *NECROLOGY*). For the preceding 10 years his liberal influence had been ineffective in stemming the mounting anti-democratic and militarist tide in Japanese affairs.

See also ARGENTINA, AUSTRALIA, CANADA, GREAT BRITAIN, KOREA, MEXICO, and UNION OF SOVIET SOCIALIST REPUBLICS, under *History*; INDUSTRIAL CHEMISTRY; RUBBER

**JAPANESE BEETLE.** See ENTOMOLOGY, ECONOMIC.

**JAPANESE PACIFIC ISLANDS (NANYO).** The former German possessions, mandated to Japan at the close of the World War. There are three main groups: (1) MARIANA (14 islands), including Saipan, Tinian, Rota; (2) CAROLINE (577 islands), including Yap, Palau, Koror, Spring, Wednesday, Ponape, Kusaie; (3) MARSHALL (60 islands), including Jalut. Total area, 830 square miles, population (June 30, 1938), 121,128, including 70,141 Japanese. Chief products: Sugar, maize, phosphates, tapioca, bananas, coffee, yams, alcohol, and copra. Trade (1937). Imports, ¥23,265,000, exports, ¥38,252,000 (yen averaged \$0.2879 for 1937). Budget (1939-40); revenue, ¥10,941,000; expenditure, ¥10,839,000 (yen averaged \$0.2845 for 1939). Governor, Kenjiro Kitajima (headquarters at Koror in the Caroline group).

**JARVIS ISLAND.** See UNITED STATES.

**JAVA.** See NETHERLANDS INDIES under *Area and Population*.

**JEBEL DRUZE.** Same as *Djebel Druse* (q.v.) under SYRIA AND LEBANON.

**JEHOL.** See CHINA under *Area and Population*.

**JEHOVAH'S WITNESSES.** See CONNECTICUT, MAINE, and NEW ZEALAND under *History*; SUPREME COURT.

**JEWISH WELFARE BOARD.** The Board has a twofold purpose. It is the parent body for Y.M.H.A.'s, Y.W.H.A.'s and Jewish Community Centers in the United States and Canada. It also provides for the religious and welfare needs of men in the service of the U.S. Army, Navy, Marine Corps, disabled veterans, young men in CCC camps, and C.M.T.C. The Board is composed of 317 constituent societies in the United States and Canada, which have 400,000 members, and own 238 buildings. Seven regional organizations are affiliated in the work of the Board.

The Board works in the fields of Jewish Center problems relating to programs of activities and administration, vocational guidance, educational and recreational activities, cultural and social adjustment of immigrants, community surveys and institutional studies, club leadership training, summer and day camps, health and physical education, extension education, forums and lectures, and maintains a field service in contact with its affiliate organizations.

The Army and Navy Committee, John M. Schiff, Chairman, serves men of the Jewish faith in the Army, Navy, and Marine Corps, government hospitals and soldiers' homes, Civilian Conservation Corps, and Citizens' Military Training Camps. The Board is in contact with 270 army posts, naval stations, and veterans' institutions in the United States and outlying territories. The Board was organized Apr. 9, 1917.

The officers of the Board are Irving Lehman, Honorary President; Frank L. Weil, President; Lloyd W. Dinkelspiel and Mrs. Felix M. Warburg, Vice-Presidents; Frederick L. Ehrman, Treasurer; Joseph Rosenzweig, Secretary; and Louis Kraft, Executive Director. The headquarters are at 220 Fifth Avenue, New York City.

**JEWS.** In 1940 as so often in the past, Germany and her ally Italy reaffirmed their total war against the Jews. After the capitulation of France when an Axis victory seemed assured, the German Minister of Labor, Robert Ley, declared "the expulsion of the Jews to be the prime necessity of the new Europe" (June 26). As a faithful Italian echo, *La Stampa*, leading newspaper of Turin, announced that "a preliminary necessary condition [of peace] is the total and definitive elimination of the Jews from Europe" (July 18). A few weeks later, the *Schwarze Korps*, organ of the Nazi Elite Guard and a frequent mouthpiece for Germany's policy toward the Jewish people, proclaimed that "a European continent without Jews, who will be banished to some remote quarter of the globe, will be one of the prerequisites of a German peace" (August 7). German conquests and the extension of Nazi and Fascist spheres of influence have brought, for the time being at least, about 3,700,000 European and 380,000 North African Jews to a position where these threats can be executed. West of the Russian frontier, the overwhelming majority of European Jews live either under the menace or in the actual process of extermination. The table on page 385 will indicate the gravity of their plight.

In sum, a third of the world's Jewish population



*Wide World*

JAPANESE TROOPS ENTER HAIPHONG, FRENCH INDO CHINA



*Wide World*

PRINCE KONOYE (LEFT) AND THE POWERFUL MEMBERS OF HIS CABINET FOREIGN MINISTER MATSUOKA, ADMIRAL YOSHIDA, AND (RIGHT) GENERAL TOJO



Country	Number *	Country	Number *
<b>Jews under Antisemitic Rule</b>		<b>Jews under Soviet Rule</b>	
Austria.....	50,000	U.S.S.R.....	5,500,000
Belgium.....	85,000		
Bohemia-Moravia	85,000		
Bulgaria.....	50,000	<b>Jews elsewhere in Europe</b>	
Denmark.....	8,000	Great Britain	400,000
France.....	450,000	Greece.....	100,000
Germany.....	185,000	Portugal.....	13,000
Holland.....	200,000	Sweden.....	12,000
Hungary.....	750,000	Switzerland.....	26,000
Italy.....	60,000	Turkey (European).....	56,000
Norway.....	3,500		
Poland (German occupied)	1,250,000	<b>Other Important Jewries</b>	
Rumania.....	375,000	Canada.....	160,000
Slovakia.....	80,000	Egypt.....	75,000
Spain.....	4,000	Irak.....	75,000
Yugoslavia.....	70,000	Latin America.....	460,000
North Africa		Palestine.....	500,000
(French colonies and Libya)	380,000	Union of South Africa.....	100,000
		United States.....	4,500,000

\* The figures are perforce estimates and include refugee as well as long established populations

(estimated at sixteen million) lives *incomunicado* in the Soviet dominions, their religion and traditions on the way to extinction; another quarter and more have passed into the hands of an enemy vowed to their destruction; well over another million in Great Britain and her Empire know that their existence depends on a British victory; while in the Americas and the remainder of the world, the maintenance of democracy is their surest bulwark.

**France and the Lowlands.** In these countries, where native Antisemitism is negligible, the policies introduced by the German conquerors follow substantially a single pattern. Either with or against the will of the defeated governments, political and economic measures have separated the Jews from their fellow nationals and set them on the road to starvation. Mass deportations from Germany and the confinement of refugees in internment camps have not only added to the hardships of the victims but placed a strain on the resources of the conquered peoples. Agitation by the press and radio has sought to arouse popular feeling against the outcast minority with the purpose of diverting hatred from the Germans and at the same time creating a common bond between the conquerors and conquered as a step toward future "collaboration." The latter point is crucial in German strategy. Just as Antisemitism helped to disrupt the morale of a country before its conquest, so the Nazis bank on it to help make allies of their former foes. Hitler put the point clearly in his speech of Jan. 30, 1941 "We already see how our racial ideology spreads from nation to nation, and I hope that the peoples who now stand in enmity to us will one day recognize their greater domestic enemy and enter a great common front with us, which will be a front of Aryan humanity against international Jewish destroyers and exploiters." As a result of these tactics, however great has been the suffering of the conquered peoples, the Jews among them—as the Nazis' arch-victims—have suffered worse, and with no hope of armistice, appeasement, "collaboration," or peace.

In occupied France, where the Germans are in complete control, no Jew among the hundreds of thousands of French who fled south to escape the German armies has been allowed to return home. Jews have been banned from the liberal professions. All places of business owned in whole or in part by Jews must post a sign in French and Ger-

man indicating they are Jewish enterprises. The authorities decreed the registration of all native and foreign Jews (October 2)—the usual preliminary to confiscation of property. According to German reports, the registration totalled 150,000 Jews and 11,000 Jewish businesses in Paris. By the end of the year 4500 of the latter were "Aryanized." Dr. Blankel, war councillor in the occupied region, stated that "the occupation authorities aim at the definitive exclusion of the Jews from French economic life," and added that he hoped the French population would co-operate.

Meanwhile in so-called *France Libre* or unoccupied France, the government has given extensive co-operation. Wealthy and prominent Jews who had left the country were deprived of citizenship and property. On October 18, as its contribution toward collaboration in the "new order" of Europe, the Vichy government decreed a body of racial legislation which echoed the Nuremberg Laws of Germany. Jews were defined not by religion but by race; they were barred from the police, the army, the teaching profession, practically every branch of the government, all executive or editorial posts in connection with the press, cinema, theater, and radio, and all administrative posts in any enterprise subventioned or controlled by the government. They were made liable to a *numerus clausus* in all the liberal professions, and were barred from membership in any organization officially representing these professions. The provisions of this legislation were extended to Algeria (where, in addition, the Jews lost their citizenship), and all French colonies, protectorates, and mandated areas. Furthermore, the statutes empowered the government to establish internment camps for Jewish aliens or assign them a compulsory place of residence. This directly affects at least 60,000 refugees, 20,000 of whom are already confined in such camps, and unknown thousands of non-naturalized residents. To date hundreds of naturalized Frenchmen, about half of whom are Jews, have been deprived of their citizenship and become candidates for internment.

Although little news has seeped out of the Lowlands, the procedure there is apparently much the same. In Holland dismissals, arrests, and seizures of property were widespread. Large numbers of refugees were sent back to the Reich charged with evading taxes and indulging in anti-Nazi propaganda. On October 3 a decree excluded all Jews and half-Jews, as well as persons married to them, from all government and educational posts—an order which was publicly protested by the Protestant clergy. On October 21 another decree prescribed the registration of Jewish business enterprises—doubtless a prelude to confiscation or forced sale for worthless money. Finally Jewish children were barred from the public schools. In Belgium similar decrees were issued in November, with the further provisions that Jews were excluded from any employment in public utilities or news services. According to a report from Brussels (Jan. 20, 1941), the Jews of Flanders, numbering more than 40,000, have been sent to concentration camps, in order to eliminate them from a region where the Flemish, that is Germanic, nationalist movement has its greatest strength.

**Poland.** Conditions in German-occupied Poland are typified by the ghetto wall of Warsaw. The 500,000 Jews of this city, a third of its total population, have been crowded into 100 blocks surrounded by a concrete wall 8 feet high. Eighteen

exits are provided, and no Jew may leave or Gentile enter the confines without a special pass. Once out, every Jew, male or female, must wear a white arm band bearing the Star of David. Within the wall, gas and electricity cannot be used after 8 p.m. Similar ghettos have been established in Radom, Lodz, and other cities. Next to Warsaw, the largest is in Lodz, where 166,000 Jews, including 55,000 children, are huddled together in a small area enclosed by barbed wire. Within these medieval monstrosities disease is rampant and starvation imminent. In Lodz, for example, only 40,000 still possess means to buy food, and the average death rate for over the year was 50 daily. Throughout occupied Poland all able-bodied Jews are compelled to undergo two years' compulsory labor at pay which barely sustains life. German censorship and restrictions do not permit a comprehensive picture of the situation; but, without claiming to meet more than part of the needs, the American Jewish Joint Distribution Committee is rendering daily assistance to 250,000 Polish Jews who would otherwise perish.

**Germany** (including Austria and Czechoslovakia). In Germany and its incorporated territories, restrictions against the Jews have progressively tightened under pressure of both the war and of Antisemitic policy, and hardships have increased. Milk, cheese, chocolate, new clothing of any kind, and even thread to mend the old, are denied the Jews. Food may be bought only during one hour late in the afternoon; fuel is doled out in dribbles. The possession of a telephone or radio is forbidden. It is reported that 25,000 Jews are still in concentration camps. For the remainder the only occupation allowed, or rather prescribed, is compulsory hard labor, for which it is estimated 50,000 are drafted. In Austria, Jewish women must work in the fields. City after city has banished its Jews by shipping them to Berlin. And the Reich, in turn, shipped on one day's notice the entire Jewish population of Baden and the Palatinate, some 10,000 souls, to unoccupied France. In Prague, the Jews were consigned to a ghetto (May 5). Throughout Bohemia and Moravia, Jewish children have been excluded from the public schools. However, the Czechs, alone among the populations of Central Europe, show manifest sympathy for their Jewish fellow victims. Slovakia, according to its premier, Dr. V. Tuka, "is systematically carrying through measures to solve the Jewish problem." That is to say, a bureau has been set up "to liquidate all Jewish businesses." According to the decree passed in February, this process should have been completed by June. In the capital, Bratislava, the Jewish population was instructed, on November 29, to prepare for mass transfer to concentration camps; and Berlin reports that similar evacuations will take place in other Slovak towns.

**Elsewhere in Europe.** Rumania has been the scene of the most brutal events of the year. According to Leigh White (Overseas News Agency correspondent in the Balkans), "Rumania's 'Jewish problem' no longer exists. All but a few scattered hundreds of Rumanian Jews have been reduced to pauperism." The cession of Bessarabia in June and later of Transylvania were the signal for virulent pogroms. In between these pogroms the government passed a series of laws "far harsher than the Nuremberg laws of Germany." Finally, under circumstances too revolting to describe, the Iron Guard uprising of January, 1941, added hundreds of further victims. Between July and mid-

January it has been estimated that 5000 Jews were massacred, and thousands more maimed and tortured. All the synagogues and a great portion of the Jewish business quarter in Bucharest were destroyed.

Hungary's Jewish population was increased by 150,000 through its acquisition of Transylvania; and while the chances of the newcomers to earn a livelihood under Hungarian law are meager, they were probably fortunate to escape Rumanian barbarism. Among the other 600,000 Jews of Hungary 40 per cent were reported destitute and jobless.

Bulgaria has joined the "new order" in Europe, at least in its Jewish policy. On October 7 a series of decrees deprived its 50,000 Jews of their citizenship and prohibited them from occupying State, municipal, or public posts. They cannot serve in the army or own agricultural land. They are barred from banking, publishing, and the cinema and theater business. Yugoslavia introduced Antisemitic legislation (September 20) by excluding Jews from the foodstuff trades. A week later a *numerus clausus* was decreed for high schools and universities. In October it was reported that legislation was in preparation to ban Jews from all fields influencing public opinion, such as press, theater, and radio.

The Soviet Union continued to be chary with information concerning its Jews as well as its other internal affairs. Its Jewish population has been enormously increased by the acquisition of the Baltic States, Eastern Poland, and Bessarabia. Since the number of merchants and traders, however poor, were proportionally higher among the Jews than the general population of the newly acquired territories, the problems following their "declassification" were correspondingly graver. No outside relief agencies, however, are permitted to alleviate their plight. According to Jacob Lestchinsky *Contemporary Jewish Record*, III, 607-621), religion is declining among the Russian Jews, Yiddish is slowly vanishing, and "as a result of Soviet policies, the eventual disappearance of Jews as a distinct people in the Soviet Union seems inevitable."

**Palestine.** Despite the hardships of war, Palestine (q.v.) continues to be one of the few bright spots in the Old World. It is the only country, in the Old World or New, where a newcomer is not a refugee but an immigrant. Eight new settlements were added to the 272 Jewish towns and villages. The Jewish population was increased by about 25,000 immigrants, and 10,000 acres were acquired. About 137,000 persons, or 25 per cent of the Jewish population, derived their living from the land. Sixty-three new industrial enterprises were established. According to Dr. Bernard Joseph, legal advisor to the Jewish Agency for Palestine, 8000 Jews have enlisted with the British fighting forces, of which 15 per cent are in the R.A.F.; 900 have been recruited in four Jewish infantry companies; and a total of 136,000 men and women have volunteered for various war services. A common enemy and common danger have appreciably lessened the tension between Arabs and Jews. On the other hand, the Jews expressed universal dissatisfaction, going to the extent of violent demonstrations on several occasions against the British restrictions on the purchase of land. On the economic front, the citrus industry and allied agricultural export enterprises have suffered a severe depression owing to the curtailment of overseas trade. But industrial enterprises necessary to the war have flourished, particularly in drugs and medicaments supplied to the Near East and India. Nearly 100,000 persons

have required economic relief, in large part furnished by the United Palestine Appeal, the Government, and the Joint Distribution Committee. See BOLIVIA, BULGARIA, FRANCE, SLOVAKIA under *History*; REFUGEES; WAR RELIEF. For Jewish Congregations, see RELIGIOUS ORGANIZATIONS.

MARVIN LOWENTHAL.

**JOHNSTON ISLAND.** An island in the central Pacific (16° 13' N. and 169° 50' W.), southwest of Hawaii, belonging to the United States. In accordance with the naval appropriations bill passed by Congress in 1939, the island was to be converted into an advance U.S. naval base, with facilities for air, submarine, destroyer, and mine operations.

**JOHORE.** See BRITISH MALAYA.

**JOURNALISM.** See NEWSPAPERS AND MAGAZINES.

**JUGOSLAVIA.** See YUGOSLAVIA.

**JUILLIARD MUSICAL FOUNDATION.** See BENEFRACTIONS.

**JURORS, Woman.** See COURTS.

**JUSTICE, U.S. Department of.** See FEDERAL BUREAU OF INVESTIGATION; UNITED STATES under *Administration*. For Bureau of Prisons, see PRISONS. For Immigration and Naturalization Service, see IMMIGRATION.

**JUVENILE BOOKS.** See LITERATURE, ENGLISH AND AMERICAN under *Juvenile*.

**JUVENILE DELINQUENCY.** Recent efforts in the field of juvenile delinquency have been directed largely to prevention through dealing with individual and community problems that lead to juvenile delinquency. The provision for preventive services has been steadily extended through the development of child-welfare services, child-guidance clinics, and group-work activities.

The Children's Bureau (qv) of the U.S. Department of Labor with local co-operation is conducting in St. Paul, Minn., a neighborhood project known as Community Service for Children. Its major objectives are to determine the types of behavior and delinquency cases that can be handled on an administrative basis without juvenile-court participation; the methods and types of community organization best suited to this purpose; and the means of informing parents, teachers, social workers, and the community of factors in the causation, prevention, and treatment of behavior problems.

Co-ordinating councils on a neighborhood or community basis, established first in California, seek through the joint effort of lay and professional groups to co-ordinate the social forces of the community in behalf of all children. Started originally because of interest in the prevention of juvenile delinquency, these councils tend to broaden their programs to include other problems of child welfare, because they recognize the interdependency of juvenile delinquency and other social problems.

Since 1936 the widespread development of county welfare departments and of child-welfare services in such departments as a result of Federal aid to the States under the Social Security Act has provided in many rural areas child-welfare workers who are in a position to give case-work services to children in danger of becoming delinquent. In approximately 500 counties or local areas where such workers are now employed, they are increasingly called upon by the parents, the schools, and the juvenile courts to assist in working out the problems of individual children. As a result of such

experience they bring to the attention of community leaders the need for recreation and other facilities in the community that will benefit all children. Consultation service from the State welfare departments and the Children's Bureau tends to strengthen and extend this type of protective service for children. The National Council of State Public Assistance and Welfare Administrators and the Board of Directors of the American Public Welfare Association in December, 1940, expressed their appreciation of the value of child-welfare-service programs in local communities and urged the extension of local child-welfare services with Federal and State co-operation.

Recreational and other group activities have long been recognized as an important community method of preventing juvenile delinquency. Group experience is being used increasingly in the treatment of behavior difficulties by agencies dealing with children on a therapeutic case-work basis.

The child-guidance clinic employs the psychiatrist, the psychologist, and the psychiatric social worker to deal with the behavior problems of children of a fairly normal range of intelligence. These clinics for children exist mainly in urban centers, but there is growing effort on the part of State welfare and mental-hygiene departments to provide traveling units to serve smaller communities. Experience in these clinics is resulting in increased attention, on the part of physicians who take care of young children in their homes and in child-health conferences, to the early training that will prevent behavior difficulties.

During its early years the juvenile court was the only agency widely available in local communities to deal with child dependency, neglect, and delinquency. The problems that it brought to light led to the establishment of child-welfare services in public-welfare agencies and to the provision of public aid to dependent children. The White House Conference on Children in a Democracy (Jan. 18-20, 1940), in recognizing the changing position of the juvenile court, pointed out that it is the function of the juvenile court to provide legal action based on social study with a view to social treatment in cases of delinquency requiring court action and in cases involving adjudication of custody and guardianship or enforcement of responsibilities of adults toward children. The Conference also recommended that as local public-welfare departments become equipped for adequate child-welfare service, juvenile courts should be relieved of cases not coming within these classifications. In many States the juvenile courts have already been relieved of much of their administrative responsibility for dependent children. The juvenile-probation officer attached to the juvenile court was in many communities the first child-welfare worker publicly employed. Today the juvenile courts in the smaller counties are calling on the trained child-welfare workers in local welfare departments for social study and treatment in cases of juvenile delinquency. The courts have increased opportunity for co-ordination of service with the newly developed community child-welfare agencies.

At present 46 States, Alaska, the District of Columbia, Hawaii, the Philippine Islands, and Puerto Rico either have separate courts for juvenile offenders or have provided specialized jurisdiction and procedure for children's cases. Maine and Wyoming have embodied certain aspects of juvenile-court legislation in laws relating to the protection of children and to procedure in chil-

dren's cases. In 26 States and the District of Columbia the age limit for juvenile-court jurisdiction is now set at 18 years or higher for some or all cases of delinquent children. Juvenile-court law is based on the concept that the child who breaks the law should be regarded not as a criminal but as a ward of the State to be given parental care and treatment. Juvenile Court Standards, adopted by the Children's Bureau and the National Probation Association, have guided much of the juvenile-court legislation. In 1938 Congress passed a Federal Juvenile Delinquency Act and a new juvenile-court act for the District of Columbia based on the principles embodied in the standards recommended. Mississippi passed a new juvenile-court act in 1940.

The Children's Bureau received reports on juvenile-court statistics for the year 1938 (the latest year for which summary statistics are available) from 476 courts in 28 States and the District of Columbia, 90 of which served areas of 100,000 or more population. During 1938 these courts disposed of 77,289 delinquency cases: 84 per cent boys' cases and 16 per cent girls' cases. White children were involved in 79 per cent of the cases; Negro children in 20 per cent; and children of other races in 1 per cent. In 63 per cent of the boys' cases and in 72 per cent of the girls' cases the children had had no previous court experience. In one-half of the boys' cases the referral was for some type of stealing, and in more than one-fourth (28 per cent) of the cases it was for acts of carelessness, mischief, or traffic violation. In 62 per cent of the girls' cases the referrals were for running away, for being ungovernable, or for sex offenses. Forty-five per cent of the boys' cases and 35 per cent of the girls' cases were dismissed, adjusted, or held open pending further developments. Approximately one-third of all cases were referred to a probation officer for supervision. In 10 per cent of the boys' cases and 16 per cent of the girls' cases the children were committed or referred to an institution.

As a result of a study of crime among the youth between 16 and 21 years of age the Criminal Justice-Youth Committee of the American Law Institute drafted two model acts designed to improve State methods of dealing with youthful offenders under 21 years of age who are not under the jurisdiction of the juvenile court. The first of these, the Youth Correction Authority Act, was approved by the American Law Institute in 1940. The second, the Youth Court Act, which would set up a court organization with an improved procedure, is still under consideration.

Since 1937 an Advisory Committee on Training Schools for Socially Maladjusted Children has been working with the Children's Bureau on the evaluation of institutional methods in State training schools for boys and girls and on the development of more effective treatment programs. A Directory of State, County, and Municipal Training Schools caring for children in the United States was issued by the Children's Bureau in 1940. The total number of children in the 115 State training schools on June 30, 1939, was 28,652, of whom 71 per cent were boys and 29 per cent were girls. In the 43 county and municipal institutions from which it was possible to obtain information there were 3945 children. The increasing availability of child-welfare workers in local communities is affecting commitments to the training school both by keeping at home children whose behavior problems can be handled through local resources and by

sending to the schools the children who need the training-school service.

Recently some of the State training schools have been providing social workers to consider the individual problems of boys and girls entering and leaving the schools. In several States on request the State welfare departments have made the services of social workers available on a demonstration basis. Supervision, after the training-school experience, has been limited in most States by the small number of workers assigned to this service and the consequent heavy case loads and extensive territories to be covered. To some extent this condition is being improved as local child-welfare services are established and close working relationships are developed with the training schools.

See CHILDREN'S BUREAU; PRISONS, PAROLE, AND CRIME CONTROL; PSYCHOLOGY.

KATHARINE F. LENROOT.

**KANSAS.** Area, 82,158 square miles, including water, 384 square miles. Population, Apr. 1, 1940 (census), 1,801,028; 1930, 1,880,999. Kansas City had (1940) 121,458; Wichita, 114,966, Topeka (the capital), 67,833. The rural population, 1,047,087 (1940), lacked 104,078 of its total of 1930 but still predominated. The urban population (inhabiting places of 2500 or more), 753,941 (1940), had risen in the same interval by 24,107.

**Agriculture.** Kansas harvested, in 1940, about 20,324,000 acres of the principal crops—about 10 per cent more than the year before. Occupying about 44 per cent of this total, or 8,857,000 acres, wheat yielded 123,848,000 bu, estimated as having a value of \$78,024,000 to the farmer. Corn, on 2,647,000 acres, made 41,028,000 bu (about \$24,617,000); oats, 1,557,000 acres, 43,596,000 bu (\$12,643,000); grain sorghums, 2,211,000 acres, 27,638,000 bu (\$10,779,000); tame hay, 1,005,000 acres, 1,580,000 tons (\$8,690,000); barley, 1,136,000 acres, 18,176,000 bu. (\$6,180,000). There were 156,327 farms in 1940; in area they averaged 308.2 acres.

**Mineral Production.** As reckoned by the U.S. Bureau of Mines in 1940, Kansan production of native minerals totaled \$129,675,438 for 1938. The chief component, petroleum, gave five-ninths of this figure; the next, natural gas, over one-fifth; zinc, coal, and cement made up most of the remainder. In 1939 the great flow of petroleum in Illinois, hurting the market for the Kansan product, led operators to drill fewer new wells. None the less, the production of petroleum rose a little, to some 60,723,000 bbl. (1939), from 60,064,000 bbl., in value \$72,100,000 (1938). Rising demand brought a higher production (1939) of natural gas for consumption, largely outside the State; the total of such production of natural gas for 1938 had been 75,203 million cu. ft., in value at points of consumption, \$27,485,000. Mines' production of zinc diminished to 68,971 short tons for 1939, from 73,024 tons (value, \$7,010,304) for 1938.

Coal mines' output of 1938 totaled 2,654,141 net tons (value, \$5,263,000). Makers' shipments of portland cement, fairly close to yearly production, increased to 3,746,370 bbl. for 1939, from 3,217,497 bbl. for 1938; by value, to \$5,614,112, from \$4,949,018. Producers of salt sold or used 641,752 short tons of divers types of salt (value, \$2,591,934) in 1939.

**Education.** For the academic year 1938-39 (the latest covered by all data that follow) the number of persons of school age in Kansas—from 5 years to 21—was reported as 500,846. The year's enroll-



ments in public schools totaled 372,493: this comprised 263,227 in elementary and 109,266 in high school. Outside these figures were a considerable enrollment in kindergartens and 4923 in junior colleges. The year's expenditures for public-school education (capital outlay excepted) to \$26,552,397. The teachers numbered 19,454.

**History.** The competition between the contiguous communities of Kansas City, Kansas, and Kansas City, Missouri, took a striking form. The Kansas municipality had opened for occupancy, in December, 1939, an extensive food terminal in which a number of firms from across the Missouri line had become tenants. The Missourian Kansas City felt the neighboring enterprise to be an unfair blow at its own commerce. A Federal suit was brought against Kansas City, Kansas, and against the Union Pacific Railroad Company, by the Interstate Commerce Commission, with a view to restraining the practices of the terminal; the railroad was sued as having taken an important part in the municipal enterprise. Kansas City, in Missouri, and several railroads competing with the Union Pacific entered the suit. A Federal District Court, after six weeks of preliminary hearings, held that, because of the railroad's relation to the enterprise, concessions made to merchants to rent quarters in the terminal were rebates in interstate commerce; a temporary injunction issued on May 25 forbade letting such quarters below a specified rate and undertook to try the case at a later date. The market was leased to a private company in September.

Success in drilling for petroleum raised the potential production of wells in Kansas to the highest figure recorded, but lack of a market kept the actual output from advancing to the extent of the producers' hopes. This raised apprehension lest leading companies should keep purchases of the commodity down and thus at length acquire wells in Kansas at bargain prices. Public sentiment in the State was directed also to another feature of the Kansan economy, the lack of a satisfactory market for wheat and some of the other main crops. With dissatisfaction over markets for agricultural products and petroleum went a certain amount of resentment at the admittance of competing foreign products, as provided in the reciprocal trade treaties. These considerations had a bearing on the loss, in the year's election, of about one-fourth of the State's Democratic vote of 1936. Among Federal efforts in 1940 to extend the benefits of the New Deal more palpably to Kansas was the Bureau of Reclamation's commencement of preliminary work on an enterprise to dam the Republican River and supply water for the irrigation of 100,000 or more acres in western Kansas.

A feature of the lack of a sufficient outside market for petroleum was the encouragement that the situation gave to the idea of refining petroleum in the State, for the home market; the Consumers' Co-operative Association of Kansas City, Kansas, built with this aim a refinery at Phillipsburg, completed in May, at a cost of \$800,000. See **LABOR LEGISLATION**.

**Elections.** The State's popular vote for President at the general election on November 5 gave Willkie (Rep.) 489,160; Roosevelt (Dem.) 364,725. For Governor, Payne H. Ratner (Rep.), running for re-election, defeated W. H. Burke, (Dem.) by a margin of 427 votes, on a complete unofficial count, including absentees' ballots.

**Officers.** The chief officers of Kansas, serving

in 1940, were: Governor, Payne H. Ratner; (Rep.); Lieutenant Governor, Carl E. Friend; Secretary of State, Frank J. Ryan; Auditor, George Robb; Treasurer, Walter E. Wilson; Attorney General, Jay S. Parker; Superintendent of Public Instruction, George L. McClenny.

**KANSU.** See **CHINA** under *Area and Population*.  
**KARAFUTO.** The Japanese part (south of 50° N.) of Sakhalin. Area, 13,935 square miles; population (1937), 326,946. Chief towns: Toyohara (capital), 37,365 inhabitants; Esutoru, 31,959; Shikka, 24,399; Otomari, 24,269. Chief products: Timber, paper, fish, coal, and petroleum. Trade (1937): Imports, ¥59,403,628; exports, ¥121,372,966 (yen averaged \$0.2879 for 1937; \$0.2596 for 1939). Budget (1939-40): ¥48,734,000. Governor, Shun-ichi Munesue.

**KARELO-FINNISH SOVIET SOCIALIST REPUBLIC.** See **UNION OF SOVIET SOCIALIST REPUBLICS** under *Area and Population* and *History*.

**KAZAKH SOVIET SOCIALIST REPUBLIC.** See **UNION OF SOVIET SOCIALIST REPUBLICS** under *Area and Population*.

**KEDAH.** See **BRITISH MALAYA**.

**KEEWATIN.** See **NORTHWEST TERRITORIES**.

**KELANTAN.** See **BRITISH MALAYA**.

**KELLOGG FOUNDATION.** See **BENEFACCTIONS: DENTISTRY**.

**KENTUCKY.** Area, 40,598 square miles, including water, 417 square miles. Population, Apr. 1, 1940 (census), 2,845,627; 1930, 2,614,589. Louisville had (1940) 319,077; Frankfort (the capital), 11,492. The rural population, rising to 1,996,300 (1940), exceeded by 180,737 its total of 1930, having gained 10 per cent. The urban dwellers (those in places of 2500 or more), numbering 849,327 (1940), gained 6.3 per cent, but became proportionately fewer.

**Agriculture.** Kentucky harvested, in 1940, about 5,330,000 acres of the principal crops. Most of the return for the cultivation of the soil came in nearly equal shares from corn and tobacco. Corn apparently surpassed tobacco in 1940: 2,816,000 acres of corn produced 70,400,000 bu., estimated as worth \$50,688,000 to the grower; tobacco, on 343,200 acres, gave 295,890,000 lb., similarly worth \$47,948,000. Tame hay, 1,424,000 acres, made 1,629,000 tons (\$17,756,000); wheat, 375,000 acres, 5,625,000 bu. (\$4,388,000); potatoes, 46,000 acres, 4,140,000 bu. (\$3,146,000); sweet potatoes, 23,000 acres, 1,955,000 bu. (\$1,760,000).

**Mineral Production.** Kentucky (as reckoned by the U.S. Bureau of Mines in 1940) produced native minerals to the total value of \$106,654,903 in 1938. To this total coal contributed almost two-thirds, natural gas more than one sixth, and petroleum and stone most of the rest. The yearly production of bituminous coal, as usual around 11 per cent of that for the entire Union, rose to 42,805,000 net tons, approximately, for 1939, from 38,545,218 tons (value, \$70,094,000) for 1938. For 1940 the output of coal totaled 44,477,000 tons.

The quantity of natural gas produced and delivered to consumers attained 46,163 million cu. feet for 1938; the value of such gas at points of consumption totaled \$19,539,000. A considerable increase in the consumers' demand for Kentucky's natural gas, appearing late in 1939, offered encouragement to further development and exploration of the fields in 1940. The output of petroleum declined to 5,581,000 bbl. approximately, for 1939, from 5,821,000 bbl. (value \$7,570,000) for 1938.

The clay products of 1938 (except pottery and refractories) amounted to \$1,266,284. Fluorspar shipped from mines, responding to the resumed demand from steelmakers, jumped to 89,563 short tons for 1939, from 34,803 tons for 1938; in value, to \$1,773,063, from \$678,094; almost half of the domestic fluorspar of 1939 originated in Kentucky.

**Education.** For the academic year 1939-40 Kentucky's inhabitants of school age were estimated to number 778,429. The year's enrollments of all pupils in the public schools totaled 608,621, including 472,544 in elementary schools and 136,077 in high schools. The year's expenditure for public-school education amounted to \$22,563,115. There were 18,417 teachers in the public schools. The median salary of the teachers for 1940-41 was \$717.

**History.** The Legislature met in regular biennial session at the beginning of January and adjourned on March 4. It ratified the compact of the States having territory in the basin of the Ohio River, for the sanitation of the river's water; West Virginia, Ohio, Illinois, and New York, had previously ratified.

A \$52,000,000 general appropriation bill was voted. A system of retirement, with pension, for teachers in the public schools, was created; it required both teachers and the State to make periodical contributions to a fund for such pensions and set the beginning of the payment of pensions for July 1, 1942. A soil-conservation act, to allow the operation of the system of soil-conservation previously set up by the Federal Government with provisions for subvention to conforming farmers, was passed; it contained a requirement that the owners of not less than 80 per cent of the land in a proposed district must concur, to permit of its creation. Another act required second-class cities having systems of civil service for their employees to match the latter's contributions to pension funds. Judicial procedure was changed, to allow a wife to testify on behalf of her husband. A religious denomination originally active in Harlan County and known as the Church of God had made a practise of handling venomous snakes as a demonstration of the power of faith; this practice was prohibited by law. Taxes on chain stores, previously invalidated, were set up on a new plan.

An act of the Legislature establishing pensions for retired members of the State Court of Appeals was challenged as to validity, and a special court of seven selected members was created in September to handle the subject. The Court of Appeals removed Circuit Court Judge Sam M. Ward in May, after hearing testimony on a charge that he had bribed voters at his re-election in November, 1939. His opponent in the election moved to be declared holder of the judgeship, as the qualified candidate who had received the highest vote. This was refused and the vacancy was left to be filled by appointment.

Kentucky strictly enforced its limit of 18,000 lb. on the loads of trucks using its highways—a figure far below allowables in adjacent States; it arrested in 1940, up to October, 1904 outsiders charged with exceeding its limit. At Bowman Field, Louisville, the U.S. Army started building a post for a bombing squadron of airplanes.

**Elections.** At the general election on November 5, beside giving a substantial plurality to Roosevelt for President—vote: Roosevelt (Dem.), 557,222; Willkie (Rep.), 410,384—the voters elected former Gov. Albert B. Chandler (Dem.) to a

full term in the U.S. Senate, which he had entered in 1939 as temporary appointee at the death of Senator Logan. The Republican candidate for Senator was Walter B. Smith.

**Officers.** Kentucky's chief officers, serving in 1940, were: Governor, Keen Johnson (Dem.); Secretary of State, Charles D. Arnett (d. December 3) and George G. Hatcher (successor); Treasurer, John E. Buckingham; Attorney General, Hubert Meredith; Auditor, Ernest E. Shannon; Commissioner of Agriculture, Labor, and Statistics, Garth Ferguson; Superintendent of Public Instruction, Harry W. Peters.

**KENYA.** A British colony and protectorate in East Africa. Area, 224,960 square miles; population (Jan. 1, 1939), 3,365,888 (3,280,774 natives, 44,635 East Indians, 20,894 Europeans, 14,077 Arabs, 3734 Goans, and 1774 others). Chief towns: Nairobi (capital), 61,000 inhabitants; Mombasa, 50,000; Nakuru; Kisumu. Education (1938): 1977 schools (exclusive of some Koran schools on the coast) and 141,417 students.

**Production and Trade.** Chief products: cotton, maize, sugar, coffee, pyrethrum, sisal, tea, timber, sodium carbonate, wattle, and gold. Live-stock in European areas (1938): 497,478 cattle, 563,949 sheep, 13,192 pigs, and 1689 goats. Gold exported during 1939 amounted to 101,149 troy oz. Kenya and Uganda are considered a single unit for customs purposes. Trade (1939): imports (Kenya and Uganda combined), £8,942,436; exports (Kenya only), £4,176,476. In addition to the foregoing external trade there is an interchange of goods among Kenya, Tanganyika, and Uganda.

**Communications.** The State-owned Kenya and Uganda railways carried 1,026,229 tons of freight during 1939. There is a network of airways (totaling 3093 miles in 1940) linking the important centers of the colony. Shipping entered and cleared the ports during 1938 totaled 4,697,252 tons.

**Government.** In the 1940 budget, expenditure was expected to exceed revenue by £53,000. On Dec. 31, 1938, the total public debt was £17,580,600 and of this amount £13,251,808 represented the capital debt of Kenya and Uganda railways and harbors. The executive power rests with the governor who is advised by an executive council. There is a legislative council of 41 members (the governor as president, 11 ex-officio, 12 nominated, and 17 elected). By the Kenya Annexation Order in Council, 1920, the territories of the mainland, excluding the mainland dominions of the Sultan of Zanzibar, were recognized as a colony; the coastal belt rented from the Sultan of Zanzibar remains a protectorate. Governor and Commander-in-Chief, Sir Henry Moore (appointed Oct. 26, 1939).

**History.** Northern Kenya became one of the fronts in the struggle between British and Italian forces in Africa that began with Italy's entrance into the European War on June 10, 1940. The Italians occupied the sector of Kenya between southwestern Ethiopia and Italian Somaliland and advanced to Moyale, Buna, and Wajir. See *EUROPEAN WAR under Campaigns in Africa*. To meet this offensive, the British concentrated troops in Kenya from South Africa, Rhodesia, the Gold Coast and many of the other African colonies. Kenya was placed upon a war basis, with conscription for Europeans, and steps were taken to co-ordinate economic and commercial policies with other British East African colonies for war purposes. See *SOUTH AFRICA under History*.

**KIANGSI.** See CHINA under *Area and Population*.

**KIANGSU.** See CHINA under *Area and Population*.

**KIDNAPING.** See FEDERAL BUREAU OF INVESTIGATION.

**KINDERGARTENS.** See SCHOOLS.

**KIRGHIZ SOVIET SOCIALIST REPUBLIC.** See UNION OF SOVIET SOCIALIST REPUBLICS under *Area and Population*.

**KIRIN.** See CHINA under *Area and Population*.

**KOREA (CHOSEN).** A former empire of eastern Asia, annexed by Japan on Aug. 22, 1910, and incorporated as an integral part of the Japanese Empire by an Imperial Rescript of 1919. Capital, Keijo (Seoul).

**Area and Population.** Area, 85,246 square miles. Estimated population on Dec. 31, 1938, 22,633,851 (Koreans, 21,950,716; Japanese, 633,320; Chinese and other foreigners, 94,815). Populations of the chief cities on Dec. 31, 1937, were: Keijo (Seoul), 705,395; Fusan, 213,142; Heijo (Pyongyang), 185,419; Taikyu, 110,866; Jinsen (Chemulpo), 102,473. The Koreans have their own spoken and written language, but Japanese is the language of the government.

**Education and Religion.** About 60 per cent of all adults are illiterate. In May, 1938, there were 3033 elementary schools with 1,051,070 pupils, 43 middle schools with 23,407 pupils, 51 girls' high schools with 19,072 pupils, 203 vocational and professional schools with 30,406 students, and the University of Keijo with 542 students. Inculcation of Japanese ethics and loyalty to the Emperor is strongly emphasized. On Jan. 1, 1937, there were 489,626 Christians (499,300 on Jan. 1, 1939), 285,640 Buddhists, and 104,602 adherents of Shintoism, the principal religion of Japan. Confucianism is spreading among the upper classes. Shintoism receives government support. On Oct. 7, 1940, Christian denominations with about 60,000 Korean members were dissolved by the government and merged in a new association pledged to eliminate foreign influence and condemn communism, individualism, democracy, and doctrines at variance with Japanese national policy. The schools maintained by these denominations were reorganized and military drill introduced.

**Production.** Over three-fourths of the population is engaged in agriculture and forestry. Production of rice in 1939 was about 137,200,000 bu. Yields of other cereals was (in metric tons): Wheat, 334,400; barley, 1,329,700; oats, 39,600 (1938); corn, 98,600 (1938). Millet, cotton, raw silk, soybeans, hemp, tobacco, and fruit are widely grown. Livestock in 1938 included 1,713,000 cattle, 1,620,000 swine, 51,000 horses, and 20,000 sheen. Fisheries production (1938) was valued at 89,920,000 yen. Mineral production in 1936 was valued at 110,429,655 yen (gold, 59,353,700; coal, 13,310,000; pig iron, 7,866,600; steel, 6,533,000). Copper, silver, lead, tungsten, and graphite are also mined. Manufacturing has undergone marked development, the value of output reaching 959,308,000 yen in 1937.

**Foreign Trade.** Korean merchandise imports from the rest of the Japanese Empire in 1939 totaled 1,229,400,000 yen (921,300,000 in 1938) and from foreign countries 159,000,000 yen (134,600,000 in 1938). Exports to the Japanese Empire were 736,900,000 yen in 1939 (710,500,000 in 1938) and to foreign countries 269,900,000 yen (169,100,-

000 in 1938). Rice, fertilizers, heavy iron, and other minerals were the chief exports.

**Finance.** Budget estimates for the fiscal year ended Mar. 31, 1940, placed both receipts and expenditures at 656,099,928 yen. On Mar. 31, 1938, the public debt was 593,546,214 yen (549,731,000 on Mar. 31, 1937). The yen exchanged at \$0.2344 in 1940, \$0.2596 in 1939.

**Communications.** With 2320 miles of line, the State railways in 1937-38 carried 35,906,000 passengers and 11,370,000 metric tons of freight. About 310 miles of new line were opened in 1939. Highways covered 19,043 miles in 1939. Airlines connected Keijo with the other chief cities of Korea, Japan, Manchoukuo, and North China. Shipping tonnage entered at the ports in 1938 totaled 14,677,742.

**Government.** Korea is ruled by a governor-general appointed by the Emperor of Japan. He is assisted by a Privy Council of 82 Koreans. Governor-General in 1940, Gen. J. Minami (appointed December, 1937).

**History.** The difficulties encountered by Japan in China and in its relations with the Western democracies during 1940 encouraged the underground Korean independence movement. The press agency of the Chinese Nationalist Government announced Sept. 19, 1940, that headquarters of a "Korean restoration army" had been established the previous day at Chungking, with members of the "Korean provisional government" in attendance. The Japanese in July rounded up a number of foreigners in Korea in connection with an anti-espionage drive. During November 51 American missionaries stationed in Korea left for the United States on the advice of the U. S. State Department. Construction proceeded during 1940 on the first of seven huge dams projected by the Japanese authorities in connection with the gigantic Yalu hydroelectric development program. It was said that the first dam would be the largest storage dam in the world.

**KUOMINTANG.** See CHINA under *History*.

**KUWAIT.** See under ARABIA.

**KWANGCHOWAN (KWANGCHOW).**

See FRENCH INDO-CHINA.

**KWANGSI.** See CHINA under *Area and Population*.

**KWANGTUNG.** See CHINA under *Area and Population*.

**KWANTUNG.** The territory occupying the southern part of the Liaotung Peninsula, Manchuria, leased from China by Japan. Area, including 40 adjacent islands, 1337 square miles; population (1937), 1,190,004, including 1,009,870 Manchurians and 174,587 Japanese (exclusive of the armed forces). Chief towns: Dairen (capital), 515,743 inhabitants in 1938; Port Arthur (Ryojun), 145,286; Pulantien; Chinchow. Trade (1937): Imports, Y680,061,785; exports, Y451,798,860 (yen averaged \$0.2879 for 1937). Budget (1939-40): Revenue, Y34,341,000; expenditure, Y34,191,000 (yen averaged \$0.2596 for 1939). In December, 1934, the Kwantung Government was replaced by the Kwantung Bureau and subordinated to the Japanese Ambassador in Hsinking, Manchoukuo. Director General of Kwantung Bureau, Toshio Otsu. See JAPAN and MANCHOUKUO.

**KWEICHOW.** See CHINA under *Area and Population*.

**LABELING.** See AGRICULTURAL MARKETING SERVICE; CO-OPERATIVE MOVEMENT; FEDERAL TRADE COMMISSION; FOOD AND DRUG ADMINIS-

TRATION; SOCIETIES under *Consumer-Retailer Council*.

**LABOR.** See AMERICAN FEDERATION OF LABOR; CHILDREN'S BUREAU; CONCILIATION SERVICE, U.S.; CONGRESS OF INDUSTRIAL ORGANIZATIONS, COMMUNISM; DEFENSIVE PREPARATIONS, U.S.; INTERNATIONAL LABOR OFFICE; LABOR CONDITIONS; LABOR LEGISLATION; MUSIC; NATIONAL DEFENSE ADVISORY COMMISSION; NATIONAL LABOR RELATIONS BOARD; RAILWAYS; SHIPPING; SOCIAL SECURITY BOARD; WAGE AND HOUR ADMINISTRATION; WOMEN'S BUREAU. See also the articles on the States of the United States; AUSTRALIA, CANADA, GERMANY, GREAT BRITAIN, NEW ZEALAND and the other principal countries under *History*.

**LABOR, American Federation of.** See AMERICAN FEDERATION OF LABOR.

**LABOR, U.S. Department of.** See LABOR CONDITIONS; UNITED STATES under *Administration*; and separate articles on the following branches of the Department: CHILDREN'S BUREAU; CONCILIATION SERVICE, U.S.; WAGE AND HOUR DIVISION; WOMEN'S BUREAU.

**LABOR CONDITIONS.** War-time labor policies demanding maximum production with minimum protection for workers prevailed in many countries during 1940. Governmental regulations were imposed where workers did not voluntarily sacrifice some of the standards built up since the last war. Freedom of organization suffered severe set-backs. Longer hours, lower real wages, and less opportunity for movement from one job to another were common throughout the world. Stern measures for protection of industry against suspected saboteurs to some extent curtailed the liberty of all workers.

The experience of Germany may not be typical, but perhaps it provides some indication of developments which may occur if they have not yet occurred elsewhere. With the invasion of Poland in September, 1939, Germany established what their officials called "Kriegsverpflichteten Wirtschaft," meaning something like compulsory or forced war economy. Wage rates were lowered by official decree. Overtime, Sunday, and holiday earnings were conscripted by the government to help finance the war. Paid vacations were prohibited. Workers were barred from leaving their jobs and employers from dismissing them without permission of the State authorities. Working hours were increased in some cases to as many as 16 a day.

Within a short time, however, production began to fall off rapidly, and there was an alarming increase of industrial accidents and stoppages. The government very soon began to lighten somewhat the labor conditions prescribed by decree. Vacations were restored to workers for certain periods and under certain limitations. Where wages appeared to be too low for proper nourishment and decent living conditions, the workers' incomes were supplemented by relief payments. New regulations defined working hours so that the 10-hour day was most usual, and overtime earnings were paid to the workers themselves. (See "Labor Policy in Germany," *Monthly Labor Review*, June, 1940, pp. 1374-1376.)

It is not clear that intensified efforts for greater production have led other countries through similar cycles. The experience may still lie ahead for some. In most countries, however, it appears that government authorities recognize that there are limits to the extent to which good labor conditions can

be sacrificed for the sake of national defense or offense.

**Employment and Unemployment.** Unemployment was markedly reduced in several countries during 1940, but on the basis of the limited statistics available it is not clear that unemployment was greatly reduced throughout the world as a whole. The accelerated production of airplanes, munitions, and other war supplies created more jobs in the belligerent nations and some of the neutrals preparing for defense. Simultaneously, however, some neutral countries experienced a trend toward more unemployment because of transport problems, the disorganization of their foreign markets, and the difficulties in obtaining necessary raw materials. It also appears that instead of drawing substantially on the reservoirs of the unemployed, some countries met their increased labor needs by lengthening the work week and employing housewives and others who normally would not be counted as unemployed.

Conscription of workers for military service caused a serious dislocation of labor and also created a variety of other employment problems. There was need for protecting the future of men called to arms. Most countries faced with this problem adopted the rule that while a worker's relations with his employer are interrupted, the contract of employment is not broken and the worker is entitled to claim reinstatement in his former employment when he finishes his military service. More urgent was the need for assisting the families of mobilized workers. Some governments provided subsistence allowances for the families. Some provided that the employer must continue to pay part of the mobilized worker's wages to his family. Other plans involve collaboration on a wider scale by distributing costs over all employers concerned and requiring contributions from workers who have not been called up. (See "National Service and Contracts of Employment" by E. Herz and I. Bessling, *International Labour Review*, July, 1940, pp. 1-28.)

Several countries in 1940 made legislative provision for the requisitioning of labor if emergencies should arise, and Norway followed a German practice by decreeing that nobody may leave his occupation without permission of the Ministry of Social Welfare. Germany, Bulgaria, and Rumania continued their systems of compulsory labor service to which young people are liable for a specified period.

Official data published in Germany indicated that the number of unemployed persons dropped from 257,000 at the end of January, 1940, to 39,000 by the end of June; and it was claimed that of the 39,000 only 3500 were employable.

Unemployment in Great Britain rose from about 1,200,000 in August, 1939, before the war began, to more than 1,500,000 in January and February, 1940, and then dropped to less than 800,000 by August, 1940. There was relatively little change in the unemployment situation in Sweden. Of a total of approximately 700,000 members covered by the returns of the reporting trade unions, 10.8 per cent were unemployed at the end of April, 1940, as compared with 9.0 per cent at the end of April, 1939. In Denmark, however, unemployment rose from 11.5 per cent in May, 1939, to 31.2 per cent in May, 1940, according to returns received by the Danish Statistical Department from approved unemployment funds with a total membership of approximately 497,000. On the other hand, in Switzerland

EMPLOYMENT, PAY ROLLS, AND EARNINGS IN  
UNITED STATES INDUSTRIES DURING 1940\*

	Employ- ment index	Pay-roll index	Average weekly earnings (dollars)	Average hours worked per week	Average hourly earnings (cents)
Jan	105.0	99.8	25.51	37.4	66.3
Feb	105.0	99.3	25.20	37.3	66.3
Mar.	104.4	99.8	25.46	37.5	66.5
Apr	103.2	97.9	25.33	37.2	66.5
May	102.5	97.8	25.43	37.2	66.9
June	103.1	99.5	25.79	37.5	67.2
July	103.2	98.2	25.25	37.3	66.7
Aug.	107.4	105.5	26.10	38.4	66.7
Sept	111.4	111.6	26.54	38.8	67.1
Oct	113.8	116.2	27.13	39.3	67.3
Nov.	114.7	116.4	26.93	38.6	67.8
Dec.	116.2	122.4	27.89	39.8	68.3

\* Condensed from tables of Bureau of Labor Statistics, U S Department of Labor. Indexes are based on 3-year average, 1923-25 = 100, and has been adjusted to preliminary 1939 census figures

only about 9000 applicants for employment were registered at employment exchanges at the end of June, 1940, as compared with more than 35,000 the previous year. In Canada the estimated number of wage earners unemployed was 367,000 in April, 1940, compared with 473,000 in April, 1939.

Unemployment was reduced in the United States. The Bureau of Labor Statistics does not publish estimates of unemployment, but its estimates of the level of total non-agricultural employment give some indication of the trend. The employment level was at its lowest for the year in February, when approximately 34,381,000 workers were employed in non-agricultural industries, but in February, 1939, only 33,265,000 were employed. By November, 1940, the level of employment had risen to 36,535,000, compared with 35,418,000 in November, 1939.

American Federation of Labor estimates placed the number of unemployed at 10,656,000 in January, 1940, compared with 11,369,000 in January, 1939. By December, 1940, the estimates dropped to less than 7,906,000 compared with 9,248,452 in December, 1939. The Congress of Industrial Organizations launched a new series of unemployment estimates during the year. Its figure for January was 11,936,000. By December the estimate had dropped to 9,034,000.

**Hours of Work.** Governmental restrictions on hours of work were relaxed or discarded in many neutral as well as belligerent countries during 1940 under the pressure of intensified production for war. In some countries the movement toward the shorter working week was merely slowed down. The only important steps toward shorter hours were in Australia, where the Commonwealth Court recognized the 44-hour week which already existed in many industries as the standard hours, and in the United States, where the Fair Labor Standards Act cut maximum hours from 42 to 40 a week and collective agreements providing a 40-hour week continued to be signed. A long-range study by the Bureau of Labor Statistics, published in the September issue of the *Monthly Labor Review*, showed a drop in average hours actually worked in United States Industry from 51.7 a week in 1909 to 37.8 in 1939.

Statistics of working hours throughout the world are too incomplete to permit generalization, but changes in governmental regulations give some indication of the trend. Modifications usually took the form of removal of limitations on overtime and the adjustment of overtime rates. In Finland,

for example, the usual limit of overtime was extended to 40 hours in any fortnight. In Great Britain, where collective agreements usually fix no limit to overtime provided that prescribed rates are paid, modifications dealt mainly with changes in the time-table due to the black-out and payment for time lost on account of air raid warnings. Belgium, Bulgaria, India, New Zealand, and Rumania authorized extensions of hours of work under certain conditions.

**Wages.** Despite war-time price controls in many countries, the cost of living increased throughout the world in 1940. Every one of the forty countries from which the International Labour Office has reports experienced a rise in the index during the year, in some cases as much as 15 points. Information on actual wage rates is less complete, but there appear to be few important rises in money wages. Chiefly because of the increase in the cost of living, therefore, it can be inferred that real wages declined in most countries during the year. In other words, while their income was changed very little, workers in most countries were unable to get as much or as good food, clothing, shelter, and other necessities with their earnings as they got in previous years.

The exceptions were essentially in those countries where organized workers had adjusted wage rates to cost of living. In Belgium, for example, the leading organizations of employers and workers determined late in 1939 that the various collective agreements should be applied on the basis of the cost of living index, that wages should remain stable until the end of February, 1940, and thereafter should vary according to the arithmetic mean of the indices for the three preceding months. Sweden continued its previously established policy of annual wage adjustments by which a six-point rise in cost of living necessitates upward adjustments in wages provided in contracts between the Swedish Employers Confederation and the Swedish Confederation of Trade Unions. In Denmark the Employers' Confederation and the Danish Confederation of Trade Unions in November, 1939, agreed to extend to March, 1941, all agreements due to expire in March, 1940, subject to quarterly adjustment of wages according to changes in the official cost of living index; it was provided that all wage increases resulting from the agreement should be regarded as cost of living bonuses and should be at flat rates so that the lowest-paid workers accordingly receive proportionately the highest bonuses (See "Remuneration of Labour," *The I.L.O. Year-Book 1939-40*, Geneva, 1940; pp. 183-196.)

An 8 per cent increase of wage rates occurred in Great Britain from August, 1939, to March, 1940. This was in contrast to conditions in the last war when the level of wages showed little change during the 7-month period following the outbreak of hostilities. Even with the increases during the present war, however, wage rates have not kept pace with cost of living, which showed a rise of 14 points from August, 1939, to March, 1940.

In the United States the average hourly earnings of manufacturing workers changed from 66.3 in February, 1940, to 67.3 cents in October. Corresponding figures for 1939 were 64.3 cents in February and 64.6 cents in October. Average weekly earnings were \$25.20 in February, 1940, compared with \$24.01 in February, 1939, and \$27.13 in October, 1940, compared with \$25.81 in October, 1939. The Bureau of Labor Statistics' new index of cost

of living meanwhile showed a change from 99.1 on Mar. 15, 1939, to 99.8 on Mar. 15, 1940, to 100.5 on June 15, 1940, to 100.1 on Nov. 15, 1940. See *LIVING COSTS AND STANDARDS*.

A long-range study by the Bureau of Labor Statistics, published in the September issue of the *Monthly Labor Review*, showed a rise of average hourly earnings from 20.7 cents in 1909 to 66.1 cents in 1939. Even when changes in cost of living are taken into account, the figures show a rise in real hourly earnings of 101.5 per cent during the 30-year period. Because of a reduction in weekly hours, weekly or annual earnings did not rise as much as hourly earnings, but the Bureau estimates a gain of 47 per cent in real weekly earnings during the 30-year period.

**Union Movements.** Throughout the world in 1940 organized labor faced these alternatives: collaboration with the government or domination if not elimination by the government.

The most notable example of collaboration with the government appeared in Great Britain, where the Trades Union Congress took on substantial responsibilities of the war program. Ernest Bevin, secretary of the Transport and General Workers Union and leader in the Trades Union Congress, became Minister of Labour and National Service when Churchill replaced Chamberlain as Prime Minister. Sir Walter Citrine, secretary of the Trades Union Congress, and other labor leaders also acquired duties in support of the government.

Besides appointment of trade union officers to administrative positions in the government, government-labor co-operation appeared in the National Joint Advisory Council, created in October, 1939, which included representatives of the Trades Union Congress and the British Employers' Confederation. The Council has important policy-making functions in connection with production and labor problems arising out of the war.

In addition to this main Council, a whole series of joint advisory groups, consisting of employer and employee representatives, have been attached to the various Ministries—the National Trade Union Advisory Committee attached to the Ministry of Supply, which is assisted in its work by district committees acting as advisory bodies to the Ministry's area boards; the Advisory Committee attached to the Ministry of Agriculture and Fisheries; the Advisory Committee to the Ministry of Food; the central and local price regulation committees attached to the Board of Trade, etc.

In Germany and Italy official control of the determination of conditions of employment and wages has been intensified so that very little scope is left to the initiative of the parties concerned. The German-speaking trade unions in Czecho-Slovakia have been absorbed by the German Labor Front, and the Czech-speaking organizations disappeared soon after the establishment of the German protectorate in Bohemia-Moravia. Trade unions also disappeared in Poland with the occupation by German and Soviet troops. In Spain the government promulgated a Trade Union Unity Act which makes the Trade Union Organization of the Spanish Traditionalist Phalanx the only organization recognized by the State; all workers' associations and employers' associations must be incorporated in the Phalanx and subject to its discipline.

Organized labor in the United States experienced no fundamental change, although several important developments appeared. Machinery for collaboration with the government was established by

appointment of Sidney Hillman, president of the Amalgamated Clothing Workers and vice-president of the Congress of Industrial Organizations, as labor member of the Advisory Commission to the Council of National Defense. Hillman then appointed an advisory group consisting of representatives of the American Federation of Labor, the Congress of Industrial Organizations, and the railway brotherhoods. See *NATIONAL DEFENSE ADVISORY COMMISSION*.

Political issues threatening to disrupt unions became a paramount problem during the year. Pres. John L. Lewis of the C.I.O. endorsed Republican Candidate Wendell Willkie for President of the United States and announced he would resign from the C.I.O. presidency if Willkie were not elected. Many high-ranking C.I.O. officials meanwhile campaigned actively in behalf of the re-election of President Roosevelt. Following the re-election of President Roosevelt, Mr. Lewis resigned from the C.I.O. presidency during the third constitutional convention at Atlantic City in November and was succeeded by Phillip Murray, who had been C.I.O. vice-president and chairman of the Steel Workers Organizing Committee. Rivalry between alleged Communist and anti-Communist factions also brought a variety of political differences in unions to the foreground during the year.

Government proceedings against labor racketeering in a few unions were intensified. Ben Gold, president of International Fur Workers Union, C.I.O., and ten other defendants were found guilty in New York Federal Court of having violated the Sherman Anti-Trust Act by employing terrorism to control jobs in New York's fur industry. George Scalise, president of Building Service Employees International Union, A.F.L., was convicted of stealing union funds. Several other indictments and convictions of a similar character occurred during the year. The A.F.L. in its Sixtieth Annual Convention at New Orleans in November authorized the A.F.L. Executive Council to "use all its influence" to bring about the removal of dishonest union leaders and urged A.F.L. affiliates to amend their constitutions so as to provide for discipline of such officials. See *AMERICAN FEDERATION OF LABOR; CONGRESS OF INDUSTRIAL ORGANIZATIONS*.

**Collective Bargaining.** Two somewhat conflicting trends in connection with collective bargaining appeared to develop further than ever before during 1940. Both trends led away from employer dictation of labor conditions and toward greater government participation in determination of labor conditions; but simultaneously they encouraged and discouraged negotiation between management and worker representatives on matters of wages, hours, and working conditions. On the one hand, governments throughout the world appeared to be facilitating collective bargaining processes by providing more mediation and arbitration machinery. On the other hand, in many countries there were growing tendencies to regulate wages, hours, and working conditions by statute or governmental order rather than by collective bargaining.

In most of the countries which had highly developed systems of collective bargaining, such as Great Britain, Switzerland, and Sweden, the collective contracts were preserved with modifications necessary for adjustment to war-time economies. Switzerland not only maintained the agreements almost intact but required that all agreements should be registered with the government and provided machinery for settlement of labor disputes.

Great Britain maintained its network of agreements but simultaneously introduced governmental auxiliaries into collective bargaining processes. Following a recommendation of the National Joint Advisory Council, the Minister of Labour promulgated an order to prevent work from being interrupted during the war by trade disputes. Known as the Conditions of Employment and National Arbitration Order, it came into effect in July, 1940, establishing a National Arbitration Tribunal and outlawing strikes and lock-outs under certain conditions. It provided first that all conciliation machinery should be used to handle disputes; but if settlement appeared to be unduly delayed or if no machinery for conciliation was available in the trade or industry concerned, the Minister of Labour was empowered to refer the dispute to the Tribunal, which had authority to make binding awards. Strikes and lock-outs were prohibited unless disputes were reported to the Minister and not referred by him for settlement within three weeks from the day on which reported.

In countries with less mature systems of collective bargaining—the United States, Canada, and some of the South American nations—conciliation devices were expanded. The Conciliation Service (q.v.) of the U.S. Department of Labor was enlarged, and simultaneously mediation activities were carried on by the staff of Mr. Sidney Hillman, labor member of the National Defense Commission. In Canada an order in council approved June 19 provided that where any controversy arises which cannot be adjusted between the parties, resort should be had to government conciliation agencies; it was further provided that if settlement could not be effected by direct negotiation, the differences should be dealt with under terms of the Industrial Disputes Investigation Act, which under the War Measures Act was made applicable to all war work.

**Strikes.** Accelerated production and the rising cost of living tended to create more disputes in 1940 than usual, but on the basis of the incomplete statistics available it does not appear that these disputes resulted in any increase in strikes throughout the world. No doubt improved conciliation machinery and patriotic sacrifices by working people for national defense were important factors in keeping strikes at a minimum.

Great Britain in June, 1940, had only 30 strikes, the lowest number in any month since September, 1934, and only about a third of the number in June, 1939. The total of strikes in the first five months of 1940, however, was larger than the total for the corresponding period in 1939. But after the Conditions of Employment and National Arbitration Order went into effect there was a definite decline in strikes.

Strikes in Canada increased in frequency and intensity during 1940, but the increase is not sufficient to be considered significant. An unusually long strike occurred in India. It was reported that on March 5 about 150,000 of Bombay's textile workers walked out following a demand for a 15 per cent increase in wage rates to offset increases in the cost of living. The strike ended April 12 with the workers getting raises amounting to roughly 10 per cent.

Another severe strike occurred in Australia March 11 when about 25,000 employees of more than 200 mines walked out, demanding a 44-hour week for surface workers, with wage adjustments to avert reduction of earnings. They also asked for an annual holiday of two weeks. It was re-

ported that the employers refused to confer with the Miners' Federation until the latter obeyed a ruling of an arbitration court. The strike ended May 15 when it was agreed that the chief judge of the arbitration court would call a conference to determine all outstanding differences.

Strikes in the United States were substantially reduced in 1940. Measured by man-days idle, they amounted to less than half the strikes in 1939. There were fewer strikes than in any other year since 1935 and fewer workers involved in strikes than in any year since 1930.

The most publicized strike of the year was the 12-day tie-up in November of the Downey, California, plant of the Vultee Aircraft Company by the United Automobile Workers, C.I.O. About 5200 employees were involved. The company was reported to have military contracts totaling \$84,000,000 and to be the sole source of basic training planes for the Army Air Corps. Originally the strikers' demand was for a minimum wage of 75 cents an hour instead of the 50 cents which had been paid. As negotiations developed there was also disagreement concerning provisions for adjusting disputes under the proposed agreement. The strike was settled November 26 with the signing of a 16-months contract providing that beginning workers without experience shall receive a minimum of 55 cents an hour, 57½ cents in 30 days, and 62½ cents in 60 more days. The agreement contains a no-strike clause and provides a set-up for handling grievances, with disagreements going to an arbitration board.

Another prominent strike was that at the New Kensington, Pennsylvania, works of the Aluminum Company of America in November. About 7500

## TREND OF STRIKES IN THE UNITED STATES\*

Year or month	No. of strikes beginning in year or month	Workers involved in strikes beginning in year or month	Man-days idle during year or month
1933	1,695	1,168,272	16,872,128
1934	1,856	1,466,695	19,591,949
1935	2,014	1,117,213	15,456,117
1936	2,172	788,648	11,901,956
1937	4,740	1,860,621	28,424,857
1938	2,772	688,176	9,148,273
1939	2,613	1,170,962	17,812,219
1940	2,450	575,000	6,500,000
1939:			
Jan.	203	51,159	511,460
Feb.	204	68,252	553,138
Mar.	210	43,337	618,147
Apr.	281	396,166	4,902,238
May	258	95,329	3,547,868
June	245	62,534	958,127
July	251	175,542	1,168,388
Aug.	275	79,670	1,101,419
Sept.	197	36,846	892,485
Oct.	205	106,628	1,508,120
Nov.	178	41,239	1,664,574
Dec.	106	12,350	384,261
1940:			
Jan.	119	26,714	243,917
Feb.	153	28,613	284,966
Mar.	162	22,127	381,664
Apr.	209	38,809	434,089
May	220	51,884	651,797
June	185	35,809	460,218
July	206	61,320	554,225
Aug.	201	60,031	681,405
Sept.	211	66,086	771,238
Oct.	218	67,692	886,594
Nov.	200	61,000	660,000
Dec.	160	40,000	400,000

\* Condensed from tables of Bureau of Labor Statistics, U.S. Department of Labor. All figures for 1940 are preliminary. Strikes involving fewer than 6 workers or lasting less than 1 day are not included in this table.



## MAJOR ISSUES INVOLVED IN STRIKES DURING 1940\*

[Figures represent per cent of total strikes beginning in month]

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
Wages and hours	32.7	29.5	29.0	31.4	36.0	41.1	35.7	26.0	33.8	32.1
Wage increase	18.8	18.9	22.9	24.0	29.5	31.5	25.3	20.3	26.6	22.9
Wage decrease	5.0	5.3	4.6	4.8	1.5	2.4	4.9	2.1	2.9	9
Wage increase, hour decrease	6.9	3.8	1.5	2.1	2.5	4.2	4.4	3.6	3.3	6.4
Wage decrease, hour increase	1.0			.5					.5	
Hour increase					1.0	6			.5	.5
Hour decrease	1.0	1.5			1.5	2.4	1.1			1.4
Union organization	42.5	53.8	49.6	49.5	46.2	44.6	50.0	52.6	49.5	52.8
Recognition	9.9	12.1	13.0	10.1	6.1	4.2	7.1	11.5	8.6	10.1
Recognition and wages	12.8	8.3	15.2	12.3	10.7	9.5	9.3	9.4	12.9	11.0
Recognition and hours				.5	.5	1.7		.5		
Recognition, wages, and hours	7.9	7.6	7.6	6.9	8.1	10.7	9.3	7.3	11.4	8.7
Closed or union shop	8.9	16.6	8.4	11.8	14.7	10.7	15.0	17.6	8.1	11.9
Discrimination	3.0	7.6	4.6	7.4	5.1	4.2	4.9	4.2	5.2	6.0
Strengthening bargaining position		.8		.5	1.0	3.0	3.3	2.1	1.4	2.3
Other		.8	8			.6	1.1		1.9	2.8
Miscellaneous	24.8	16.7	21.4	19.1	17.8	14.3	14.3	21.4	16.7	15.1
Sympathy			2.3	1.1		6	5	2.6	1.4	1.4
Rival unions or factions	3.0	3.0	3.8	2.1	3.6	3.0	2.2	3.1	2.9	5.0
Jurisdiction	5.0	3.0		2.1	3.0	1.2	2.7	1.6	1.4	1.4
Other	16.8	10.7	14.5	13.8	11.2	9.5	7.8	13.6	10.5	7.3
Not reported			8				1.1	5	.5	

\* From tables of Bureau of Labor Statistics, U S Department of Labor

workers were involved. Officials of the company and two locals of the Aluminum Workers Union, C.I.O., were deadlocked on the strikers' only announced demand—that the company discharge an employee who was alleged to have threatened a union official when he asked the worker to pay about \$12 in back dues. Settlement was reached when the company agreed to transfer the worker in question to another plant.

**Health and Safety.** The hazards of war and accelerated production undoubtedly affected health and safety records in industry adversely during the year, but statistics from only a few countries are available.

Canada's records show that by the end of September a total of 56,907 accidents was reported for the year, compared with 42,946 during the same period in 1939. Commenting on the increase, the Industrial Accident Prevention Association of Ontario pointed out that it should be borne in mind that there are many more men employed, quite a percentage of whom are working on new operations, and the tendency, under pressure of war demands, to increase the hours of work, increases the proneness to accident. Canada's report is typical of the experience of the other countries that made reports.

The Bureau of Labor Statistics of the U.S. Department of Labor in July published its annual statistics of accidents, showing that about 1,600,000 persons in industry were killed or injured during 1939. Of these about 16,400 were fatalities or permanent disabilities. About 109,400 persons suffered some partial but permanent impairment, and another 1,477,700 were temporarily but totally disabled. These figures represent increases over those for 1938 for all types of disability except death and permanent total disability, for which there was no difference between the 1939 and 1938 experiences.

Another Bureau of Labor Statistics survey published during the year dealt with the relation of age to industrial injuries. The study grew out of workers' objections to discrimination against older workers in management's hiring policies; one of the reasons cited in justification for this policy has been that the older worker is more of an accident risk than the younger worker. The study evaluat-

ing this contention shows that older workers are injured less frequently than younger workers; but once injured, they experience proportionately more deaths and permanent impairments than younger workers. Similarly, the healing periods of older workers in temporary disability on the average are longer (See "Relation of Age to Industrial Injuries," *Monthly Labor Review*, October, 1940, pp 789-804.)

**Women in Industry.** Several phenomena in connection with the employment of women in business and industry appeared during the year. In many countries affected by war or mobilization there were increases in the numbers of women employed and simultaneously increases in the numbers of women unemployed. The International Labour Office reports that in Great Britain, for example, unemployment of women increased by 174,981 in one month near the end of 1939 when the hostilities began. At the same time, however, women were replacing male workers drawn from industry into military service.

This curious circumstance can be explained in part at least by the following considerations. Evacuation of large cities and war-time economies resulted in a decline of businesses which happened to employ large numbers of women—the luxury industries, hairdressing, retail trade, hotels, and domestic service. In addition to women laid off from such employments, the ranks of unemployed women were swelled by the wives of mobilized men in search of a living for themselves and their families. Development of war industries meanwhile called for large labor forces at a time when men were needed for military service, and although statistics are not available it is likely that by the end of the year the numbers of employed women were higher than ever before. If at the end of the year the numbers of unemployed women also were higher than ever before it was only because of the greater numbers of women entering the employment market.

Throughout the world it appears that employment of women in branches of business and industry where they had seldom worked before was common. On the basis of data from the American consul general at Leipzig, the U.S. Department of Labor reported:



Many wives or daughters of tradesmen—butchers, bakers, tailors, barbers, and hairdressers—have assumed charge of their husband's or father's business while the latter is away on military service . . .

Other professions usually carried on by men but not in the hands of women are those of the postmen and local railway and streetcar conductors . . .

One unusual change of vocation reported was that of a mannequin who lost her position on account of the curtailment of textile fashion trades and became the driver of a farm tractor. (*Monthly Labor Review*, May, 1940, pp. 1147, 1148.)

At the same time that women were entering new fields of employment, the trend toward greater protection of women workers was retarded. Although the full facts are not available it appears that where women replace men on jobs they work under conditions practically the same as those under which the men worked. While the protective laws for women workers adopted in most countries have not been completely abandoned, enforcement of the laws has been deliberately relaxed.

**Child Labor.** Young persons and children entered industry in increasing numbers under the wartime pressures. While it appears that circumstances have not yet produced serious problems in connection with their employment, the normal development of protective legislation for young workers has nevertheless been impeded by the war, and in some countries special exceptions to the existing legislation have been authorized. Switzerland, however, raised the minimum age of employment from 14 to 15 years despite the general pressure in Europe for change in the opposite direction.

In the United States the youth labor problem in recent years has not been so much a problem of children working prematurely or under unfavorable conditions but a problem of idleness among young people unable to find jobs. The helpfulness of the National Youth Administration and Civilian Conservation Corps in coping with this latter problem continued during 1940, unemployment among young people was further relieved by the large-scale army and navy recruiting.

See also articles listed under LABOR.

WILLIAM M. LEISERSON.

**LABOR LEGISLATION.** The annual grist of new labor laws was less in 1940 than during almost any other year during the past quarter of a century. This meagerness of legislation is accounted for only in part by the comparatively few States regularly holding legislative sessions during the even-numbered years, which legislatively are always the "off years." In addition, there was a slowing up of the positive drive for new kinds of legislation—perhaps because it was general election year and on the assumption that unprecedented rapid advance had recently been made requiring an interval for assimilation. Finally, as always in a period of "national emergency," the opposition to further legislation not only used the occasion for insistent pleas to be unhampered in speeding up production, but they also intensified their attacks upon existing labor laws and particularly upon their administration.

Eight States (Kentucky, Louisiana, Mississippi, New Jersey, New York, Rhode Island, South Carolina, and Virginia) held regular sessions in 1940. There were also special sessions in twelve States (Arizona, California, Illinois, Louisiana, Maine, Missouri, Nebraska, Ohio, Pennsylvania, Vermont, New York, New Mexico) but these resulted in little that could be classed as new labor laws. In fact, the special sessions added little except the

amendment of unemployment compensation laws in Illinois, Louisiana, Maine, Nebraska, and Pennsylvania. Moreover, the only notable advance made in those States which in November submitted proposals for ratification by vote of the people were the final approval of the 1939 workmen's compensation law in Arkansas and the substitution of a new old-age pension law in Washington. The third session of the 76th Congress which met throughout the year contributed much less than usual.

Of the States, it is interesting to note that Kentucky was the most productive, while the most important single piece of social security legislation was enacted by Congress—a very substantial liberalization of unemployment compensation for railway workers.

Of importance, too, was the only child labor amendment of the year—a unique New Jersey system for the certification of children employed in agriculture outside school hours and within vacations. Further possibilities of State co-operation in administration of the Federal Fair Labor Standards Act was provided by new laws in Kentucky and Rhode Island, making a total of nine States and Hawaii now having such enabling acts.

Rather than substantive changes, the new State labor legislation this year put special and encouraging emphasis upon improving the administration of existing laws. Administrative changes made in Kentucky and Virginia as well as in Illinois and New York, it is hoped, will bring better law enforcement. But Mississippi—the most backward of all States—not only preserved her unenviable distinction of being the only State without a workman's compensation law but also killed a bill which would have provided for the first time a State Labor Department for the enforcement of her existing meager beginnings of protective laws.

**Social Security.** Repealing all other acts in conflict therewith, the voters of the State of Washington by an initiative measure provided for a minimum old-age pension of \$40 monthly to citizens over 65, conformed State and Federal matching funds and age limit, abolished liens on property, and strengthened administration. By congressional amendment Federal annuity benefits under the Railway Retirement Act are to be determined with reference to military pensions based on such compulsory service prior to Jan. 1, 1937, but duplication of pensions is avoided.

State unemployment compensation laws in Kentucky, Louisiana, Maine, Nebraska, Pennsylvania, Virginia, Illinois, New York, and South Carolina were amended to conform with the 1939 revisions of the Social Security Act. Especially changes in definitions to widen exemption of "agricultural labor," to exclude student part-time workers, golf caddies, newspaper carriers under 18, and non-profit associations, as well as to exclude wages in excess of \$3000 per year, were enacted. The waiting period in Rhode Island was reduced. Mississippi and Virginia increased benefit amounts and strengthened eligibility provisions. New Jersey protected benefit rights of those inducted into military service, and Virginia joined the vast majority having experience rating provisions under unemployment compensation. Very substantial liberalization of the Railroad Unemployment Insurance Act was provided by Congress (See RAILWAYS).

**Workmen's Compensation.** Kentucky increased the duration and the maximum amount limits of accident compensation in cases of death and total disability. Benefits to totally disabled silicosis vic-

times were increased in New York from a \$3000 to a \$5000 maximum by December, 1943, and medical care was extended to 360 days instead of 180 days beyond the first 90 days of continuous treatment. Alabama lowered her strikingly excessive numerical exemption of 16 to "employers of eight or more," reduced the waiting period from two weeks to seven days, and required bond or proof of financial ability from non-insuring employers. By referendum Arkansas approved her suspended workmen's compensation law of 1939.

**Labor Relations.** The National Labor Relations Act continued to weather the storm of proposed amendments. In the States the trend was in the direction of widening the mediation powers of industrial commissioners and labor boards. The New York law as amended permits the State Labor Relations Board to engage in efforts to obtain voluntary adjustments. Kentucky enacted a declaration of public policy in favor of peaceful picketing and the right to strike as well as self-organization and collective bargaining free from employer coercion. Where both parties to the dispute agree the labor commissioner may mediate with strike and lockout prohibited for 15 days.

**Child Labor.** New Jersey enacted the only new child labor law. It provides a 16 year minimum (formerly 14) for full time employment and for work in a factory, and minors from 12 to 16 may work after school hours and during school vacation depending on type of work as defined in the Act, which also designates the type of certificate that must be issued to minors under 18 years of age before they may be employed. For all minors under 16, except those engaged in agriculture pursuits, domestic, and messenger services, the combined hours of work and school should not exceed eight hours per day. Work in agriculture is permitted at 12 years for 10 hours per day. Minors under 16 years of age must attend schools when schools are in session in the district where they are employed.

Federal Child Labor Amendment ratification resolutions were defeated in Louisiana, New York, Rhode Island, and South Carolina, with eight State ratifications short of the required 36.

**Health and Safety.** Kentucky provided for study of the causes of occupational injuries, the promotion of safety measures, the tagging of dangerous machines, inspection of work places in co-operation with Federal agencies, improvement of labor statistics, and the promulgation of safety rules. Employers are required to make the work places safe, and to furnish safety devices. Failure of the worker to use such devices is to be regarded as prima facie evidence that his injury was self-caused. Virginia excluded machinery for production, harvesting or processing agricultural products from the provisions relative to safety appliances of her safety law.

**Wages and Hours.** Aside from a Kentucky law for prevailing rate of pay and the 8-hour day and 40-hour week in contracts for public work, the legislation under this head looked to increased Federal action and co-operation. Both Kentucky and Rhode Island authorized joint administration of the Federal Fair Labor Standards Act, bringing such enabling acts to a total of nine States and Hawaii. Meanwhile, Congress changed the Federal law, permitting its administrators to recommend for Puerto Rico and the Virgin Islands hourly wage rates below the statutory minimum. Owing to the national defense emergency, Congress modi-

fied hour restrictions from time to time and gave to the President special power to suspend the Public Contract law when such course is in the public interest.

**Miscellaneous.** Industrial homework laws were clarified and strengthened in New Jersey and New York. Kentucky prohibited wage "kick backs." Virginia safeguarded her semi-monthly pay law. Rhode Island required employers soliciting labor during a strike or lockout to announce the existence of the labor dispute. New York abolished the right of a prospective employer to waive employment agency investigation of references of applicants for work in private families or in a fiduciary capacity. Alabama and Illinois requested review of their merit rating programs under unemployment compensation, and Kentucky authorized a study of civil service in relation to unemployment compensation administration.

**Administration.** Kentucky took an important step toward unification of labor law administration by greatly extending the functions of her Department of Industrial Relations. This includes rule-making authority through a representative industrial safety board. Virginia transferred authority to appoint the chief mine inspector from the Commissioner of Labor to the Governor, and transferred the employment office system to the Unemployment Compensation Board. Louisiana reorganized her Department of Labor under a 4-year term director with a 3-member board appointed for 9-year staggered terms. Also provided are a 5-member board of review, and special divisions of employment security and of women and children in industry. Rule-making authority is included. In New York the old mediation facilities in the Department of Labor were transferred to the newer Mediation Board, which like the Industrial Relations Board, is within the Labor Department.

The Advisory Commission to the Council of National Defense (q.v.), includes a Labor Division headed by a representative of labor with 16 other labor representatives drawn from the outstanding groups of labor organizations.

See OREGON.

JOHN B. ANDREWS.

**LABOR UNIONS.** See AMERICAN FEDERATION OF LABOR; CONGRESS OF INDUSTRIAL ORGANIZATIONS; LABOR CONDITIONS.

**LABRADOR.** See under NEWFOUNDLAND.

**LABUAN.** See BRITISH MALAYA.

**LACROSSE.** The 1940 season in lacrosse was marked by three indelible factors—the consistent power of the University of Maryland, the reappearance of Johns Hopkins in the ranks of strong contenders, and the collapse of Navy after two years at the top of the game.

Maryland remained unbeaten throughout the year and administered to Johns Hopkins the latter's only defeat. Navy, bereft of all its recent champion players, encountered its most disheartening season and was even humiliated by its traditional rival, Army. Princeton ranked third among the teams.

An all-star Northern team defeated an all-star Southern combination, 6-5, in what was regarded by some as a substitute attraction for the regular international competition. The Northerners were piloted by King and Turner of Princeton, the Southerners by Brown of Duke and Litz of Loyola. Players from 18 colleges participated in the event.

**LADIES' GARMENT WORKERS UNION, International.** See AMERICAN FEDERATION OF LABOR.

**LANDS, Public.** See GENERAL LAND OFFICE; GEOLOGICAL SURVEY; LAND UTILIZATION, OFFICE OF.

**LAND UTILIZATION, Office of.** Co-ordination of forestry conservation and soil erosion control activities on 285,000,000 acres of public domain was advanced in 1940 with the establishment on October 2 in the U.S. Department of the Interior of the Office of Land Utilization. Made possible by the President's Reorganization Plan IV, the new agency resulted from the transfer from the Department of Agriculture of soil erosion and moisture control operations on the public domain, and a strengthening of the organization under which forestry activities in the Department of the Interior were administered by the Office of Director of Forests. Lee Muck, Director of Forests, was named Assistant to the Secretary in Charge of Land Utilization, to supervise the new conservation agency.

Although the co-ordination was set under way too late for the assembly of detailed statistical information concerning the 1940 fiscal year, the soil and moisture conservation activities on the public lands do not impose a new responsibility or present new technical problems to the Department of the Interior, since hitherto the bureaus and agencies under its jurisdiction have formulated and carried out such soil conservation programs as available funds would permit.

In general, the task confronting the new Office involves soil and moisture conservation on large tracts of public domain, principally in the West, where a complex ownership pattern, also embracing lands in State and private ownership, presents an extremely difficult management problem requiring a high degree of co-operation for its solution.

In the field of forestry conservation, the Office of Director of Forests registered notable progress during the 1940 fiscal year. Ever since 1850, forest administration has been one of the principal functions of the Department of the Interior, and because of the highly diversified conditions existing on the public domain, the National Parks and on Indian Lands, the Department carries on a wider range of forestry functions than any other Federal Department. It is also highly significant that under its jurisdiction at the present time is almost two-thirds of the area of all Federal lands in the United States proper, and, if Alaska is included, its jurisdiction extends over almost three-fourths of all Federal lands.

It is the policy of the Department of the Interior to make the management of its industrial forests a model of economy and good business. In fact, the administration of Indian forests and the 2,500,000 acres of revested and reconveyed Oregon and California Railroad and Coos Bay Wagon Road grant lands in Oregon has always been conducted well within income.

A consideration of the results of operations on Indian forests for the period from 1910 to 1939, inclusive, discloses a gross income of \$46,142,780. The cost of administration and protection during the same period totaled \$7,542,900, reflecting an average ratio of cost to income of approximately 16 per cent. The total income from Indian forest and range lands during the fiscal year ended June 30, 1940, was \$2,718,397, and the cost of administration and protection was \$501,500, reflecting an op-

erating coefficient of approximately 18 per cent.

The income from the sale of timber on the O and C grant lands for the period 1918 to 1939, inclusive, was \$10,350,150 and the cost of administration and protection during this same period averaged less than 3 per cent thereof. Subsequent to the enactment of the act of Aug. 28, 1937, administrative costs have increased materially by reason of the application of a policy of sustained-yield forest management. However, there has been an increase in revenues and costs are constrained by law to 25 per cent of the income.

According to the report of the Chief Forester, receipts for the fiscal year ended June 30, 1940, totaled \$852,647 and the cost of Administration and protection was \$160,000, thereby reflecting a ratio of cost to income of approximately 18 per cent or less than the operating coefficient provided by the 1937 act.

For the first time in the history of the Department funds were provided for the protection of the Interior forests of Alaska during 1940 and an efficient protection unit, supplemented by the CCC was organized and marked progress made in fire prevention and suppression.

LEE MUCK.

**LAOS.** See FRENCH INDO-CHINA.

**LATAKIA.** See SYRIA AND LEBANON.

**LATIN AMERICA.** See articles on the various countries of the Caribbean, Central America, and South America; also COMMUNISM; FASCISM; PAN AMERICANISM; PAN AMERICAN UNION; SPANISH-AMERICAN LITERATURES

**LATIN STUDIES.** See PHILOLOGY, CLASSICAL.

**LATTER-DAY SAINTS (Mormons).** A religious connection founded in 1830 at Fayette, N.Y., by Joseph Smith. After his death in 1844 several factions developed, one of which became the Reorganized Church of Jesus Christ of Latter-day Saints or Josephites (headquarters at Independence, Mo.). See RELIGIOUS ORGANIZATIONS.

**Church of Jesus Christ of Latter-day Saints,** the oldest group of Latter-day Saints, has its membership largely in the mountain States. As of Dec. 31, 1939, the organization included 126 stakes, 1055 wards, and 133 branches with a total population of 803,528. There are 16 missions in the two Americas with 488 branches and a membership of 106,108. In Europe there were 315 branches and the membership 31,745. Those in the Pacific Islands 199 branches and a membership of 19,957. Of the 2083 missionaries, 1049 were at work outside of the United States.

The administrative affairs of the Church and the performance of all Church ordinances are attended to by the Priesthood, consisting of the Melchizedek Priesthood, a senior order, with 105,355 male members, and the Aaronic Priesthood, a junior order, with 101,979 male members. The Church maintains seven temples devoted to sacred ordinances for the living and the dead, such as baptisms, endowments, and marriages. It also maintains the Brigham Young University, Ricks Junior College, Latter-day Saints Business College, 12 collegiate institutes, 2 high schools, 103 senior seminaries (schools adjoining high schools that provide special religious instruction), 118 junior seminaries (schools for the religious training of junior high school students), and 6 elementary schools. Enrollment in senior seminaries is 20,211; in junior seminaries, 5418.

The auxiliary bodies include a Women's Relief Society, numbering in 1939, 86,142 members who care for the sick and the poor. The Sunday Schools in 1939 had an enrollment of 370,965. The two Mutual Improvement Associations composed of young people had an enrollment of 142,737. The Primary Association for those under twelve, 125,202 members.

The Church holds in Salt Lake City, Utah, two General Conferences each year, one during the first week in April and the other the first week in October. On Jan. 1, 1939, the General Authorities were: First Presidency—Heber J. Grant, President; J. Reuben Clark, Jr., first counselor; David O. McKay, second counselor.

**LATVIA.** A former Baltic State, which proclaimed its independence from Soviet Russia Nov. 18, 1918, and was reannexed to the U.S.S.R. as a constituent republic Aug. 5, 1940. Capital, Riga.

**Area and Population.** Area, 25,402 square miles; estimated population on Dec. 31, 1939, 1,951,000. About 35 per cent of the population lives in communities of 2000 or more. Living births in 1939 numbered 36,932 (18.5 per 1000); deaths, 27,827 (13.9 per 1000). The population of Riga in 1939 was 393,211; of other towns at the 1935 census: Liepaja (Libau), 57,098; Daugavpils (Dvinsk), 45,160; Jelgava (Mitau), 34,099.

**Education and Religion.** At the 1930 census, 13.6 per cent of the population 10 years of age and over were illiterate. In 1938-39 there were 1895 elementary schools, with 229,825 pupils; 114 secondary schools, with 25,225 pupils, 135 technical and vocational schools, with 11,442 students; and one university (at Riga), with 7281 students. At the 1935 census, 56.13 per cent of the inhabitants were Protestants, 24.45 Roman Catholics, 14.4 per cent Greek Catholics and members of the Orthodox Church, and 4.79 per cent Jews.

**Production.** Agriculture, stock raising, lumbering, and manufacturing are the principal occupations. Yields of the chief crops in 1939 were (in metric tons): Wheat, 198,700; barley, 209,000; rye, 429,700; oats, 450,300; potatoes, 1,640,100; beet sugar, 36,000 in 1939-40; linseed, 25,000. Live-stock in 1939 included 1,271,720 cattle, 1,469,570 sheep, 891,470 swine, and 414,470 horses. State and private forests covered 4,317,482 acres and produced 3,439,250 cubic meters of timber in 1937-38. There were 5977 industrial enterprises with 98,497 employees on Dec. 31, 1938. Metallurgy, textiles, wood-working, foodstuffs, and chemicals were the principal manufacturing lines.

**Foreign Trade.** Merchandise imports in 1939 were 224,600,000 lats (227,400,000 in 1938); exports, 228,100,000 lats (227,200,000 in 1938). Pre-war trade was mainly with Germany and the United Kingdom. See **TRADE, FOREIGN** for commerce with United States.

**Finance.** For the fiscal year ended Mar. 31, 1940, revenue was estimated at 198,852,000 lats; expenditure, 198,696,000 lats. For 1938-39, actual receipts were 204,807,000 lats and expenditures 186,471,000 lats. As of Mar. 31, 1940, the public debt totaled 197,200,000 lats (internal, 51,900,000; external, 145,300,000). Average exchange value of the lat, \$0.1938 in 1938 and \$0.1852 in 1939.

**Transportation.** At the beginning of 1940 there were about 2075 miles of railway lines, 58,730 miles of roads, 2775 miles of inland waterways, and air connections from Riga to Liepaja, Kaunas, Tallinn, Stockholm, and Moscow. The Latvian merchant marine in 1939 comprised 194,000 gross tons

(see **GREAT BRITAIN** under *History* for detention of Latvian ships in British ports in 1940).

**Government.** The democratic Constitution adopted by a Constituent Assembly on Feb. 15, 1922, was suspended May 15, 1934, when a *de facto* anti-Communist dictatorship was established by the government headed by Premier Karlis Ulmanis. Parliament was dissolved, political parties abolished, and legislative functions were assumed by the Ulmanis Cabinet. When the term of President Kviesis expired Apr. 11, 1936, Dr. Ulmanis assumed the Presidency in addition to the Premiership. See *History* for 1940 developments.

#### HISTORY

After 22 years of independent existence, the republic of Latvia was annexed by the Soviet Union on Aug. 5, 1940. It was expunged from the list of sovereign States by exactly the same methods that brought simultaneous doom to the neighboring States of Estonia and Lithuania. The mutual assistance pact signed with the U.S.S.R. Oct. 5, 1939, under threat of invasion (see 1939 YEAR BOOK, p. 418), permitted the establishment of Soviet military, naval, and air bases on Latvian soil and gave the Russians a stranglehold which they later used to destroy Latvian independence.

In February of 1940 the Latvian Government indicated fear that Moscow had further designs upon the republic. The Latvian and Estonian army chiefs conferred on mutual defense measures. On February 13 President Ulmanis warned his countrymen to be "ready to make great sacrifices in the near future." The Foreign Ministers of Estonia, Latvia, and Lithuania, meeting in Riga in mid-March, again proclaimed that the Baltic Entente would follow a neutrality policy as "the best assurance of maintaining their independence."

The futility of these efforts was demonstrated on June 16 when Moscow, alarmed by the French capitulation to Germany, accused Latvia and Estonia of forming a secret military alliance against Russia and presented another ultimatum. It demanded the establishment of a pro-Soviet government that would assure fulfillment of the mutual assistance pact and the passage of additional Soviet troops into Latvia. The Ulmanis Government hastily assented, but without waiting for the ratification or proclamation of the new agreement Soviet troops poured across the frontiers on June 17 and occupied the capital. While the Russians continued to occupy the other principal cities and towns, a representative of the Soviet Foreign Office supervised the establishment on June 20 of a pro-Soviet government headed by Prof. August Kirchenstein as Premier and Foreign Minister.

The new government on July 5 called parliamentary elections for July 14-15. It legalized the Communist party, purged the Latvian army of "reactionary elements," introduced the Soviet system of political commissars in the army with a Latvian Communist as chief commissar, dissolved the anti-Communist National Guard, introduced the death penalty for sabotage, and inaugurated the sovietization of the republic in the economic and social as well as in the political fields.

As in Estonia and Lithuania, only candidates of the Communist-controlled Working Peoples' Bloc, representing a small fraction of the population, were given places on the ballot. According to the Latvian Minister to the United States, all voters were obliged to go to the polls under the threat of being treated as "enemies of the people" if they

failed to have balloting stamps on their passports. The press, radio, and all other instruments of propaganda were placed under Communist control in advance of the elections. There were numerous arrests. The government announced that 94.7 per cent of the voters went to the polls in the July elections and that 97.6 per cent voted for the one-party pro-Soviet ticket. This contrasted with reports that in some rural districts only about 25 per cent of those registered actually voted.

Immediately after the elections a government-sponsored campaign for union with Russia was intensified. The new parliament met on July 21 and voted to establish a soviet government, and to petition the Supreme Soviet of the U.S.S.R. for Latvia's admission into the Soviet Union. On the same day President Ulmanis was removed from office and Premier Kirchenstein took over his functions. On August 4 it was reported that Ulmanis had died of wounds in a Riga hospital. The following day Latvia's independence was formally ended when the Supreme Soviet in Moscow voted to admit it as a constituent republic of the U.S.S.R. The newly elected Latvian parliament, called into special session on August 24-25, completed these formalities by voting unanimously to enter the Soviet Union and adopt a soviet constitution. Professor Kirchenstein was supplanted as Premier by the Communist leader, Latsis, who formed a new government.

Even before this, a campaign for complete coordination of Latvia with the Russian political, economic, and social system had gotten under way. A decree of July 25 nationalized all banks and credit institutions, insurance companies, pawnshops, safe deposit boxes of private persons, and 804 specified commercial and industrial enterprises. All precious metals in ingots and finished articles, precious stones, etc., in jewelry shops were ordered deposited with banks. On July 28 the merchant marine was nationalized, on September 28 all retail stores with a turnover of 100,000 lats or more annually. The other sovietization measures taken, the methods employed, and the internal and external repercussions were much the same as in Estonia and Lithuania.

See ESTONIA, LITHUANIA, and UNION OF SOVIET SOCIALIST REPUBLICS under *History*, LEAGUE OF NATIONS; REPARATIONS and WAR DEBTS.

**LAW. Jurisprudence and Legal Philosophy.** Current articles "Cardozo's Philosophy of Law," 88 *U. of Pa. L. Rev.* 71, 156 (E. W. Patterson); "The Valuation of Legal Science," 40 *Columbia L. Rev.* 1 (H. Cairns); "On Reading and Using the Newer Jurisprudence," *ib.* 381 (K. L. Llewellyn); "A Required Course in Jurisprudence," (A Symposium), 9 *Am. L. School Rev.* 582.

**Historical: Primitive.** "Some Extinct Legal Systems," 2 *La. L. Rev.* 1 (Wigmore); "Codex Chalcio" (in Aztec, describing incidents of the Spanish conquest; exhibited at the San Francisco Exposition); "Contractual vs Preferential Allegiance in Visigothic Law," 34 *Ill. L. Rev.* 557 (F. S. Lear); "Book of Rights for the Merchants of Brün" (1243), exhibited at the San Francisco Exposition; "Legal Antiquities," 3 *Jno. Marshall L. Quar.* 423 (G. C. Bunge); "Origins of Commercial Law," 52 *L. Quar. Rev.* 30 (Justice MacKinnon).

**Hebrew.** "Law in the Scriptures; with explanations of legal references" (St. Louis, 1935; E. J. White).

**Roman and Romanesque.** "Emphyteusis: A Roman Perpetual Tenure," 3 *U. of Toronto L. Jnl.* 323 (W. R. Johnston); "The Origin and Development of *Quo Minus*," 49 *L. Rev.* 39; "Remission and the Civil Law," 2 *La. L. Rev.* 365 (M. M. Harrison); "On Chapter III of *Lex Aquilia*," *L. Quar. Rev.* April, 1936; "The Historical Background of Administrative Law," 15 *Notre Dame Lawyer* 29 (C. S. Lobingier).

**French.** "The Injunction in French Jurisprudence," 14

*Tulane L. Rev.* 211 (J. Brodeur); "*Dation en Paiment*, in Louisiana," *ib.* 263 (J. J. Piccione); "The French Superior Court of Arbitration," 9 *Brooklyn L. Rev.* 33 (H. J. Heneman); "Codification of the French Customs," 38 *Mich. L. Rev.* 765 (J. P. Dawson); "Preliminary Investigation of Crime in France," 88 *U. of Pa. L. Rev.* 915 (E. R. Keedy).

**Anglican.** "Lawyers and Litigants in Stuart England," 24 *Cornell L. Quar.* 533 (W. B. Wilcox); "Catholics and the Courts in England Since the Protestant Revolt," 9 *Fordham L. Rev.* 38 (C. F. Mullett); Note on Statham's Abridgment, 46 *W. Va. L. Quar.* 233 (C. C. Williams, Jr.).

**United States.** "Three Centuries of American Litigation," 3 *Temple U. L. Quar.* 488 (A. S. Faught); "The Philosophical Background of American Democracy," 15 *Notre Dame Lawyer*, 183 (C. C. Miltner); "Fifty Years of Crime in America," 16 *Tenn. L. Rev.* 171 (J. E. Hoover); "Origin and Early Development of American Dividend Law," 53 *Harv. L. Rev.* 36 (D. Kehl); "James Madison and Judicial Review," 28 *Cal. L. Rev.* 22 (C. P. Patterson); "John Marshall: Hero or Villain," 6 *O. St. U. L. Jnl.* 42 (F. R. Strong); "Trial of Aaron Burr," 11 *Rocky Mt. L. Rev.* 233; "Lincoln and Nevada Statehood," 26 *A.B.A. Jnl.*, 210, 313 (F. L. Bullard).

**Analytical.** Among the articles of special importance during the year were "Legal Classification and Administrative Law," 24 *Jnl. Am. Jud. Soc.* 87 (C. S. Lobingier); "Origin of Human Rights," 24 *Marquette L. Rev.*, 1 (W. Sternberg); "Natural Law," 15 *Notre Dame Lawyer*, 175 (J. F. O'Hara); "Same; in the United States," *ib.* 195; 6 *U. of Pittsburgh L. Rev.* 143 (J. A. Crane); "Approach to the Study of Law," 3 *U. of Detroit L. Jnl.* 7 (W. F. Clarke); "Judicial Decision Status and Limits," 24 *Cornell L. Quar.* 611 (S. H. Hirshman); "Stare Decisis," in American and Scots' Law," 26 *A.B.A. Jnl.*, 774 (J. C. Gardner); "Survey of Conference Problems on," 14 *U. of Cincinnati L. Rev.* 324 (R. Pound); cf. *ib.* 208, "Effect of an Overruling Decision," 18 *N. Car. L. Rev.* 199 (J. A. Sprull, Jr.); cf. *Ill. L. Rev.* 121, 7 *Cur. Legal Thot.* 19, "You be the Judge," (1940; pp. 451; E. Mortensen).

**Comparative.** "Civil Procedure" (German and U.S.) 1940 *Wis. L. Rev.* 234 (E. H. Schopflocher); "Federal and Missouri Practice," 25 *Wash. U. L. Quar.* 505 (C. C. Wheaton); "Illinois Law, Blackstone and Justinian," 5 *Jno. Marshall L. Quar.* 53 (H. G. Fins).

## PUBLIC

**Constitutional Law. Argentina.** Early in the year, the provincial supreme court of Tucuman declared unconstitutional a provision requiring medicinal advertising to be approved by the Bd of Health.

**British Commonwealth and Empire.** "Its Status in International Law," 3 *U. of Toronto L. Jnl.* 348 (P. E. Corbett); "Hansard's Debates," Parliament's official journal since 1803, contained in 1940 for the first time, advertisements of government bonds.

**Canada.** "The Judicial Process and Canadian Legislative Powers," 25 *Wash. U. L. Quar.* 215 (W. P. M. Kennedy); "Wartime Civil Liberties in Canada," 8 *Int. Jurid. Ass'n. Bull.* 127.

**India.** "The New Constitution" is discussed in 3 *U. of Toronto L. Jnl.*, 281 (D. G. Karve); "The Indian States in the Indian Federation," *ib.* 301 (M. Ramaswamy).

**Palestine.** "The Mandate in Practice," 25 *La. L. Rev.* 32 (B. Akzin).

**Legislative.** In general. "Interpretation," 25 *Wash. U. L. Quar.* 2 (H. W. Jones); *Guggenheim v. Rasquin*, 61 *S. Ct. Rep.* 507, reviewed, 14 *Tulane L. Rev.*, 141; "Time of Taking Effect," *Cuthbert v. Smuts*, N.Dak. reviewed, *ib.*

**Proportional Representation** was retained in New

York City (788,640 to 567,165). In an *Opinion to the Governor*, (R.I.) 6 Atl. (2d.) 147 (following 21 R.I. 579) the Supreme Court, one judge dissenting, advised that the system would infringe the State constitution's grant of the "right to vote in the election of all civil officers." Constitutionality of the system had been upheld in several States; (e.g. *Johnson v. State*, 274 N.Y. 411). See 88 *U. of Pa. L. Rev.* 112.

**Federal.** Congress convened Jan. 3, 1940, and adjourned Jan. 2, 1941. In this, its longest single session, it, especially in the later months, gave most attention to defensive measures; but enacted much important legislation, including over 500 public acts and the first recodification, since 1874, of the internal revenue laws. (See UNITED STATES.) In 22 *Minn. L. Rev.* 165, Dwan and Feidler describe compilations of U.S. laws and how to use them; "Constitutionality of Private Acts of Congress," 49 *Yale L. J.* 712.

**State.** Only nine legislatures held sessions in 1940. Their work is discussed in the law journals as follows: *California*; 13 *So. Cal. L. Rev.* 1; "Recent Social Legislation," 28 *Cal. L. Rev.* 442 (B. N. Armstrong); *Illinois*; 18 *Chicago-Kent L. Rev.*, 1. *Kansas*; 8 *U. of Kansas City L. Rev.* 240. *Kentucky*; "The New Statutes," 2 *Ky. St. Bar Jnl.* 19. *Minnesota*, 24 *Minn. L. Rev.* 240. *North Carolina*; 17 *N. Car. L. Rev.* 327. *Pennsylvania*; 44 *Dickinson L. Rev.* 84. This is one of the States in which a school for "Freshmen" legislators was held. (See also the different States.) Other current articles are: "Need of Simpler Legislation," 2 *Tex. Bar Jnl.* 7; "Constitutionality of State Legislation Affecting Aliens," 17 *N.Y.U.L. Quar. Rev.*, 242; "Retroactive Application," 38 *Mich. L. Rev.* 30 (E. S. Stimson); "Statutory Validation of Public Bonds," 7 *U. of Chicago L. Rev.* 281 (Horack & Dutton). "State Tax Barriers to Interstate Trade," 53 *Harv. L. Rev.* 1253 (W. B. Lockhart) touches one phase of interstate competition which has received much attention in the press.

**Interstate Compacts.** The four "middle" States (N.Y., N.J., Pa., and Del.) have agreed to act in common to abate and prevent excessive pollution of the Delaware River. An act of Congress of August 31, approves compacts between Atlantic States to regulate fishing in territorial and connecting waters. In *Del. etc. Com. v. Colburn*, 310 (U.S.) 419, a State court's judgment, construing such a contract, was reviewed (overruling *People v. R. Co.*, 12 Wall 455) and it was held that neither the compact in question (for construction of Pa.-N.J. bridges) nor the N.J. statute to which it referred, authorized consequential damages for land so expropriated.

**Judicial.** (See COURTS; SUPREME COURT; WORLD COURT.)

**Penal Law.** (See also FEDERAL BUREAU OF INVESTIGATION; LYNCHING; PRISONS, PAROLE, AND CRIME CONTROL). Current articles in this field include:

"Criminal Attempts: A Study of Liability Foundations," 49 *Yale L. Jnl.*, 789 (J. Hall); "Preventive Justice" (Bonds to Keep the Peace, etc.), 88 *U. of Pa. L. Rev.* 331; "Ignorance and Mistake in Criminal Law," *ib.* 35 (R. M. Perkins); "Restitution and the Criminal Law," 39 *Columbia L. Rev.*, 1185; "Political Crimes," 5 *Mo. L. Rev.* 293 (E. M. Million); "The Modern Felony Murder Doctrine," 28 *Ky. L. Jnl.* 215 (J. G. Clark); *id.* "Distinguished from Criminal Negligence," *ib.* 218 (J. W. Turner); "Negligent Murder," *ib.* 53 (M. Tineher); *id.* "Contributory Negligence of the Victim," 74 *N.Y.L. Rev.* 88; "The English Criminal Justice Bill," 40 *Columbia L. Rev.* 105; "The

Federal Juvenile Delinquency Act," 14 *St. John's L. Rev.* 214 (B. M. Biensstock).

**Criminal Procedure.** On June 29 the President signed the bill authorizing the Supreme Court "to prescribe . . . rules of . . . procedure in criminal cases in district courts," including those overseas. (See 24 *Jnl. Am. Jud. Soc.* 81 (G. Dean); "Practical Advantage of Rules," 25 *A.B.A. Jnl.* 825 (R. Pound) Successive steps in procedure are discussed as follows:

"Arrest without Warrant," (U.S. v. *Clark* 29 Fed. Supp. 138 reviewed) 8 *U. of Kansas City L. Rev.* 121; "Streamlining the Indictment," 53 *Harvard L. Rev.* 122; "Joinder of Conspiracy and Attempt," 28 *Georgetown L. Jnl.*, 608 (D. Kauffman); "Presumptions in Criminal Law" (Pa.), 13 *Temple U. L. Quar.* 523; "Public Defenders," 26 *Va. L. Rev.* 275 (M. C. Goldman); "Directing Verdict of Guilty," 25 *Ia. L. Rev.* 128; "Factors to be Considered in Recommendation of Clemency," (State v. *Caldwell* 135. O. 424), reviewed 6 *O. St. U. L. Jnl.* 73; "Criminal Appeal on the Facts; The Federal System," 34 *Ill. L. Rev.* 332 (L. J. Shapiro); "Criminal Appeals in America" (Lester B. Oldfield), reviewed 26 *A.B.A. Jnl.*, 398 (Mason Ladd); "Statutory Presumptions in Criminal Cases," 38 *Mich. L. Rev.* 366 (E. M. Watson).

**Penology.** Dr. Warner Brown, Univ. of California, finds from experiments on rats, that "punishment itself, quite apart from failure to receive reward, has positive and potent effect in altering all subsequent behaviour." So, while psychiatrists deplore severe and afflictive penalties, it is not because they are considered ineffectual. (*Jnl. of Comparative Psychology*.) See PRISONS, PAROLE, AND CRIME CONTROL.

**Pardons.** On May 17 President Roosevelt granted an unconditional pardon, restoring civil rights, to Dr. Frederick A. Cook (74) arctic explorer, who had been paroled after serving about one half of a sentence for "using the mails to defraud." He died soon afterward William P. Buckner, serving a sentence of two years for the same offence, and Felipe Buencamino, serving one of 18 months for conspiracy, were both pardoned after about one third of the time in Lewisburg (Pa.) Federal Prison. But the application of Ex-Judge Manton (1939 YEAR BOOK, 420) for a parole was denied. In discussing "The Effect of a Pardon," 88 *U. of Pa. L. Rev.* 177, Henry Weihofen urges that every pardon state on its face the reasons for granting it and, if on the ground of innocence, reparation should be granted.

**Administrative Law.** (See also FEDERAL COMMUNICATIONS COMMISSION; FEDERAL TRADE COMMISSION; INTERSTATE COMMERCE COMMISSION; NATIONAL LABOR RELATIONS BOARD, ETC.) As usual of late, this is among the most popular themes in the legal periodicals. The *George Washington Law Review* for Jan.-Feb. was devoted almost entirely to the work of the Federal Trade Commission (which had just passed its quarter centennial) and contained 15 articles. The *Iowa Law Review* for March published seven articles, mainly on administrative procedure. Other current articles are:

"Comparative Administrative Law (Economic Improversation by Public Authorities)," 88 *U. of Pa. L. Rev.* 425 (F. M. Marx); "Administrative Law and the British North America Act," 53 *Harv. L. Rev.* 251 (J. Willis); "Crucial Issues in Administrative Law," 53 *Harv. L. Rev.* 1077; 7 *Cur. Leg. Tho'ts.*, 110 (J. M. Landis); "An Approach to Administrative Law," 18 *N. Car. L. Rev.* 183 (R. F. Fuchs); "Administrative Legislation," 34 *Ill. L. Rev.* 651 (J. F. Davison); "Delegation of Legislative Power," *State v. Maitrejean*, 193 La. 824 (reviewed, 8 *G.W.L. Rev.* 1102; 9 *Fordham L. Rev.* 275); *Miller v. Schuster*, 227 La. 1005 (reviewed 25 *Ia. L. Rev.* 812); "Administrative Contempt Powers," 25 *A.B.A. Jnl.*, 954 (E. F. Albertsworth).

**Police Power. Trade: Intrastate.** Sec. 1033 of the Pa. Vehicle Code, regulating the size and

weight of vehicles, is not displaced by the Federal Motor Carrier Act of 1935 (*Maurer v. Hamilton*, 309 U.S. 598) and it is those employees only "whose activities affect the safety of operation" of such vehicles whose qualifications and hours of labor may be regulated by the ICC. (*U.S. v. Am. Trucking Ass'ns*, 310 U.S. 534.) "... where there is no claim of confiscation, the State authority is competent to establish intrastate rates," etc. and due process of law, under amendments VI and XIV of the U.S. Const. is followed where a State court, "on an appropriate hearing, . . . determines that there is evidence to sustain a finding of the violation of State law." (*Bell Tel. Co. v. Penn. P. U. Com.* 309 U.S. 30) Prohibition of peddling. *Goodhumor Corp. v. Long Beach*, 22 N.Y. S. (2d) 282 (comment, 5 *U. of Newark L. Rev.* 299); "Police Power and Interstate Commerce (in Michigan)," 3 *U. of Detroit L. Jnl.* 24, 98

**Health and Safety.** Amendment XIV, 1, to the U.S. Constitution, is not infringed as to the "equal protection" clause, by a State statute authorizing segregation of those with a "psycopathic personality." *Minnesota v. Probate Court*, 309 U.S. 270. On Nov. 5, 1940, Oklahoma voted to restrict the powers of the State Medical Examining Board; Michigan, "to regulate the practice of dentistry," while Arizona voted not to prohibit certain forms of dental advertising.

**Morals.** Measures to legalize gambling were rejected in Arizona and Colorado (pari-mutuel betting) and Oregon.

**Liquor control**, by prohibition, was continued in Oklahoma (374,911 to 290,752) and Prince Edward Island (10,426 to 8,861); restriction was rejected (102,186 to 79,563) in Idaho (which also rejected county option, 112,972 to 70,544) and Oregon (235,128 to 158,004) which also rejected private sale (309,183 to 90,681). Johnston County, N.C. (7579 to 3956) and Talbot County, Md. (3672 to 705) each rejected dispensaries; the South Carolina advisory party referendum resulted in 189,361 to 130,366 in favor of prohibition. In *Ziffrin Inc. v. Reeves*, 308 U.S. 132, an order of the district court was affirmed, dismissing a bill by an Indiana distiller to enjoin the enforcement of a Kentucky statute penalizing the unlicensed importation of intoxicating liquors into the latter State.

**Policy.** Prohibition of contraceptives: *State v. Nelson*, 126 Conn. 412 (reviewed, 3 *U. of Detroit L. Jnl.* 216).

**Administrative Procedure.** "Reform in," 26 *A.B.A. Jnl.* 465 (W. Gellhorn); "And the Public Interest," 25 *Wash. U. L. Q.* 308 (A. H. Feller); "Removal of Board Members," *Morgan v. TVA*, 28 Fed. Suppl. 732 (reviewed in 88 *U. of Pa. L. Rev.* 357; 2 *La. L. Rev.* 183)

"Parties in Interest" (Transportation and Communications Acts) 13 *So. Cal. L. Rev.* 450 (E. A. Mosk); "Individual's Right to Initiate Administrative Process," 25 *La. L. Rev.* 485 (L. L. Jaffe). "A special administrative procedure for determination of the status of persons or companies under a regulatory act, and which meets all requirements of due process . . . is exclusive." *Sunshine etc. Coal Co. v. Adkins*, 310 U.S. 381, 404 (reviewed 24 *Minn. L. Rev.* 854). The I.C.C. may act on its own motion, without complaint from shippers, *U.S. v. Chicago etc. Co.*, 310 U.S. 44; Necessity of Joining Departmental Heads, *Eastman v. U.S.*, 28 Fed. Suppl. 807 (comment 26 *Va. L. Rev.* 370).

"Notice and Hearing," 25 *La. L. Rev.* 457 (R. B. Hankins); 12 *Miss. L. Jnl.* 295, 393 (E. S. Magaw); "N. H. Fire Ins. Co. v. Murray," 105 Fed. (2d) 212 (reviewed 28 *Georgetown L. Jnl.* 261); *Carroll v. Cal Horse Racing Bd.*, (Cal.) 105 Pac. (2d) 110 (comment, 28 *Georgetown L. Jnl.*, 839).

"Process (Compulsory)," 25 *La. L. Rev.* 646; 53 *Harvard L. Rev.* 842 (Subpoenas).

**Appearance (by attorney).** "Morgenthau v. Barrett," 71 D.C. 148 (reviewed 8 *G. W. L. Rev.* 974).

**Proof.** "Int. Ass'n. of Machinists v. NLRB," 110 Fed. (2d) 29 (reviewed 15 *Ind. L. Jnl.* 228); "Practical Problems," 26 *A.B.A. Jnl.* 491 (J. W. Norwood); "Use of Public Documents," 25 *La. L. Rev.* 555 (J. F. Davison); "Consolidated Edison Co. v. NLRB," 305 U.S. 197 (reviewed 24 *Cornell L. Q.* 583); "NLRB v. Columbia etc. Co.," 306 U.S. 292 (reviewed 8 *G. W. L. Rev.* 108 (sufficiency of evidence); "Who must Read the Evidence," *State v. Wrabets*, 231 Wis. 147, (com. 1940 *Wis. L. Rev.* 125).

**Findings of the ICC** that rates under the Motor Carrier Act are discriminatory, will be preferred to those of a three judge court, where the evidence is undisputed, *U.S. v. Chicago etc. Trucking Co.*, 310 U.S. 44. (Cf. *NLRB vs. Waterman SS. Co.*, 309 U.S. 206; *Perkins v. Lukens Steel Co.*, 310 U.S. 113)

**Effect (res adjudicata)**, 49 *Yale L. Jnl.* 1278; 28 *Minn. L. Rev.* 854 **Judicial Review** "An Approach," 28 *Georgetown L. Jnl.* 1042 (H. P. Warner); 34 *Ill. L. Rev.*, 680 (B. P. McAllister); 17 *Chicago-Kent L. Rev.* 342 (M. A. Kallia); 24 *Marquette L. Rev.* 61 (G. H. Seefeld); 3 *U. of Detroit L. Jnl.* 53 (F. E. Cooper); "Method and scope," 27 *Cal. L. Rev.* 738, 12 *Rocky Mt. L. Rev.* 173. **Mandamus**, 25 *La. L. Rev.* 638, *Drumrey v. State Board*, 97 *Cal. Dec.* 272 (reviewed 13 *So. Cal. L. Rev.* 500); "Statutory Roads," 28 *Cal. L. Rev.* 129 (B. P. McAllister); "The Morgan Cases," 53 *Harv. L. Rev.* 105; 25 *La. L. Rev.* 622; 25 *Wash. U. L. Q.* 608; "F. C. C. v. Pottsville Broadcasting Co.," 309 U.S. 134 (reviewed 40 *Columbia L. Rev.* 513); 8 *G. W. L. Rev.* 849, 28 *Georgetown L. Jnl.* 929; 25 *Ind. L. Rev.* 658; 1 *Wash. & Lee L. Rev.* 253; "Negative Orders," *Rochester Tel. Corp. v. U.S.*, 307 U.S. 125, 83 *L. ed.* 1147; 59 *S. Ct. Rep.* 754 (reviewed, 53 *Harv. L. Rev.* 98, 28 *Georgetown L. Jnl.* 392 (H. B. Merican); 24 *Minn. L. Rev.* 379, 19 *Boston U. L. Rev.* 645; 15 *Ind. L. Jnl.* 151; 28 *Ky. L. Jnl.* 492; 38 *Mich. L. Rev.* 682 (R. J. Miller); 18 *Chicago-Kent L. Rev.* 74 (R. W. Bergstrom); "The Logan Walter Bill," after passing the Senate by a majority of two, providing, *inter alia*, for full judicial review was vetoed by the President on December 18, and an attempt to override the veto, failed in the House. The measure is discussed in 8 *Int. Jurid. Ass'n. Bull.* 101, 2 *La. L. Rev.* 294 (A. Jaretzki); 27 *A. B. Jnl.* 52; 34 *Ill. L. Rev.* 727 (Rule-Making Provisions). Cf. "Saks v. Higgins" 29 Fed. Suppl. 996 (comment, 28 *Georgetown L. Jnl.* 996).

#### PRIVATE

**Contracts.** Samuel Williston, who taught for 50 years in Harvard Law School, gave a course of four public lectures at the Catholic University in Washington, during May, on "Progress of the Law of Contracts." His new work on the subject has been favorably reviewed. See 18 *N.Car. L. Rev.* 1 (L. L. Fuller); 3 *U. of Toronto L. Jnl.* 387 (J. Finkelman).

**Form.** See "Present Status of the Sealed Obligation," 34 *Ill. L. Rev.* 457; "Louisiana Contracts Involving Property Rights," 14 *Tulane L. Rev.* 16 (L. Sarpy).

**Consideration.** Professor Rodell "falls viciously upon the doctrine of consideration," says Max Radin (38 *Mich. L. Rev.* 504) reviewing Rodell's "Woe Unto You Lawyers" (1939) and pronouncing his illustration thereof, "a pure abstraction."

**Parties.** Privy of contract, *McGuire v. Dalton*, 191 So. La. 168 (reviewed 14 *Tulane L. Rev.* 295); "Third Party Beneficiaries (in Michigan)," 3 *U. of Detroit L. Jnl.* 135 (F. J. Chmielnicki).

**Legality.** "In pari delicto," 26 *Va. L. Rev.* 326.

**Insurance.** "Group Insurance," 26 *Va. L. Rev.* 377; 28 *Georgetown L. Jnl.* 273, 25 *La. L. Rev.* 169; "Suicide and Incontestable Clauses," 26 *Va. L. Rev.* 380; 16 *Tenn. L. Rev.* 472; Effect of Aeronautical Employment, 1 *Wash. & Lee L. Rev.* 127; "Is a trailer a 'building' in accident insurance?" (ib. 284); Insured's duty to undergo medical treatment, 88 *U. of Pa. L. Rev.* 749; 16 *Tenn. L. Rev.* 353.

**Special Forms.—Agency.** "Imputation of Agent's Knowledge to Principal," 26 *Va. L. Rev.* 949; "Agent's Liability to Third Parties," 53 *Harv. L. Rev.* 1047; "Relief Worker's Principal in Workmen's Compensation," 39 *Columbia L. Rev.* 1411.

**Bailment.** "Burden of Proof and Presumptions," 14 *Temple U. L. Q.* 261; "A Re-examination of the Winkfield Case," 9 *Fordham L. Rev.* 247; "Effect of Bailee's Misdelivery," 18 *Tex. L. Rev.* 330.



**Carriers.** "Commissions, Rates and Policies," 53 *Harv. L. Rev.* 1103 (R. L. Hale); "Liability of Connecting," *St. John's L. Rev.* 396; "Escalator as Common Carrier," 14 *Jno. Marshall L. Quar.* 464; "Development of Railway Corporate Structures," 7 *L. & Contemporary Problems* 367 (J. W. Barriger).

**Mortgages and Pledges.** "Mortgagor's Right of Possession," 24 *Minn. L. Rev.* 434; "Suits for Interest under the N.Y. Moratorium," 25 *Cornell L. Quar.* 401; "Guaranteed Mortgages," 9 *Brooklyn L. Rev.* 288 (H. Weiner); "Deficiency Judgments," 53 *Harv. L. Rev.* 1400; "Foreclosure Reform," 88 *U. of Pa. L. Rev.* 957; "Application of Collateral to Other Debts," 36 *Mich. L. Rev.* 921.

**Negotiable Instruments.** In Ohio, 6 *O. St. U. L. Jnl.* 140; "Acceleration Clauses," 88 *U. of Pa. L. Rev.* 94; "The Argentine Bill of Exchange," 14 *U. of Cincinnati L. Rev.* 357 (H. P. Crawford); "The Imposter Payee," 1940 *Wis. L. Rev.* 161, 362 (A. S. Abel); *Sec. 1st Nat. Bank v. U.S.* 103 Fed. (2d) 188 (Comment, 13 *So. Cal. L. Rev.*, 112; 25 *La. L. Rev.* 154).

**Sales.** "In Legal Theory and in Practice," 26 *Va. L. Rev.* 651 (N. Isaacs); Conditional: In Louisiana, 2 *La. L. Rev.* 338; In Maine, 4 *Peabody L. Rev.* 52 (M. Greenberg); "The Proposed Federal Sales Act," 9 *Fordham L. Rev.* 233 (G. W. Bacon); 26 *Va. L. Rev.* 638 (G. G. Bogert); *ib.* 537 (H. Thomas); *ib.* 558 (K. N. Llewellyn); *ib.* 572 (W. E. McCurdy); "Warranty of Quality (A Comparative Study)," 14 *Tulane L. Rev.* 327, 529 (C. J. Morrow); 25 *Cornell L. Quar.* 625; 14 *Tulane L. Rev.* 470.

**Suretyship.** "Effect of Principal's Bankruptcy on Surety's Right to Indemnity," 5 *Jno. Marshall L. Quar.* 469; "Of Married Women (in Pennsylvania)," 6 *U. of Pittsburgh L. Rev.* 29 (P. F. Cooney); "Premature Payments as Discharge of Surety," *Corp. of (Mormon) Pres. v. Hartford etc. Co.*, 95 *Pac* (2d) (Utah) 736 (Comment, 26 *Va. L. Rev.* 521).

**Corporations.** "Constitutional Genesis of the Private Corporation," 28 *Georgetown L. Jnl.* 165 (J. J. Robbins); "Origin and Early Development of American Dividend Law," 53 *Harv. L. Rev.* 36 (D. Kehl); "Abrogating Accrued Dividends," (by Charter Amendment), 40 *Columbia L. Rev.* 633 (A. C. Becht); (by Merger), 88 *U. of Pa. L. Rev.* 624; "Improper Purposes of Non-Profit Corporations," 44 *Dickinson L. Rev.* 264 (W. H. Wood); "Disregard of Corporate Entity," 14 *Wash. L. Rev.* 285 (C. Horowitz); "Statutory Revival of Corporate Existence," 28 *Cal. L. Rev.* 195 (L. A. Schei); "Infants as Corporators," 28 *Georgetown L. Jnl.* 320 (W. Q. de Funiak); "Federal Gov't. Corporations," 27 *Cal. L. Rev.* 712 (H. Pinney); "The SEC Proxy Rules and Shareholder Participation," 53 *Harv. L. Rev.* 1165; "Voting Trusts," 24 *Minn. L. Rev.* 347 (C. Burke); 28 *Georgetown L. Jnl.* 1121 (Dougherty & Berry); "The Louisiana Business Corporation Act," 2 *La. L. Rev.* 597 (D. E. Bennett); "The 1939 Amendments in Ohio," 6 *O. St. U. L. Jnl.* 123 (N. M. Lattin).

**Reorganization** (and the SEC), 2 *La. L. Rev.* 693 (B. B. Taylor, Jr.); (and the Supreme Court), 28 *Georgetown L. Jnl.* 24 (L. D. Swannstrom); 53 *Harv. L. Rev.* 713 (E. M. Dodd, Jr.); (and the Rights of Labor), 53 *Harv. L. Rev.* 1360 (Technique of), 17 *N. Y. U. L. Quar. Rev.* 23 (Cohen & Simpson); *ib.* 254; 24 *Marquette L. Rev.* 12 (H. M. Knoeller); 5 *Jno. Marshall L. Quar.* 180 (B. Wham); "Stockholders' Participation," 28 *Georgetown L. Jnl.* 24 (L. D. Swannstrom); 26 *Va. L. Rev.* 504; 8 *G. W. L. Rev.* 1054 (E. M. Cagle); "Recent Developments," 26 *Va. L. Rev.* 999 (J. Gerdes).

**Dissolution**, 40 *Columbia L. Rev.* 220; 28 *Cal. L. Rev.* 219 (recent legislation, 14 *Tulane L. Rev.* 124) Oklahoma adopted a constitutional amendment forbidding public service corporations to merge with competitors.

**Foreign.** "In Latin America," 14 *Tulane L. Rev.* 42 (G. H. Voelkel); "The Argentine Limited Liability Company," *ib.* 232 (H. P. Crawford); "May an Ohio Corporation enter an Argentine Partnership?" 13 *U. of Cincinnati L. Rev.* 559 (*id.*); "Service on a Domestic Affiliate," 3 *U. of Detroit L. Jnl.* 194 (R. E. Bine).

**Delicts (Torts).** The latest (1939-40) *Current Legal Thought* Index contains more than six columns of titles of legal articles on this topic. Its

April number is devoted entirely thereto with a leader by former Dean Pound on "The Economic Interpretation," reprinted from 53 *Harv. L. Rev.* 365. Among the important articles of the year are:

"Rationale of 'the Last Clear Chance'" *ib.* 1225 (M. McIntyre; based mainly on English and Canadian decisions, it advocates discarding the contributory negligence doctrine, from which that discussed "is only a disguise-escape"); "Intermarital Torts," 4 *U. of Newark L. Rev.* 355 (S. A. Bahr); "Tort Claims against the U.S.," 25 *A.B.A. Jnl.* 828 (A. Holtzoff); 14 *Tulane L. Rev.* 407 (E. E. Naylor). On February 17 Attorney General Jackson urged passage of the bill providing liability for such claims, on the analogy of governmental suitability on contracts; "Right of Privacy," 13 *So. Cal. L. Rev.* 81 (T. M. Leovy); (Recent Developments) 44 *Dickinson L. Rev.* 39 (E. Handler); (Radio Broadcasts) 12 *Rocky Mt. L. Rev.* 127 (R. De Mott), 38 *Mich. L. Rev.* 748; 24 *Marquette L. Rev.* 171, 18 *Tex. L. Rev.* 356; "Joint Tortfeasors," (*ib.* 354); (Contribution), 14 *Temple U. L. Quar.* 125; 44 *Dickinson L. Rev.* 49 (A. S. Hollister).

**Special Forms.** Defamation (by radio) *Summit Hotel Co. v. Nat. Broadcasting Co.*, 8 *Atl* (2d) (Pa.) 302 (this case has been the subject of comment in 15 or more legal periodicals. See 6 *Current Legal Thought*, 546); "Immunity for," 24 *Minn. L. Rev.* 607; 38 *Mich. L. Rev.* 732. While a wife may not sue her husband for false imputation of unchastity, those who induced him to make it are liable. *Ewald v. Lane*, 104 *Fed* (2d) 89, 70 *App. D. C.* 89, (Comment, 25 *Cornell L. Quar.* 312).

**Fraud.** "Constructive (in Virginia)," 1 *Wash. & Lee L. Rev.* 98 (W. S. Burns); "Civil Imprisonment for Fraud or Malice," 7 *U. of Chicago L. Rev.* 137.

**Negligence.** "Willful and Wanton," (in Minnesota) 24 *Minn. L. Rev.* 81; As Conduct, 28 *Ky. L. Jnl.* 237 (M. M. Tinscher); "Original Tortfeasor's Liability for Intervening Criminal Act," 24 *Minn. L. Rev.* 666; "Limits of Objectivity in," *ib.* 242 (E. P. Young); "The Humanitarian Doctrine" (Bases Re-examined), 5 *Mo. L. Rev.* 56 (G. A. MacCleary); (Restrictions) 4 *Mo. L. Rev.* 472; "Causation," (Failure to sign license) 38 *Mich. L. Rev.* 558).

**Domestic Relations.** "Recent Statutory Changes in Washington," 14 *Wash. L. Rev.* 271 (W. L. Shattuck); "Confusing Maryland Procedures," 4 *Md. L. Rev.* 275.

**Marriage.** "Pre-Marital Health Tests for," 53 *Harv. L. Rev.* 309. Eighteen States now have such tests; 30 require a waiting period between notice of intent and issue of license, as in Rhode Island (6 days) or between the latter and the wedding as in Delaware (24 hours).

"Consequences of Evading Test," 18 *Chicago-Kent L. Rev.* 206; "Validity of Child Marriages" (in Louisiana), 14 *Tulane L. Rev.* 106 (A. B. Kupperman); "Conditions in Restraint of," 14 *St. John's L. Rev.* 89 (R. M. Trapani); "Breach of Promise," 18 *Chicago-Kent L. Rev.* 98; "The Canon Law of Marriage," 26 *Va. L. Rev.* 70 (B. F. Brown); "Same; Procedure in, compared with Civil Law," 15 *Notre Dame Lawyer*, 232 (J. C. O'Connor); "Common Law" (informal), 6 *U. of Pittsburgh L. Rev.* 104; 3 *U. of Detroit L. Rev.* 34; 14 *Ind. L. Jnl.* 539.

**Support** (of wife by husband), 24 *Marquette L. Rev.* 52; (separate maintenance), 5 *Newark L. Rev.* 56; 16 *Tenn. L. Rev.* 246; Contractual Liquidation of Liability, 40 *Columbia L. Rev.* 677. Of husband by wife, 25 *Cornell L. Quar.* 300. O. W. Nygren of Nassau Co. N.Y., aged 40 and unemployed 4 years, committed suicide two days after the county court had ordered his employed but estranged wife to pay him \$8.50 per week.

**Community Property.** "The Oklahoma Act: A Comparative Study," 2 *La. L. Rev.* 575 (H. S. Daggett) (Gifts), *McDonald v. Lambert*, 43 *N.M.* 27 (Comment, 18 *Tex. L. Rev.* 227); (Life Insurance), *ib.* 121; *Occidental L. Ins. Co. v. Powers*, 192 *Wash.* 475 (Comment, 19 *Oreg. L. Rev.* 384); (Succession) *Estate of Ratway*, 13 *Cal.* (2d) 702 (Comment, 13 *So. Cal. L. Rev.* 115); 27 *Cal. L. Rev.* 748 (Survivorship), *McDonnell v. Miller*, (Tex.) 133 S.W. (2d) 142 (Comment, 18 *Tex. L. Rev.* 339); *Fidelity Union Ins. Co. v. Hutchins*, 134 *Tex.* 268 (Comment, *ib.* 338).

**Parentage.** Custody of child (surviving parent), 2 *La. L. Rev.* Mch.; (mother's release), 9 *Fordham L. Rev.* 130; "Jurisdictional Bases of Custody Decrees," 53 *Harv. L. Rev.* 1024.

**Adoption.** "Intestate Succession as Affected by," 13 *So. Cal. L. Rev.* 369. The California Department of Social



Welfare issues a folder (No. 6) giving a brief history of adoption in that State, with information as to the procedure and statistics, disclosing 921 adoptions there in 1938. (In Texas), 18 *Tex. L. Rev.* 523; "Adopted Child's Right to Sue Parent," 1 *Wash. & Lee L. Rev.* 136; 14 *Tulane L. Rev.* 468).

**Divorce.** "Cruelty as Ground for," 19 *Ore. L. Rev.* 341 (D. Fain); 28 *Georgetown L. Jnl.* 694; "Support Orders for Infants in," 26 *Va. L. Rev.* 401; "Recognition of Foreign Divorces in New York," 9 *Fordham L. Rev.* 342 (F. L. Kane); "Connivance in Procuring," 28 *Cal. L. Rev.* 99. On March 22 the U.S. P.O. Department issued a mail fraud order against Mexican "divorce bureaus." In Canada, where the Dominion Parliament is the sole authority for divorces in Quebec and Prince Edward Island, protests were registered in the Commons on July 15 when the House was asked to accept without question the approved report of a Senate Committee upon some 30 such divorce bills and to dispose of them in about 12 minutes. Prime Minister Mackenzie King hoped that this would hasten the establishment of divorce courts in the two provinces. In Denmark, divorce petitions require approval of the King, who recently passed on that of Barbara Hutton Haugwitz-Reventlow, granddaughter of F. W. Woolworth.

**Annulment and Divorce** (in Mississippi), 12 *Miss. L. Jnl.* 1264 (D. H. Shell); "Fraud in the N. Y. Law of Annulment," 9 *Brooklyn L. Rev.* 51 (M. Gershenson). On March 22 Governor Lehman signed the bill providing for alimony in annulment proceedings as in those for divorce. (See COURTS.)

**Property** "The Law of, and Recent Juristic Thought," 25 *ABA Jnl.* 993 (R. Pound); "Sociological Implications of Private Property," 3 *U. of Detroit L. Jnl.* 110 (B. F. Brown); "The Changing Doctrine of Lateral Support," 14 *Temple U. L. Quar.* 243; "Intangible Property: Execution Against in Pa.," *ib.* 368; "Tenants in Common Inter Se," 24 *Marquette L. Rev.* 148 (E. R. Mictus); "The Shelley's Case Rule in Washington," 13 *Wash. L. Rev.* 99 (H. M. Cross); "Tax Sales in Kentucky," 28 *Ky. L. Jnl.* 105 (E. S. Wilson); "Proposed Maryland Uniform Property Act," 4 *Md. L. Rev.* 1; "Easements" (Implied), *ib.* 88; "Statutory Ways of Necessity," 19 *Oreg. L. Rev.* 171 (D. S. Richardson); "The Maryland Doctrine of Worthier Title," 4 *Md. L. Rev.* 50; "Improvements in Recording," 28 *Georgetown L. Jnl.* 307 (W. Fairchild); "Critique of Powell on the Torrens System," 24 *Cornell L. Quar.* 557 (Fairchild & Springer); "Title Research in Virginia," 26 *Va. L. Rev.* 385.

**Succession. Intestate.** "Interpretation of Statutes Relating to," 1940 *Wis. L. Rev.* 590 (J. W. Wilkus); "Proposed Changes in New Jersey," 5 *Newark L. Rev.* 1 (A. D. Markle); "Per Capita and Per Stirpes in Illinois," 35 *Ill. L. Rev.* 1 (H. F. Carey).

**Testamentary.** "Limitations on Testamentary Freedom in England," 25 *Cornell L. Quar.* 337 (J. Dainow); "The English Inheritance Act of 1938," (requiring provision for dependents), 53 *Harv. L. Rev.* 342; "Forced Heirship in French Law," 2 *La. L. Rev.* 669 (J. Dainow); "Forced Portions," *Jarel v. Mooson's Succession*, (La.) 190 So. Rep. 86 (Comment, 14 *Tulane L. Rev.* 313); "History of Ademption," 25 *La. L. Rev.* 290 (J. Warren); "Testamentary Capacity" (in Michigan), 15 *Notre Dame Lawyer*, 79 (E. R. Goggin); (and the Burden of Proof), *ib.* 349 (F. Mee); "Supernumerary Witnesses and Evasions," 53 *Harv. L. Rev.* 858; "Foreign Beneficiaries under New York Law," 14 *St. John's L. Rev.* 353 (R. B. F. Gillespie); "Foreign Wills," 4 *Md. L. Rev.* 400; "Joint and Mutual Wills," 24 *Marquette L. Rev.* 42 (H. J. Glinski); 26 *Va. L. Rev.* 203; "Devise to One and his Children," 28 *Ky. L. Jnl.* 331 (B. H. Henard); "Construction to include Adopted Ones," 5 *Mo. L. Rev.* 259; (and illegitimacies), *ib.* 98 (G. B. Rowan); "Revival of a Revoked Will," 28 *Cal. L. Rev.* 265 (W. W. Ferrier, Jr.); 28 *Ky. L. Jnl.* 227 (P. L. Hall); "The Illinois Probate Code," 34 *Ill. L. Rev.* 405 (H. G. Fina); "Inventories and Appraisals in Maine," 5 *Pebody L. Rev.* 8 (N. M. Haskell); "Unreal Appraisements in Louisiana," 2 *La. L. Rev.* 426 (L. Sarpy).

**Legal Education.** Of the 180 American law schools, 106 have now received at least provisional approval by the A.B.A.'s legal education section; but some 13,000 students were reported at unapproved schools. The latest total enrollment figures are 34,539 as against 37,406 in the preceding year. The eight states without the two year college requirement (1939 YEAR BOOK 422) were reduced to six in 1940, Kentucky and Oklahoma having adopted it and also Hawaii Territory. But in the District of Columbia the movement received a setback by the passage of an act, quietly worked through Congress, substituting the Washington School Board (which is not concerned with higher education) for the regional organ of the Association of American Universities, as the body to pass on schools giving the "college work." Significant of the higher standard's results, was the N.Y. Law Examiners' announcement that out of 1057 who took the March examinations, only 398 passed, and these were subject to further tests as to character and fitness in their respective judicial districts.

**Curriculum.** An experiment which would shorten the terms of study by a year, was announced in June by Dean Landis of the Harvard school. A group of 25 freshmen were to be selected who would study the social sciences for three years in the academic departments; then take an "intensified" course in the law school for two years; finally returning to the academic field for a combined two year course in the advanced social sciences, including law, the object being to visualize law, "not as a collection of abstract facts and opinions but as a vital part of our everyday life." Dean Landis, while hopeful of a successful outcome, expects the experimental stage to last several years (See 26 *ABA Jnl.* 814.) Dean A. T. Martin of the Ohio State University Law School, who recently succeeded Dean Arant, also announces a drastic revision of the curriculum, with "emphasis on vocational competency and the training of socially minded lawyers." "The Proposed Four-Year Law Curriculum" is criticized in 38 *Mich. L. Rev.* 945 (P. Mechem); "The Yale Legal Aptitude Test," 49 *Yale L. Jnl.* 1237 (Crawford & Gorham); "A Generation of Law Teaching," *ib.* 16 (R. Pound); "Legal Education in Philosophical Perspective," 3 *U. of Detroit L. Jnl.* 181 (B. F. Brown); "The Teaching of Legal Cause," 39 *Columbia L. Rev.* 1087. Consult UNIVERSITIES AND COLLEGES.

See COURTS; INTERNATIONAL LAW; PRISONS; SUPREME COURT.

C. SUMNER LOBINGIER.

**LEAD.** In common with other metals, international trade in lead was considerably disturbed in 1940, although probably less than for copper and zinc. War cut off the normal European market for lead and caused producers to seek an outlet in the United States. Foreign metal exerted a controlling influence on the domestic market, practically putting a ceiling on the domestic price. Imports of both lead concentrates and pig lead and bullion were heavy, as shown in Table 1 on page 406, from *Engineering and Mining Journal*.

Changes in United States production, shipments, and stocks of lead, are shown in Table 2 on page 406.

The price of lead at New York, according to *Engineering and Mining Journal* opened in January at 5.50¢, declined to 4.75 in August, rose to 5.80 in November, and closed the year at 5.50¢. The average was 5.179 compared with 5.053¢ for 1939.

TABLE 1—UNITED STATES LEAD IMPORTS

	[Short tons]	
	1939	1940
Lead concentrates (lead content)		
Newfoundland		27,565
Mexico	5,847	1,804
Argentina	3,362	16,469
Peru	7,176	18,384
Australia	7,613	17,473
Canada	5,624	8,666
South Africa		7,539
Base Bullion		
Mexico	47,914	19,623
Pigs and Bars		
Peru	3,976	18,335
Australia	1,118	2,800
Mexico		128,678

TABLE 2—CHANGE IN DOMESTIC PRODUCTION, SHIPMENTS, AND STOCKS OF LEAD\*

	[In short tons]	
	1939	1940
Mine Production	462,200	480,894
Secondary and Foreign Production	35,800	104,586
Domestic Shipments	555,100	603,143
Refined Pig Lead Stocks (December 31)	58,800	40,926
Total Stock-all forms (December 31)	146,800	140,600

\* American Bureau of Metal Statistics

Lead has not been quoted in the London market since September, 1939, when the London Metal Exchange was closed and the Ministry of Supply fixed the price for consumers.

According to the census of manufactures, 1939, for primary smelting and refining of lead, compared with 1937, there was a striking decrease in number of establishments, salaried personnel, and salaries; wage earners and wages; cost of materials and energy; value of products, and value added by manufacture.

Estimates of production in 1940 by the Bureau of Mines totaled 458,000 tons of refined lead from domestic ores, compared with 420,967 tons in 1939. The output of lead smelted and refined from foreign ore and bullion was about 77,000 tons, compared with 63,068 tons in 1939. Total primary lead smelted or refined in the United States in 1940 was thus 535,000 tons, an increase of 11 per cent over 1939. The new supply of lead made available for consumption in 1940 is calculated at about 655,000 tons, an increase of 58 per cent over that of 1939.

See MISSOURI.

H. C. PARMELEE.

**LEAGUE OF NATIONS.** The normal diplomatic work of the League of Nations was almost completely interrupted by the war during 1940 though its technical activities continued to a considerable extent. The wide-spread system of conference, negotiation, and co-operation built up since the first World War could not function in a world in flames. The spread of violence had led to the occupation by Germany of seven Member States, Poland, Holland, Belgium, Luxemburg, Denmark, Norway, and France, the absorption by Russia of three other Member States, Lithuania, Latvia, and Estonia, the mutilation of two others, Finland and Rumania, the fighting of a desperate war by the British Empire Members and Greece, and the threat of war to many others. By the end of the year, meetings had become almost impossible; the seat of the League at Geneva was largely cut off; and the seats of two associated agencies, the World

Court (q.v.) at The Hague and the Institute of Intellectual Co-operation at Paris, had been occupied. All this led to serious reductions in membership, budget, and staff, and a change in the Secretary-Generalship. Despite this, however, the League remained in being and in full constitutional emergency operation; a reduced staff continued on duty in Geneva; and a group of economic and financial and several opium officials were transferred to Princeton and Washington respectively in response to warm American invitations. Similarly some 60 officials of the International Labor Office (q.v.) were transferred to Montreal and the officers of the World Court to Switzerland.

Barely half a dozen meetings were held in 1940. Early in February the Experts' Committee on Economic, Financial, and Social Questions met at The Hague to give new and promising form to the League's technical and non-political work. In May the Opium Advisory Committee, Central Board, and Supervisory Committee met in Geneva to consider the world drug situation. In February and October the Supervisory Commission met at The Hague and Lisbon respectively, to take the steps necessary for the League's administration in war-time and to fix the budget for 1941 at 10,659,711 Swiss francs, one-third the pre-war figure. The Fiscal Committee also held two sessions, one of them of experts from the States of the Americas in Mexico City. For the first time in 20 years no meeting was held of either Assembly or Council.

The membership of the League continued to feel the effects of the world crisis. On July 11 Rumania notified her withdrawal; on June 1 and July 11 Chile and Venezuela respectively completed theirs. Lithuania, Latvia, and Estonia had been taken over by Russia, herself expelled from the League in December, 1939, on account of the Finnish invasion.

The permanent staff in the Secretariat was also vitally affected. Mobilization, suspension of meetings, and reduced funds led to progressive reductions totalling 599 officials out of around 700 within a year. On July 25, M. Joseph Avenol, Secretary-General for the previous seven years, submitted his resignation, which was accepted as of August 31 by Mr. Costa du Rels of Bolivia, Acting President of the Council, and Mr. Carl J. Hambro of Norway, Acting President of the Assembly. Mr. Sean Lester succeeded as Acting Secretary-General, after years of service as Irish Free State Delegate in Geneva, League High Commissioner in Danzig, and Deputy Secretary-General.

Parts of the technical staff were sent on missions to the United States. On June 1 a nation-wide committee of eminent Americans had been formed under the chairmanship of President-Emeritus Mary E. Woolley of Mt. Holyoke "to help preserve the non-political activities of the League . . . which must go on, even in time of war, if the extremity of human suffering is to be averted." President Roosevelt greeted the committee warmly, pointing out that "it has been the continuous policy of this government for many years to co-operate in the world-wide technical and humanitarian activities of the League," which he described as "not only worthy but definitely essential."

On June 11, three educational institutions—Princeton University, the Institute of Advanced Study (q.v.), and the Rockefeller Institute for Medical Research—anxious that the work of the Economic and Financial Section be not interrupted or its personnel dispersed in the war, invited the

Section to Princeton "for such period as may prove to be desirable." The group of experts arrived in the summer and by the year's end were actively engaged in maintaining the League's economic and financial service, continuing certain special studies, and preparing for the postwar situation. Shortly after, several other officials associated with the League's highly successful anti-drug work arrived in Washington.

The scientific and analytical publications continued to appear, despite the war. Particularly in the economic and financial field with the issue of the *Monthly Bulletin of Statistics*, *Monetary Review*, *Statistical Year-Book*, and a special volume on *Raw Materials*. The Epidemiological reports were issued as usual, as also the *Armaments Year-Book*, which has appeared regularly for many years.

For Opium Advisory Committee, see NARCOTIC DRUG CONTROL. See INTERNATIONAL LABOR ORGANIZATION.

ARTHUR SWEETSER.

**LEATHER.** The movement of hides and skins was considerably curtailed in international trade during 1940. Leather is a critical material that is essential in national defense. Studies on the use of leather in modern warfare show that more than 500 articles of military equipment are made entirely or partly of leather. Many nations involved in war in 1940 reported difficulty in getting the heavy leathers necessary for army usage, and many nations at peace could not afford to import leather or relied on domestic supplies. Export of heavy hides from Argentina to Europe was restricted by the blockade, but, to the United States, was not reduced in spite of increased shipping costs.

While prices in United States leather markets opened the year in a steady position at sound price levels, the markets dropped precipitously late in May when the world situation caused widespread pessimism. Demand for leather and shoes lagged, inventories were cut, and cautious policies were the rule among manufacturers and retailers. Late in August, price trends and activity in the leather markets advanced sharply. Domestic hide prices advanced, and by December were 4 to 5 cents higher than those prevailing during the summer. An even sharper advance occurred in the Argentina market, with steers quoting at 14.7 cents in December, 1940, a rise from 8 cents in August. Argentina hides have not glutted United States markets as the European blockade has curtailed the killing of Argentine cattle—leather being a by-product of beef cattle. American imports of calf and kid skins from Europe have been largely cut off; goat, kid, and reptile skins from China and India, curtailed; and sheep and lamb skins from New Zealand, restricted. An increased amount of sheep, calf, kid, and lamb skins has been coming to the United States from Latin America, but most of it is not top-grade. United States imports during 1940 were valued at \$50,188,383 (\$47,056,066 in 1939). United States production of hides was slightly over the 25 million cattle hides tanned in 1939 and prices closed a cent to a cent and a half below the January, 1940, price of 15 cents per square foot.

The armament programs stimulated the demand for leather, both directly because of increased government orders and indirectly because of increased consumer requirements. Increased demand for footwear may not result in a proportionate increase in the demand for leather if substitutes are used.

Blockades may force some European countries to develop substitutes, higher leather prices may encourage others. In the United States every 5,000,000 pairs of army service shoes require a million hides of the best selection available. Large government orders of army shoes in the last few months of 1940 shortened the supply and increased the price of army shoe leathers. Reports are that leather prices in 1941 will probably level off slightly above present prices, but the industry is well able to provide the 20 to 25 million hides necessary for civilian usage plus approximately 2 million hides needed for the defense program.

Technological developments of the year include additional flexibility in heavier weight leathers and increased durability in lighter weights; new grains for calfskin, better grain finishes in kidskin, and a more flexible and "less crackable" patent leather. But the greatest strides have probably been made in color—"faster," more varied, richer, more even colors in leather are being developed.

See SHOE INDUSTRY.

JOHN F. W. ANDERSON.

**LEBANON, Republic of.** See SYRIA AND LEBANON.

**LEEWARD ISLANDS, British.** A British West Indian federation consisting of the four presidencies shown in the accompanying table.

Presidency (Capital)	Sq mi	Population*
Antigua (St. John) . . . . .	171	35,123
Barbuda and Redonda . . . . .	63	1,000
Montserrat (Plymouth) . . . . .	32½	13,670
St. Kitts-Nevis (Basseterre) . . . . .	152	37,569
Nevis . . . . .	50	13,966
Anguilla . . . . .	34	5,717
Virgin Islands* (Road Town) . . . . .	67	6,364
Leeward Islands (St. John) . . . . .	422½	92,726

\* Estimate of December 31, 1938. \* Includes Sombbrero.

The approximate populations of the principal towns on Dec. 31, 1938, were as follows: St. John, 10,000; Basseterre, 8000; Plymouth, 2000; Charles-town, 1200; Road Town, 400.

**Production and Trade.** Chief products: sugar, limes, oranges, lemons, grapefruit, bananas, cocoa, and tomatoes. Trade (1938): imports, £733,645; exports, £576,886 (sugar, £376,348; cotton, £81,723; limes and lime products, £26,678; molasses, £16,955). Shipping entered and cleared the ports in 1938 totaled 6,478,040 tons. The foregoing figures of trade include those of Dominica which was transferred from the Leeward Islands to the Windward Islands on Jan. 1, 1940.

**Government.** Finance, including Dominica (1938): revenue, £337,547; expenditure, £331,891; public debt (net), £304,751. There is one governor, an executive council, and a general legislative council for the whole colony. Antigua, Montserrat, and St. Kitts-Nevis have their own local executive and legislative councils; the Virgin Islands has a local executive council. Governor and Commander-in-Chief, Sir G. J. Lethem (appointed December, 1935). See ANTIGUA, BRITISH WEST INDIES.

**LEGISLATION.** See UNITED STATES; the articles on the States and foreign countries; LABOR LEGISLATION; TAXATION, ETC.

**LEOPOLD III.** See BELGIUM under History.

**LEPROSY.** See BIOLOGICAL CHEMISTRY.

**LEWIS, JOHN L.** See CONGRESS OF INDUSTRIAL ORGANIZATIONS; ELECTIONS, U.S. NATIONAL; LABOR CONDITIONS under Union Movements.

**LIAONING.** See *CHINA* under *Area and Population*.

**LIBERIA.** A Negro republic on the west coast of Africa. Area, about 43,000 square miles; population, estimated at from 1,000,000 to 2,500,000. Only about 60,000, including some 12,000 Afro-Americans, residing mainly along the coast, may be considered civilized. There were about 289 American citizens in Liberia on Jan. 1, 1940. Capital, Monrovia (pop. about 10,000). English is the official language. Afro-Americans are Protestant Christians. The indigenous tribes are mainly pagans or Mohammedans, with some Christian converts. There are two colleges at Monrovia (one government and one Methodist), a vocational school at Kakata, and 70 government and 80 mission grade schools, with about 10,000 pupils.

**Production.** Rubber, produced on the Firestone Company's 1,000,000-acre concession, is the chief export crop. Output in 1939, about 4750 long tons from 67,000 acres. Native coffee, cacao, cotton, piassava fiber, palm oil and kernels, kola nuts, rice, oil seeds, iron, copper, and gold are produced in small quantities. There are rich undeveloped forest, mineral, and agricultural resources.

**Foreign Trade.** Merchandise imports in 1939 totaled 2,003,000 Liberian dollars; exports, \$2,714,000. Trade is mainly with the United States and United Kingdom. The chief exports are rubber, palm kernels, piassava, and coffee; chief imports, textiles, metal goods, machinery, chemicals, and petroleum products.

**Finance.** Estimated budget receipts and expenditures for the calendar year 1940 balanced at 675,000 Liberian dollars, with operating expenses put at \$525,000 and amortization of the American loan at \$150,200. For the year ended Sept. 30, 1939, revenue, including the balance carried forward, was \$1,069,701; expenditures, \$1,081,142. Public debt on Sept. 30, 1939: \$1,793,936 (funded, \$1,512,000; unfunded, \$281,936). The Liberian dollar (\$) was pegged at \$4.80 to the pound sterling.

**Communications.** There are no railways; 234 miles of roads (1940), with one bus line from Monrovia to the interior; a number of navigable rivers; and air connections at Monrovia to Dakar, Senegal, and Pointe-Noire, French Equatorial Africa. During 1939, 536 ships of 1,390,535 registered tons entered Liberian ports.

**Government.** The Constitution is modeled on that of the United States. Suffrage is restricted to Negroes owning land. The True Whig party, dominated by a small oligarchy of Afro-American families at Monrovia, has controlled all branches of the government since 1878. President in 1940, Edwin Barclay, inaugurated Jan. 6, 1936, for an eight-year term.

**History.** Carrying out its budget-balancing policy, the government reduced all appropriations except those for the war department in the 1940 budget. All salaries over \$1300 per annum were reduced from 10 to 20 per cent. To permit continuance of the road construction program, designed to open up remote sections of the interior for the first time, the corvée labor system was resumed. It had been abandoned following charges of slavery and forced labor lodged against the Liberian Government by an international commission and by the U.S. State Department in 1931 (see *YEAR BOOK*, 1931, p. 463). In January the government leased 200 acres of land on the Farmington River for construction and operation of a hydro-

electric plant by the Firestone Company, the lease running for 86 years. Power from the plant was to be used in processing latex and for the company's plantation transportation system. The U.S. Senate on Nov. 26, 1940, ratified the conciliation treaty signed with Liberia on Aug. 21, 1939.

**LIBRARY PROGRESS.** In a year which witnessed the destruction of political and intellectual freedom in Europe, librarians with others in educational fields turned their thoughts to the defense of freedom in America and library implications of the national emergency, while at the same time not neglecting regular library activities and long-time goals. In numerous ways librarians, believing that it is more important now than ever before to make democracy work as well as to overcome the habit of taking inherited rights and privileges for granted, have given impetus and assistance to library activity to increase the general understanding and appreciation of democracy. After discussions with representatives of the Advisory Commission to the Council of National Defense and other officials, a committee was created by the Library of Congress, the Library Service Division of the United States Office of Education, the American Library Association, and the Special Libraries Association to make a survey of the research resources of libraries on subjects directly related to national defense.

A study of statistics for libraries in cities of 25,000 to 70,000 population from 1929 to 1939, termed "the most turbulent decade of our history," showed that the highest library expenditure per capita in 1929 was \$1.66, as compared with \$1.44 for 1939, and the lowest was 42 cents in 1929, compared with 46 cents for 1939. Of the libraries included, all but six report a larger operating expense in 1939 than 1929, and all but four report an increase in the total amount expended for salaries of the library staff. Circulation figures indicate an even greater increase. One library reports a circulation in 1939 over three times as large as that for 1929. Others show gains of lesser volume, but all indicate a substantial increase in the use of public library resources. Complete statistics for United States libraries were published during the year in the *A.L.A. Bulletin*: For high school, college, teachers college, and university libraries (February) and for public libraries (April). For additional library statistics see 1939 *YEAR BOOK*, *Library Progress*, which gives the latest compilations available.

After exploratory visits to Washington by its representatives, the A.L.A. Federal Relations Committee was forced to conclude, as were the officers of the National Education Association, that no progress could be made on the Harrison-Thomas bill (see 1939 *YEAR BOOK*, *Library Progress*) for federal aid to education and libraries in the 1940 congressional session due to economy measures. The outlook for the future is still thought to be encouraging.

Due to the establishment of some 150 large regional and county libraries during the past two years public library service has greatly increased. This number is significant compared to only 300 such units established during the 38 preceding years. Present-day organized citizen support of programs for complete, state-wide library service with local, State, and Federal funds, promise much for the future. There are more than 30,000 members of public library boards in the United States and Canada, most of whom are enthusiastic proponents of the library idea. Fourteen States now

have State library trustee organizations. There are 150 Friends of the Library groups in 38 States, District of Columbia, Hawaii, and three Canadian provinces. In many citizen organizations such as the General Federation of Women's Clubs, the National Congress of Parents and Teachers, and the American Legion Auxiliary, library improvement is a part of the regular program. There are numerous other groups which give important, if not continuous, support to libraries. Definite library recommendations were also made at the White House Conference on Children in Democracy held in Washington, D.C. in January.

**State Aid.** During the year the movement in behalf of State aid for libraries continued to progress with the following results: Arkansas, Louisiana, Ohio, Pennsylvania, and Vermont made or renewed appropriations ranging from \$25,000 to \$200,760 a biennium. New Hampshire received the continuation of funds for one regional book automobile service, which was begun on an experimental basis. Michigan continued work begun under a \$500,000 grant which was repealed in 1939. Provincial grants in British Columbia were increased in 1939 from \$1000 to \$5000, and Nova Scotia provided \$1 for every \$3 appropriated by local agencies for regional libraries. Legislative action toward providing or strengthening official State leadership was taken in Alabama, Florida, Idaho, Kentucky, Mississippi, Pennsylvania, South Dakota, Texas, Alaska, and Nova Scotia. Several States, including Colorado, Kansas, New Mexico, and Tennessee, have organized campaigns under way and others were planned for legislative action in 1941 when 43 State legislatures will be in session. During the past year, 49 counties in 16 States were added to the list of 451 counties appropriating at least \$1000 for rural service. This is slow but definite progress compared to the total of more than 3000 counties in the United States. Georgia, Tennessee, and Virginia appropriated amounts from \$60,000 to \$150,000 (proportionate amounts to be raised locally) for the purchase of school library books during the biennium.

**Special Services and Activities.** Many libraries are using or experimenting with some of the new developments of audio-visual materials and scientific aids to learning—as dioramas, slides, film slides, theatrical slides, documentary films, microfilms, radio transcriptions, talking books, radio-visual devices, and facsimile broadcasting. A film, emphasizing the social value of the library, is also being produced by the American Film Center with the co-operation of an A.L.A. committee.

A list of some 50 studies and surveys were noted during the year by the A.L.A. in a list of "Studies and Experiments Outside the Library Field Which Have Implications for Libraries." Surveys were made of the University of Florida Library, University of Indiana Library, Texas State Library, and of library personnel and training agencies in Michigan and Tennessee.

There are many examples of special library services during the present emergency. Eastern libraries have given pleasure and aid to European refugee children through books which assist in adjusting them to new situations and environments. Canadian libraries, especially, are assisting with the gathering of books and magazines for those in war service, with the establishing of special rooms for service men, and with the aiding of refugee and patriotic services. Several Eastern libraries joined in compiling a list and furnishing the books

for the use of the Western Hemisphere Encampment of Girl Scouts, attended by scouts from Canada, Newfoundland, the United States, Central and South America. Libraries also aided The American Merchant Marine Library Association in the collecting of books and magazines for the recreation and education of seamen, coastguardsmen, and lighthouse keepers. The collecting of books for replenishment of libraries which were destroyed in the war areas of China was continued by libraries.

With the world-wide celebration during the year of the 500th anniversary of Gutenberg's invention of movable type, libraries throughout the country illustrated historical, literary, and mechanical aspects of printing, displayed special book collections and rare treasures, held meetings and lectures, and gave radio broadcasts.

**Adult Education.** The A.L.A. Adult Education Board has begun studies and research regarding a broader and better implemented concept of adult education in respect to: The qualitative value of the library's educational services to users; application of psychology to certain problems of service; new emphasis on the educational function of libraries in the curricula of library schools and in "in-service" training programs; simpler reading materials, audio-visual materials, particularly educational films; and the library as a community center for many kinds of informal education. The Board sponsored the publication of several articles in professional periodicals, books, and pamphlets, among which were *Books for Adults*, *Experiments in Educational Service for Adults*, and *Education for the Asking*.

**Library Training and Personnel.** An increasing number of library schools, libraries, State library extension agencies, and groups of librarians held "in-service" training institutes, conferences, and clinics. This was due in part to the mounting demand for opportunities of improving the professional competence of librarians already in service. Since 1935 the program of the A.L.A. Board of Education for Librarianship has been materially aided by the Carnegie Corporation of New York. Most of the grants have been made for special work, studies, surveys, publications, and conferences now completed. During the year the A.L.A. Committee on Fellowships and Scholarships awarded six grants-in-aid for advanced study in librarianship from a fund allocated to it by the Corporation. Striving to increase the opportunities for preparation for library service, the Board secured permission to include a number of organizations in a revised list of fellowships, scholarships, grants-in-aid, and loan funds open to librarians and prospective librarians. Twenty-four educational foundations or associations, or agencies administering grants-in-aid; 15 local library clubs or State library associations and 15 accredited library schools or their alumni organizations are included. During the year, the A.L.A. Board on Salaries, Staff, and Tenure and its sub-committees worked on several projects. One of these—the preparation of a model scheme of service—was completed, and another—classification and pay plans for institutions of higher education—has received considerable attention jointly from the Board and its sub-committee on Budgets, Compensation, and Schemes of Service, which was appointed by the Association of College and Reference Libraries.

**Gifts, Grants, and Buildings.** Many gifts and grants from individuals and foundations, which

were received during the year, have materially aided libraries and their services. Material for research will be made available as a result of Rockefeller Foundation grants to Brown University, Providence, Rhode Island and the New York Public Library for modern facilities for microfilm copying. The Foundation is subsidizing the filming of 35 foreign newspapers currently received at Harvard University. The recently opened Hispanic Foundation at the Library of Congress was the recipient of a grant to aid in the preparation of a catalogue and the development of bibliographical services. An appropriation of \$30,000 was also made to the American Library Association by the Foundation for studies covering the general fields of relations with Latin American countries.

In 1940-41 the Carnegie Corporation of New York completes its three-year grants to a number of Teachers College libraries for the development of their book collections. Grants for special projects were also made by the Corporation to the American Library Association, the Library of Congress, and several other libraries, and a grant of \$17,000 was provided to care for Emergency Library Activities dealing with National Defense. An endowment grant of \$100,000 was also made to Emory University Library School.

During the year gifts of unusually valuable private book collections were made. The W. T. H. Howe collection of over 3000 rare books of English and American literature was presented to the New York Public Library by Dr. Albert A. Berg. Harvard University received from the heirs of the late William Augustus White an important collection of rare books, and from Philip Hofer a collection of illustrated or finely printed books dating from the 15th to the 20th century. The late Governor, Henry Horner of Illinois, gave his Lincoln library to the Illinois State Historical Library. The College of the City of New York received from the widow of Prof. Israel Davidson 7500 volumes of Hebrew medieval literature, regarded as the finest existing collection in that field. The Wagner College Library has received the library of the poet, Edwin Markham. Dr. Archibald Henderson's collection of materials dealing with the life and works of George Bernard Shaw is to go to the University of North Carolina Library.

Among the gifts received for library buildings were a \$250,000 bequest from the will of the late Mrs. Norman Mayer to the City of New Orleans for a public library; \$150,000 anonymous gift to Davidson College; \$150,000 for a memorial library for Manhattanville College of the Sacred Heart from the late Mrs. Brady-Macallay; a trust fund of approximately \$125,000 for a new branch library and an additional sum of at least \$50,000 to the Denver Public Library from the late Frederick R. Ross.

Libraries in all parts of the country were presented with gifts and bequests of money for the purchase of books and other purposes. Among those receiving large gifts were Marshfield, Wisconsin, Public Library; Shelton, Washington, Public Library; Houston, Texas, Public Library; Harvard University; Monticello College; John Carter Brown Library, Brown University; George Washington University.

The construction and repair of libraries and additions to buildings were numerous. The Central Building of the Brooklyn Public Library, begun in 1912 and rebuilt in 1938-39 at a total cost of

about \$5,000,000, is now in use; the \$2,000,000 Toledo Public Library, constructed with the aid of the Public Works Administration, was opened to the public in the fall of 1940; and a 16-story building has been constructed with PWA aid for Hunter College in New York City, two floors of which house the library with facilities for 325,000 books and 1600 readers.

During the year work was begun on three large libraries—the District of Columbia Public Library, of which the first unit will cost approximately \$1,000,000; the Virginia State Library at Richmond, which will cost nearly \$2,000,000, and the \$800,000 building for the Joint University Libraries (Vanderbilt, Peabody, and Scarritt) at Nashville, Tennessee.

Under construction is a \$500,000 building in New Orleans to house the libraries of Tulane University, Newcomb College, and Howard Memorial Library, which have been merged under one director.

Among the libraries completed in the fall of 1939 and in 1940 are Rockford College Library, Rockford, Illinois; Southwestern Louisiana Institute Library, Lafayette; Northeast Center, Louisiana State University, Monroe; Skidmore College, Saratoga Springs, New York; University of Wichita Library, Wichita, Kansas; Montana School of Mines Library, Butte; Concord, New Hampshire, Public Library; Kirkwood and University City, Missouri, Public libraries; Toms River, New Jersey, Public Library; Twin Falls, Idaho, Public Library; Palo Alto, California, Children's Library; Newtonville Branch Library, Newton, Massachusetts; Park Place Branch Library, Houston, Texas; Southwestern Branch Library, Washington, D.C.; a wing of the Thomas Jefferson Memorial Junior High School; the rebuilding and furnishing of the second floor of the Reis Library, Allegheny College, which houses several fine collections, the latest gift being Ida M. Tarbell's Lincoln collection; and the addition of the David A. Howe Reference Halls to the James V. Brown Library, Williamsport, Pa.

Publications. The A.L.A. publishes the following professional periodicals: *The A.L.A. Bulletin*, a monthly which includes news issues, annual reports, conference proceedings, and the yearly handbook; the *Booklist*, a semi-monthly guide to the selection and purchase of current books; the *Subscription Books Bulletin*, a quarterly which presents critical estimates of subscription books and sets sold currently by canvassing agents; the *Journal of Documentary Reproduction*, a quarterly review of the application of photography and allied techniques to library, museum, and archival service; the new quarterly journal, *College and Research Libraries*, the official organ of the Association of College and Reference Libraries; and the new *Hospital Book Guide*, a quarterly sponsored jointly by the American Hospital Association and the American Library Association.

Among the various books and pamphlets published by the A.L.A. during the year for libraries and in the interest of library progress and education generally are: Adams' *The Junior College Library Program*; a *Study of Library Services in Relation to Instructional Procedures, Catalogers and Classifiers Yearbook, No. 8*, McDiarmid's *The Library Survey*, Rue's *Subject Index to Books for Intermediate Grades*, *Subject Index to Children's Plays*, Horton's *Buying List of Books for Small Libraries*, 6th ed., *Replacement List of Pic-*

tion, *Books for Tired Eyes*, 3d ed., *Booklist Books*, 1939, *Books for Adult Beginners*, Branscomb's *Teaching with Books* (published jointly with the Association of American Colleges), Shaw's *List of Books for College Libraries*, 1931-38, *Manual on the Use of State Publications, Archives and Libraries* 1940, *Floor and Floor Coverings*, Swain's *Notes Used on Catalog Cards*, and Eastman's *Portrait of a Librarian*, William Howard Brett, 4th in the series on *American Library Pioneers*.

Among the pamphlets and book lists published by the A.L.A. to assist libraries in meeting the needs of students and schools participating in the government training program for defense occupations are: *Industrial Training for National Defense*, *Aeronautic Training for National Defense*, *Engineering Defense Training*, *Elementary Books for Industrial Training*, *Our American Democracy*, and *Democracy: a Reading List*.

Additional 1940 publications in the library field, other than those issued by the A.L.A., include: Thomas R. Adam, *The Worker's Road to Learning* (American Association for Adult Education); Anne Thaxter Eaton, *Reading With Children* (Viking Press); Carleton Bruns Joeckel and Leon Carnovsky, *A Metropolitan Library in Action; a Survey of the Chicago Public Library* (Univ. of Chicago Press); Frank Kingdon, *John Cotton Dana* (Newark, N.J., The Public Library and Museum); Elbert Enrow, *Reader's Guide to Prose Fiction* (Appleton-Century); Louis R. Wilson, *The Practice of Book Selection* (Univ. of Chicago Press); Paul Lazarsfeld, *Radio and the Printed Page* (Duell).

See EDUCATION, U.S. OFFICE OF; PHOTOGRAPHY under *Microphotography*. For statistics on college and university libraries, see table of UNIVERSITIES AND COLLEGES.

MILDRED OTHMER PETERSON.

**LIBYA.** An Italian colony in North Africa. Area, 679,358 square miles; population (Jan. 1, 1939), 888,401, including 793,225 natives (763,179 Moslems and 30,046 Jews), 89,098 Italians, and 6078 other Europeans. Chief towns (with Jan. 1, 1939, populations): Tripoli (108,240), Bengasi (64,641), Misurata (45,097), Homs (34,940), and Derna (21,547). Ghadames, Sinauen, Mizda, Murzuk, and Ghat are important caravan stations in the interior. Capital, Tripoli.

**Production and Trade.** Chief products: Barley, dates, olives, oranges, lemons, almonds, vegetables, salt, sponges, fish, and tobacco. Livestock (1938): 820,323 sheep, 726,006 goats, 69,670 cattle, 91,782 camels, 55,676 donkeys, mules, and horses. Trade (1938): Imports, 882,057,532 lire; exports, 108,961,545 lire (lira averaged \$0.0526 for 1938; \$0.0520 for 1939). During 1938, 5545 ships entered Libyan ports, landing 696,890 tons of freight and 127,458 passengers.

**Government.** Budget estimates (1939-40): Revenue and expenditure balanced at 600,115,000 lire. The colony consists of four provinces (Tripoli, Misurata, Bengasi, and Derna) and the military territory in the south with the capital at Hun, having jurisdiction over the regions in the southern part of the four provinces. On Jan. 9, 1939, by a decree, the four provinces were incorporated in the national territory of Italy; the territory of Libyan Sahara was not included in the decree. Governor General, Marshal Rodolfo Graziani (appointed on July 6, 1940, to succeed Marshal Italo

Balbo who was killed in an airplane accident during June, 1940).

**History.** Following Italy's entrance into the European War on June 10, 1940, Libya became the base of the attempted Italian invasion of Egypt. Many of the Libyan cities and ports were devastated by British naval and air attacks, particularly during the successful Allied offensive in December which drove the Italians back upon their base at Tobruk. See EUROPEAN WAR; ITALY under *History*.

**LIECHTENSTEIN.** An independent principality. Area, 65 square miles; population (1938 estimate), 12,000. Capital, Vaduz. Corn, wine, fruit, wood, marble are the chief products. Main industries: Cotton spinning and weaving, leather goods, pottery, and livestock raising. Liechtenstein belongs to the Swiss Customs Union; Swiss currency is used. Budget estimates (1940): Balanced at 2,500,000 francs. Public debt (Dec. 31, 1939): 5,600,000 francs (franc averaged \$0.2253 for 1939). Reigning Prince, Francis Joseph II (succeeded Aug. 25, 1938); Administrator, Dr. Joseph Hoop (appointed Aug. 4, 1928).

**LIE DETECTORS.** See COURTS under *Admissibility*.

**LIFE SAVING.** See COAST GUARD, U.S.; RED CROSS.

**LIGHTHOUSES.** See COAST GUARD, U.S.

**LIGHTING.** See ELECTRICAL ILLUMINATION.

**LIPPE.** See GERMANY under *Area and Population*.

**LIQUOR PRODUCTION.** See ALCOHOLIC LIQUORS.

**LITERATURE, English and American.** Book production in the United States increased during 1940 to a total of 11,328 titles, as compared with 10,640 in 1939, both figures including new editions. New books numbered 9515 in 1940, 9015 in 1939. The increase was well distributed among the classifications, with notable increases occurring in Technical Books, in Religion, and in Poetry and Drama. History showed a marked increase in new books, oddly accompanied by a decrease in new editions. Fiction still leads all classifications, and showed an increase in 1940, reversing a recent trend.

Book production in England was maintained surprisingly well, though distribution was greatly hampered. Bookbuying in the cities decreased, but was made up for by increased buying in the provinces. Cheap reprints and new books sold well, as did books on politics and war.

**Biography.** The autobiographies were unusual in number and interest, as: Hans Zinsser's *As I Remember Him*; John Buchan's *Pilgrim's Way*; Abraham Flexner's *I Remember*; vol. ii of Nicholas Murray Butler's *Across the Busy Years*; *Hugh Young*; H. L. Mencken's *Happy Days*; Benjamin Gitlow's *I Confess*, as an ex-communist; George B. Gilbert's *Forty Years a Country Preacher*; Katherine Brush's *This Is on Me*; Ely Culbertson's *The Strange Lives of One Man*; W. E. B. Du Bois' *Dusk of Dawn*; Wanda Gag's *Growing Pains*; E. F. Benson's *Final Edition*; Langston Hughes' *The Big Sea*; Ernest Poole's *The Bridge: My Own Story*; Guy Pène du Bois' *Artists Say the Silliest Things*.

Biographies of literary figures included: *Shelley*, by Newman Ivey White; *Trelawney*, by Margaret Armstrong; *Horace Walpole*, by R. W. Ketton-Cremer; *Christopher Marlowe*, by F. S. Boas; *Margaret Fuller*, by Mason Wade; *James*



*Joyce*, by Herbert Gorman; *The Spanish Adventures of Washington Irving*, by Claude G. Bowers; *Elbert Hubbard*, by David Arnold Balch; *Roger Fry*, by Virginia Woolf; *Jonathan Edwards*, by Ola Elizabeth Winslow; *Here Lies Richard Brinsley Sheridan*, by Kenelm Foss; *Period Piece*, about Ella Wheeler Wilcox, by Jenny Ballou; *Testament of Friendship*, about Winifred Holtby, by Vera Brittain; *Letters to Mary*, about Helen Hayes, by Catherine Hayes Brown; *Romantic Rebel*, about George Sand, by Felizia Seyd; *Aretino*, by Thomas Caldecott Chubb.

About political figures were: *Calvin Coolidge*, by Claude M. Fuess; *Benjamin N. Cardozo*, by George S. Hellman; *Ethan Allen*, by Stewart H. Holbrook; *A Spanish Tudor* (Mary I), by Edward B. Hitchcock; *George Villiers*, by Hugh Ross Williamson; *Archbishop Laud*, by H. R. Trevor-Roper; *John Pym*, by S. Reed Brett; *The Stranger in the House* (George IV's wife), by Howard Coxe; *Allenby*, by Gen. Sir Archibald Wavell; *Grand Inquisitor* (Cardinal Ximenez), by Walter Starkie; *Stalin*, by Eugene Lyons; *Masaryk*, by Paul Selver; *I Built a Temple for Peace*, about Beneš, by Edward B. Hitchcock; *A Man Named Grant*, by Helen Todd.

Other biographies were: Allan Nevins' *John D. Rockefeller*; Willard Connelly's *The Reign of Beau Brummell*; Parker Morell's *Lillian Russell*. See Music under Bibliography.

**Criticism and the History of Literature.** Historical works included: Van Wyck Brooks' *New England: Indian Summer*; Basil Willey's *The Eighteenth Century Background*; Frances Winwar's *Oscar Wilde and the Yellow Nineties*; E. Allison Peers' *A History of the Romantic Movement in Spain*; Oliver Gramling's *AP: the Story of News*.

Among general works: *How to Read a Book*, by Mortimer J. Adler; *What is Literature?* by Charles du Bos; *Of Sacred and Profane Love*, by Sacheverell Sitwell; *The Arts and the Art of Criticism*, by Theodore Meyer Greene; *Pleasures and Speculations*, by Walter de la Mare; *Essays and Addresses*, by Herbert Grierson.

About poetry: Arthur H. Nethercot's *The Road to Tryermaine* (Coleridge's *Christabel*); *Letters on Poetry from W. B. Yeats to Dorothy Wellesley*; Robert Lathrop Sharp's *From Donne to Dryden*; C. B. Tinker and H. F. Lowry's *The Poetry of Matthew Arnold*; B. Ifor Evans' *Tradition and Romanticism*.

About drama: Hazelton Spencer's *The Art and Life of William Shakespeare*; Gilbert Murray's *Aeschylus*; Maurice Colbourne's *The Real Bernard Shaw*; John Mason Brown's *Broadway in Review*; Douglas Gilbert's *American Vaudeville*.

About fiction: Carl van Doren's *The American Novel*; Ernest J. Simmons' *Dostoevski*.

**Drama.** Robert E. Sherwood's powerful *There Shall Be No Night* and Clare Boothe's who-dun-it? *Margin for Error* were anti-Nazi. The American Robert Ardrey's *Thunder Rock* was a sensation in England. Maxwell Anderson's *Eleven Verse Plays* covered 11 years' work. He also published *Journey to Jerusalem. Three Plays*, by William Saroyan, included *My Heart's in the Highlands*, *The Time of Your Life*, and *Love's Old Sweet Song*. Sean O'Casey published the anti-bourgeois *The Star Turns Red* and a comedy, *Purple Dust*. Others were: Howard Lindsay and Russel Crouse's *Life with Father* from the books by Clarence Day; James Thurber and Elliott Nu-

gent's *The Male Animal*; Elmer Rice's *Two on an Island*; Clifford Odets' *Night Music*; James Bridie's *Susannah and the Elders and Other Plays*. See also article on DRAMA.

**Economics.** Thurman W. Arnold's *The Bottlenecks of Business* advocated trust-busting. *A Program for Progress*, by John Strachey, told how to solve unemployment. Harry Scherman advocated return to the gold standard in *The Real Danger in Our Gold*. Stuart Chase's *Idle Money—Idle Men* showed need of balancing investment and savings. John Maynard Keynes told *How to Pay for the War*. Morris L. Ernst thought corporations *Too Big*. Robert Hunter's *Revolution: Why, How, When?* ascribed it to monetary causes. Henry Pratt Fairchild's *Economics for the Millions* was anti-capitalistic, while Carl Snyder thought *Capitalism the Creator*. A left-wing history was Louis M. Hacker's *The Triumph of American Capitalism*. Others included: Robert R. Brooks' *As Steel Goes . . .*, about labor developments; Elsbeth E. Freudenthal's *The Aviation Business*; Joseph Rosenfarb's *The National Labor Policy*; Elmer C. Bratt's *The Unbalanced World*.

**Essays.** Arising from war experience were: Janet Flanner's *An American in Paris*; Mollie Panter-Downes' *Letter from England*; E. M. Delafield's *The Provincial Lady in War Time*; Elmer Davis' *Not to Mention the War*. Mark Twain in *Eruption* was edited by Bernard de Voto, who also published *Minority Report*. Stuart Cloete's *Yesterday Is Dead* was largely political, as was Lancelot Hogben's *Dangerous Thoughts*. Harvey Cushing wrote about *The Medical Career*, and Harold J. Laski about *The Danger of Being a Gentleman*. T. E. Lawrence's last work was called *Oriental Assembly*. Alan Devoe's *Down to Earth* was nature studies.

**History.** In colonial and early American history appeared: Vol. iv, *Zones of International Friction 1748-1754*, of *The British Empire before the American Revolution*, by Lawrence Henry Gipson; *Competition for Empire 1740-1763*, by Walter L. Dorn; *Our Rising Empire 1763-1803*, by Arthur Burr Darling. Other works in American history included: *I Rode with Stonewall*, by Henry Kyd Douglas; *The New England Mind* (the 17th century), by Perry Miller; *Such Was Saratoga*, by Hugh Bradley; *Perish by the Sword*, about American fighting in Russia 1918-20, by R. Ernest Dupuy; *Entertaining a Nation*, about Long Branch, N.J., by Reynolds A. Sweetland and Joseph Sugarman, Jr.; *Since Yesterday*, about the 1930's, by Frederick Lewis Allen; *Torchbearer of the Revolution*, about Nathaniel Bacon, by Thomas Jefferson Wertenbaker; *The President Makers 1896-1919*, by Matthew Josephson; *The American Impact on Great Britain 1898-1914*, by Richard Heathcote Heindel; *The Course of American Democratic Thought*, since 1815, by Ralph Henry Gabriel; *The Delaware*, by Harry Emerson Wildes; *The Illinois*, by James Gray; *The Arkansas*, by Clyde Brion Davis; *The Bloody Mohawk*, by T. Wood Clarke; *The Wabash*, by William E. Wilson; the last five about rivers, and not least, *The Dictionary of American History*, in five volumes, of which James Truslow Adams was editor in chief, and R. V. Coleman the managing editor.

About non-American countries: James Truslow Adams' *Empire on the Seven Seas*, the British Empire since 1784; Agnes Mure Mackenzie's *The*



*Kingdom of Scotland*; Milton Waldman's *Some English Dictators*; D. W. Brogan's *France under the Republic 1870-1939*; Frank Herbert Brabant's *The Beginning of the Third Republic in France*; Frederick T. Birchall's *The Storm Breaks*, events between the wars; Stuart Ramsay Tompkins' *Russia through the Ages*; Hendrik Willem van Loon's *The Story of the Pacific*; J. F. C. Fuller's *Decisive Battles*; J. Hampden Jackson's *Finland*; Harold Lamb's *The March of the Barbarians*, about the Mongols; Alma Luise Olsen's *Scandinavia*; Sir Percy Sykes' *A History of Afghanistan*; Edmund Wilson's *To the Finland Station*, a history of Communism to the Russian Revolution.

**Juvenile.** Samples from the numberless juveniles were: Elizabeth Enright's *The Sea Is All Around*; Laura Ingalls Wilder's *The Long Winter*; Josephine Daskam Bacon's *The Door in the Closet*; Armine von Tempski's *Pamela's Paradise Ranch*; Elizabeth Janet Gray's *The Fair Adventure*; Noel Streatfield's thriller *The Secret of the Lodge*; Enys Tregarthen's *Piskey Folk*, Cornwall fairies; Dorothy Cottrell's *Wilderness Orphan*, a kangaroo; Isabel Proudfoot's *River Boy*, about Mark Twain; Douglas C. McMurtrie's *Wings for Words*; Mildred Cram's *Kingdom of Innocents*; Kathleen Coyle's *Brittany Summer*.

**Novels.** Ernest Hemingway's *For Whom the Bell Tolls* was about the Spanish Civil War, and sold extraordinarily, as did Jan Struther's *Mrs. Miniver*, much lighter stuff. Present and recent troubles made their mark on R. C. Hutchinson's *The Fire and the Wood*, about the Nazis; H. G. Wells' *Babes in the Darkling Wood*, us; Rose Macaulay's *And No Man's Wit*, again Spain; Storm Jameson's *Europe To Let*; Peter Fleming's *The Flying Visit*, of Hitler to England. Hendrik Willem van Loon described Nazi invasion of America, writing in 1960, in *Invasion*. Albert Halper advocated American isolationism in *Sons of the Fathers*.

The usual fine crop of historical novels included: Kenneth Roberts' *Oliver Wiswell*, a Tory in the American Revolution, which was also the time of Robert Graves' *Sergeant Lamb's America*; F. Van Wyck Mason's *Stars on the Sea*, and Inglis Fletcher's *Raleigh's Eden*. Willa Cather's *Sapphira and the Slave Girl* studied pre-Civil War society. Hugh Walpole's *The Bright Pavilions* told of the Herries family in Elizabeth's days. John Masefield's *Basilissa* was about the Empress Theodora. *The Power and the Glory*, by Phyllis Bentley, was about the English Civil War; *Quietly My Captain Waits*, by Evelyn Eaton, was about the French in Acadia, and Maurice Hindus' *Sons and Fathers* about the Russian Revolution.

*If It Prove Fair Weather*, by Isabel Patterson, and *The Voyage*, by Charles Morgan, dissected love. L. H. Myers' *The Pool of Vishnu* preached high ethics. Sinclair Lewis' *Bethel Merriday* was an actress. Charles Nordhoff and James Norman Hall's *No More Gas* described a Tahitian family. Pearl Buck's *Other Gods* showed the troubles of a "hero." Richard Wright's *Native Son* exposed a Negro murderer. Angela Thirkell's *Before Lunch* and Elizabeth's *Mr. Skeffington* were popular light novels. Ralph Bates' *The Fields of Paradise* were found in Mexico. C. S. Forester's *To the Indies* was based on Columbus' third voyage.

Fantasies included: T. H. White's *The Ill-Made Knight*, about Lancelot; Helen Simpson's *Maid No More*; Lord Dunsany's *The Story of Nora Sheehy*; Robert Nathan's *Portrait of Jenny*. Hu-

morous novels included *But Who Wakes the Bugler?* by Peter de Vries, and *Let the People Sing*, by J. B. Priestley. Regional works: *The Hamlet*, by William Faulkner, poor whites in Mississippi; Erskine Caldwell's *Trouble in July*, a Georgia lynching; Walter D. Edmonds' *Chad Hanna*, New York State; *Trees of Heaven*, by Jesse Stuart, Kentucky mountaineers.

Among notable first novels: Carson McCullers' *The Heart Is a Lonely Hunter*; Walter Van Tilburg Clark's *The Ox-Bow Incident*; Stephen Longstreet's *Decade*; Joy Davidman's *Anyia*. Also important were: *You Can't Go Home Again*, by Thomas Wolfe; *Love in the Sun*, by Leo Walmsley; *The Pilgrim Hawk*, by Glenway Wescott; Harlow Estes' prize *Hildreth*; Branch Cabell's *Hamlet Had an Uncle*; Upton Sinclair's *World's End*, the first Great War; William McFee's *Watch Below*, a tramp steamer; Dan Wickenden's *Walk Like a Mortal*, an adolescent boy.

**Poetry.** *The Collected Poems of A. E. Housman* included a few new things. Louis MacNeice published *Autumn Journal* and *The Last Ditch*, the latter among the English books showing the marks of the war, such as: *Kensington Gardens in Wartime*, by Humbert Wolfe; *The Sober War*, by G. Rostrevor Hamilton; *Lament and Triumph*, by George Barker, and the anonymous anthology *Fear No More*. Edna St. Vincent Millay's *Make Bright the Arrows* was also topical. T. S. Eliot despaired in *East Coker*, and Raymond E. F. Larsson bade the world *Weep and Prepare*. Noteworthy were: W. B. Yeats' *Last Poems*; Edith Sitwell's *Poems New and Old*; W. H. Auden's *Another Time*; Kimball Flaccus' *The White Stranger*; F. R. Higgins' *The Gap of Brightness*; Edward Davison's *Collected Poems 1917-1939*; William Rose Benét's *With Wings as Eagles*, about fliers; Alice Duer Miller's *The White Cliffs*; Robert Nathan's *A Winter Tide*; George Abbe's *Wait for These Things*; Eugene Jolas' *Planets and Angels*. Notable anthologies were John Hayward's *Love's Helicon* and Lord David Cecil's *Oxford Book of Christian Verse*.

**Politics.** The after-war world was frequently discussed, as in: W. Ifor Jennings' *A Federation for Western Europe*, including a constitution; Lord Davies' *A Federated Europe*; R. W. G. Mackay's *Federal Europe*; Leonard Woolf's *The War for Peace*, for revival of the League of Nations; Alfred Bingham's *The United States of Europe*. Charles A. Beard, in *A Foreign Policy for America*, and Anne Morrow Lindbergh, in *The Wave of the Future*, advocated isolationism for the United States, while Raymond Leslie Buell, in *Isolated America*, and John Chamberlain, in *The American Stakes*, opposed that policy. Presidential powers were discussed in Harold J. Laski's *The American Presidency*; Edward S. Corwin's *The President*, and Pendleton Herring's *Presidential Leadership*. Mr. Herring also published *Politics of Democracy*, similar in subject-matter to Eleanor Roosevelt's *The Moral Basis of Democracy*; J. T. Salter's *The Pattern of Politics*, and Ralph Barton Perry's *Shall Not Perish from the Earth*, all concerned with the means of preserving democracy.

About American relations in our hemisphere were: *Canada: America's Problem*, by John MacCormac, and *The All-American Front*, by Duncan Aikman. H. G. Wells, in *The Rights of Man*, and Norman Angell, in *For What Do We Fight?* discussed war aims. War causes occupied Walter

Millis, in *Why Europe Fights*; Geoffrey T. Garratt in *What Has Happened to Europe*; Arthur Berriedale Keith in *The Causes of the War*; Neville Henderson in *Failure of a Mission*; E. H. Carr in *The Twenty Years' Crisis*; Bernard O. Mosley in *Europe Downstream*.

About Germany were: Otto D. Tolischus' *They Wanted War*; William D. Bayles' *Caesars in Goose Step*; the anonymous *Letters from the Corsican* (to Hitler); while Oswald Garrison Villard's *Within Germany* and Erika and Klaus Mann's *The Other Germany* emphasized anti-Nazi elements. James T. Shotwell's *What Germany Forgot* defended the Treaty of Versailles, and, with Francis Deák, Mr. Shotwell published *Turkey at the Straits*. Stephen Leacock, in *The British Empire*, and Albert Viton, in *Great Britain*, defended, while Malcolm Muggeridge, in *The Sun Never Sets*, and Robert Westerby, in *Voice from England*, attacked the empire. John F. Kennedy's *Why England Slept* explained her delays. Few good words for Russia could be found in Max Eastman's *Stalin's Russia and the Crisis in Socialism*, or Freda Uteley's *The Dream We Lost*, or Henry C. Wolfe's *The Imperial Soviets*. Donal O'Sullivan attacked De Valera in *The Irish Free State and Its Senate*. A. J. Barnouw explained *The Dutch*. John Corbin advocated republicanism instead of democracy in *Two Frontiers of Freedom*. Martin Moore's *Fourth Shore* told about Italy in Libya. Robert A. Smith discussed *Our Future in Asia*. Jay Franklin's 1940 was concerned with party politics in an election year.

Religion. Influenced by contemporary events were: William Ralph Inge's *The Fall of the Idols*; Reinhold Niebuhr's *Why the Christian Church is Not Pacifist*; and J. Middleton Murry's *The Betrayal of Christ by the Churches*. Historical were: *Anno Domini*, by Kenneth Scott Latourette; *The Search for the Real Jesus*, by Chester Charlton McCown; vol. iii of *Zeus*, by Arthur Bernard Cook; *Stoic, Christian, and Humanist*, by Gilbert Murray. William Ernest Hocking discussed reconciliation in *Living Religions and a World Faith*. Harris Franklin Rall's *Christianity: an Inquiry into Its Nature and Truth* won a prize. Others were: A. C. Bradley's *Ideals of Religion*; D. R. Davies' *The Two Humanities*; and *A Companion to the Bible*, edited by T. W. Manson.

Short Stories. Important volumes of short stories included: *The Mixture as Before*, by W. Somerset Maugham; *Pal Joey*, by John O'Hara; *Fables for Our Time*, by James Thurber; *Doctor Dogbody's Leg*, by James Norman Hall; *When the Whippoorwill*, by Marjorie Kinnan Rawlings; *The Crazy Hunter*, by Kay Boyle; *Figures in a Landscape*, by Paul Horgan; *Country Growth*, by August Derleth.

Sociology. A number of books were concerned with the crisis. Waldo Frank's *Chart for Rough Waters* preached the necessity of religion, and Lewis Mumford's *Faith for Living* would derive it from family, land, and discipline. T. S. Eliot wrote about *The Idea of a Christian Society* somewhat evasively, but H. G. Wells offered a program for the future in *The New World Order*. Ernest Sutherland Bates' *American Faith* surveyed religion, politics, and economics historically. Graham Wallas' *Men and Ideas* was hitherto uncollected papers. Emil Lederer's *State of the Masses* showed what makes fascism. Robert Graves and Alan Hodge's *The Long Week-End* studied England between wars. J. Russell Smith and M. Ogden

Phillips' *North America* revealed the weight of the continent in the world. Roger Burlingame's *Engines of Democracy* was about technica.

Field studies included: Charles Morrow Wilson's *Corn Bread and Creek Water*, about rural poverty; Katharine du Pre Lumpkin's *The South in Progress*; the Federal Writers' Project's *The Negro in Virginia*; Phil Stong's *Hawkeyes*, about Iowans; Leslie A. Gould's *American Youth Today*; Benjamin Appel's *The People Talk*, based on interviews all over America.

Louis Adamic discussed immigrants in *From Many Lands*. D. V. Glass wrote about *Population*. *Modern Marriage* was edited by Moses Jung. Oliver La Farge described and defended American Indians in *As Long as the Grass Shall Grow*. Martin Gumpert's *Heil Hunger! Health under Hitler* was based on German official reports. Paul de Kruif preached *Health is Wealth*. Emory S. Bogardus' *The Development of Social Thought* was historical, and Charles Hart Page's *Class and American Sociology* surveyed the concept of class among sociologists. Cecil Roth wrote about *The Jewish Contribution to Civilization*. David L. Cohn wrote an American social history, *The Good Old Days*, from Sears, Roebuck catalogues. Hughes Mearns wrote about *The Creative Adult*. Grace G. Leybourne and Kenneth White's *Education and the Birth-Rate* showed the effects of the decrease in England.

Travel. Around-the-world travelers included: Jerome Weidman with *Letter of Credit*; Lancelot Hogben as *Author in Transit*, and Jerome Beatty, who found *Americans All Over*. About Asia were: Hassoldt Davis' *The Land of the Eye*; Nicol Smith's *Burma Road*; Suydam Cutting's *The Fire Ox and Other Years*; Osbert Sitwell's *Escape with Me*; Graham Peck's *Through China's Wall*; Philip Steegman's *India Ink*. Freya Stark told of one *Winter in Arabia*. About Africa: Osa Johnson's *I Married Adventure*; Sacheverell Sitwell's *Mauretania*. Carleton Beals' *The Great Circle* included Africa, Europe, and Mexico. Edna Moser published *The Mexican Touch*; Erna Fergusson *Our Southwest*; Barrett Willoughby *Alaska Holiday*.

About the United States: Jonathan Daniels' *A Southerner Discovers New England*; Wyndham Lewis' *America, I Presume*; Ben Lucien Burman's *Big River to Cross*, the Mississippi; Federal Writers' Project guides to *Arizona*; *Florida*; *Georgia*; *The Mississippi Gulf Coast*; *Virginia*; *Maryland*; *New Mexico*; *Ohio*; *Oregon*; *Texas*; *New York*; *Puerto Rico*.

Gertrude Stein published *Paris France*, and Sean O'Faolain *An Irish Journey*.

War. Reports upon events included: Hamilton Fish Armstrong's *Chronology of Failure* (France); Alexander Werth's *The Last Days of Paris*; Gordon Waterfield's *What Happened to France*; W. Somerset Maugham's *France at War*; John Langdon-Davies' *Finland: the First Total War*; H. B. Elliston's *Finland Fights*; Julien Bryan's *Siege* (of Warsaw); *My Name is Million*, by an anonymous Englishwoman in Poland; *Europe in the Spring*, by Clare Boothe; *Twin Stars of China*, by Evans Fordyce Carlson; *The Battle of the River Plate*, by Lord Strabolgi; *In the Wake of the Raiders*, by A. D. Divine. Technical were: *Dynamic Defence*, by Liddell Hart, reviewing war methods so far; *Air Power*, by Al Williams; *Fighting Planes of the World*, by Bernard A. Law; *The German Army*, by Herbert Rosinski;

*Armies with Wings*, by James L. H. Peck; *New Ways of War*, by Tom Wintringham; *M-Day and What It Means to You*, by Leo M. Cherne; *An Atlas History of the Second Great War*, by J. F. Horrabin. Edward Taylor's *The Strategy of Terror* described the psychological front.

For *Bibliography* of special subjects see AGRICULTURE. See NEGROES; PULITZER PRIZES.

BENFIELD PRESSEY.

#### LITHOGRAPHY. See PRINTS.

**LITHUANIA.** A former Baltic republic, which proclaimed its independence from Russia on Feb. 16, 1918, and was reannexed by the Soviet Union Aug. 3, 1940, as a constituent republic. Kaunas was the provisional capital of Lithuania prior to Aug. 15, 1940, when Vilna was proclaimed capital of the Lithuanian Soviet Republic. Actual transfer of the government was scheduled to take place before May 1, 1941.

**Area and Population.** Including the Vilna territory acquired from the Soviet Union Oct. 10, 1939, and excluding Memel Territory, ceded to Germany Mar. 22, 1939, Lithuania had an area of 22,964 square miles and an estimated population of 2,879,070 on Dec. 31, 1939. The newly annexed Vilna territory comprised 2570 square miles with 457,500 inhabitants. The lost Memel Territory had an area of 1099 square miles and a population of 153,793, including 38,927 in the port city of Memel. Excluding both Memel and Vilna territories, births in 1939 numbered 54,184 and deaths 32,983. Estimated populations of the chief cities on Jan. 1, 1939, were: Vilna (Vilnius), 208,900; Kaunas, 152,365; Šiauliai (Shavli), 31,299; Panevėžys (Ponewiež), 26,508.

**Education and Religion.** About 15 per cent of the adult population was illiterate in 1939. Educational statistics for 1938-39 were: Primary, 2335 schools with 298,429 pupils; secondary, 83 schools with 19,539 pupils; normal, 5 schools with 605 students; special, 147 schools with 11,198 students; university, 1 (at Kaunas) with 3041 students in 1938. In January, 1940, the University of Vilna was established; it included certain faculties transferred from Kaunas. Roman Catholics formed 80.5 per cent of the population at the 1923 census; Protestants, 9.5; Jews, 7.3; Greek Orthodox, 2.5.

**Production.** About 77 per cent of the population in 1939 was engaged in agriculture and 10 per cent in commerce, industry, and transportation. Yields of the chief crops in 1939 were (in metric tons): Wheat, 251,200; barley, 246,700; rye, 653,400; oats, 401,700; potatoes (1938), 2,118,231; flax fiber (1938), 25,784. Livestock on June 30, 1939, included 1,103,550 cattle, 1,223,600 sheep, 1,117,080 swine, and 520,710 horses. Forests, mostly pine, cover 2,645,000 acres. Industrial establishments (1938) numbered 1441, with 40,818 employees and an output valued at 480,000,000 lits, chiefly derived from foodstuffs, textiles, lumber, paper and pulp, footwear and clothing, metals, chemicals, and leather.

**Foreign Trade.** Imports in 1939 declined to 169,400,000 lits (223,700,000 in 1938) and exports to 203,200,000 lits (233,200,000 in 1938). Germany furnished 34 per cent of the 1939 imports; Great Britain, 22 per cent; the Netherlands, 5.3 per cent. Of the 1939 exports, Great Britain took 40.5 per cent; Germany, 33.5 per cent. Butter, grain, bacon, lard, and other cured and salted meats were the chief exports.

**Finance.** Actual 1939 budget returns were: Rev-

enues, 361,780,000 lits; expenditures, 356,550,000 lits. The public debt on Jan. 1, 1940, totaled 134,146,600 lits (domestic, 65,231,200; foreign, 68,915,400). The lit exchanged practically at par (\$0.1693) during 1936-38 and at \$0.1674 in 1939.

**Transportation.** Lithuania at the beginning of 1940 had about 1680 miles of railway line; 20,272 miles of roads and highways; and nearly 1600 miles of waterways. Effective Jan. 21, 1940, internal and foreign schedules and routes of the railways were drastically revised in accordance with an agreement reached at Kaunas late in 1939 by Lithuanian, Estonian, German, Latvian, and Russian delegates. Motor busses in 1939 carried 3,019,400 passengers. Memel was Lithuania's only port. After its cession to the Reich, Germany on May 20, 1939, agreed to grant Lithuania a free port zone in Memel harbor.

**Government.** The democratic system established by the Constitution of Aug. 6, 1922, collapsed on Dec. 17, 1926, when the conservative Nationalist Union party established a single-party dictatorship, headed by President Antanas Smetona, who was elected by parliament in emergency session Dec. 19, 1926, following the coup d'état. He was re-elected by a board of electors Dec. 11, 1932 and Nov. 14, 1938. The Nationalist Union adopted fascism as its ruling principle Dec. 16, 1933. A new Constitution promulgated Feb. 12, 1938, was drawn up by a parliament (*Seimas*) chosen entirely from members of the Nationalist Union. It vested wide executive powers in a President, elected by parliament for seven years, and his Council of Ministers. Members of parliament were elected for five years from a one-party list by universal, secret suffrage. Representatives of two outlawed opposition parties, the Christian Democrats and Agrarian Socialists, gained representation in the new cabinet formed by Premier Antanas Merkys (Nationalist Union) on Nov. 21, 1939, as a result of the crisis precipitated by the conclusion of the Soviet-Lithuanian mutual assistance pact of Oct. 10, 1939 (see YEAR BOOK, 1939, p. 443).

#### HISTORY

The Soviet-Lithuanian mutual assistance pact of Oct. 10, 1939, under which Soviet garrisons and air bases were established in Lithuania covering the German frontier, paved the way for the bloodless annihilation of Lithuanian independence and for the republic's incorporation in the Soviet Union on Aug. 3, 1940. This program was carried out by the same methods and at the same time as the extinction of the other two Baltic States, Estonia and Latvia.

**Soviet-Lithuanian Tension.** On February 26, the 22d anniversary of Lithuania's independence, President Smetona expressed anxiety over the republic's future and affirmed its determination to remain free and independent. Despite the obligations imposed by the Soviet-Lithuanian mutual assistance pact, Lithuania joined Estonia and Latvia in affirming its "absolute neutrality" at the Baltic Entente conference held in Riga, Latvia, March 16. At the end of May, when the collapse of French resistance to German arms was imminent, Moscow indicated its desire to strengthen its position in the Baltic States. On May 29 the Soviet Government charged that "persons enjoying the protection of Lithuanian Government organs" had kidnapped a number of Red Army soldiers from units stationed in Lithuania and sought to obtain military information from them.

**The Russian Ultimatum.** The Lithuanian authorities early in June arrested 64 persons in Vilna in connection with these charges. They also forced the evacuation to other districts of various persons living near the newly established Soviet bases. These steps failed to satisfy the Soviet Government. On June 7 Premier Merkys was summoned to Moscow and on June 10 he was joined by Foreign Minister Juozas Urbys. Apparently they balked at the Soviet demands for on June 14 an ultimatum was served upon Lithuania demanding the admittance of additional Soviet troops, the establishment of a new government in Kaunas that would co-operate with the Soviet Union, and the arrest and trial of the Lithuanian Minister of Interior and a subordinate official in connection with the alleged shooting of a Russian soldier by Lithuanian police. The ultimatum charged Lithuania with concluding a secret military treaty with Estonia and Latvia in violation of the spirit of the Soviet-Lithuanian mutual assistance pact.

On the night of June 14 the Merkys Government resigned, planning to turn over its authority to a cabinet headed by Gen. Stasys Rastikis, former commander of the Lithuanian army. However the Soviet Government rejected General Rastikis. With the Soviet ultimatum due to expire at 10 a.m. on June 15, no time was left for the formation of a new government. One hour before the time limit expired, Juozas Urbys, Foreign Minister in the Merkys Cabinet, announced Lithuania's acceptance of Moscow's terms. At 3 p.m. the same day four Soviet columns crossed the Lithuanian frontier and before nightfall occupied the cities of Vilna, Kaunas, Siauliai, Panevėžys, and Rossieny. Previous to their arrival in Kaunas President Smetona and various officials of the deposed Merkys Government fled across the German-Lithuanian border into East Prussia. The President's functions were taken over by ex-Premier Merkys pending the completion of a new government.

**Leftist Government Formed.** While Soviet tanks and troops poured into the country and Soviet bombing planes circled over the capital, V. G. Dekanozov of the Soviet Foreign Office supervised the selection of a pro-Soviet government in Kaunas. Justas Paleckis, journalist and member of the People's Socialist party, was named Acting President and Premier on June 17. His cabinet included Prof. Vincas Kreve-Mickievicius as Deputy Premier, Foreign Minister and Acting Minister of Education; Gen. Vincas Vitkauskas, army commander-in-chief, as Minister of War; and Matas Mickis as Minister of Interior and Agriculture. The former Minister of Finance, Ernestas Galvanauskas, was retained in office. All the Ministers were either Leftists or non-partisan.

The composition of the Paleckis Government and a radio statement by ex-Foreign Minister Merkys on June 17 served to allay some of the apprehension aroused by these events. Merkys declared that the Soviet reinforcements should be welcomed as an additional protection inasmuch as they would leave the cultural, economic, and political status of the republic unchanged. It soon became obvious, however, that this provision of the Soviet-Lithuanian mutual assistance pact was to be disregarded. Under the guidance of the Soviet Foreign Office representative in Kaunas, the government and some workers organizations launched a propaganda campaign for union with the U.S.S.R. All Communist prisoners were freed and many Lithuanians who had been in exile in the Soviet Union for years re-

turned to direct pro-Soviet demonstrations. The government announced plans to confiscate large estates without compensation. On July 5 it denounced the concordat with the Vatican and confiscated the properties of all politicians who fled when the Russians took over.

**The Elections.** At the same time elections for a new parliament were fixed for July 14-15. As in Estonia and Latvia, a Working Peoples' Bloc under Communist control was formed to nominate candidates, and no other nominees were allowed to appear on the ballot. The platform of the Working Peoples' Bloc called for permanent alliance with the Soviet Union, social and economic reforms, and freedom of the workers in "thought, press, and conscience." On the eve of the election, more than a hundred persons suspected of sympathizing with the former regime were arrested. They included former Ministers, high state officials, party leaders, army officers, writers, and clergymen. The voting was orderly under the watchful eyes of the Red Army, except for anti-Jewish riots in Vilna, but many blank ballots scattered about the polling places in Kaunas indicated opposition to the one-party pro-Soviet ticket. Nevertheless the official election figures purported to show that 1,386,569 persons, or 95.51 per cent of all registered voters, cast ballots and that 99.19 per cent of these favored the ticket of the Working Peoples' Bloc.

**Union with Russia.** The elections were followed immediately by organized demonstrations and a press campaign for union with Russia. When the newly elected parliament assembled on July 21, it adopted unanimously resolutions for union with the U.S.S.R. and for the establishment of a soviet regime and constitution. Soon afterward a delegation departed for Moscow with a formal petition for incorporation. This was accepted by the Soviet Supreme Council on August 3, when Lithuania became the 14th constituent republic of the Soviet Union. The newly elected parliament, called into special session on August 24-25, unanimously approved incorporation in the U.S.S.R. and adopted a soviet constitution. Premier Paleckis was appointed president of the Praesidium of the Lithuanian Supreme Soviet. Deputy Gedvilas became president of the Council of People's Commissars (Premier).

**Sovietization.** The sovietization of Lithuania was well under way before formal incorporation in the U.S.S.R. took place. On July 22 the Lithuanian parliament adopted legislation for the nationalization of land, banks, industries, waterways, and all large enterprises. All farms and estates of more than 74 acres were placed in a pool from which plots of land were allotted to landless peasants and farm laborers. One-eighth of Lithuania's arable lands were slated for redistribution in this manner in time for the fall plantings. It was indicated that this was a temporary measure and that collectivization of agriculture on the Russian model would follow. The process of communization was systematically extended from the political and economic to the cultural field. On August 13 the legality of religious marriages was abolished in favor of civil ceremonies and a system of divorce through the courts was introduced in overwhelmingly Roman Catholic Lithuania.

By the end of July the Stalinist form of Communism produced in Lithuania, Estonia, and Latvia the familiar characteristics of the Russian system. Under the direction of the OGPU (Russian secret police) the drive against anti-Soviet elements was

intensified and extended. Ex-Premier Merkys and ex-Foreign Minister Urbys were among the prominent Lithuanians reported imprisoned or deported to Russia. The controlled press was filled with warnings and denunciations of sabotage, "capitalist wrecking," the slaughter of livestock by "kulaks" and widespread hoarding of foodstuffs and goods.

Drastic punishment was imposed to check the deterioration of discipline among the workers, economic disorganization and decline of production, a growing goods scarcity and a declining standard of living. Severe measures were taken against workers who drove "specialists" from the factories and against farm laborers who crowded to the cities in search of an easier life under the new regime. Anti-Soviet officers were weeded out of the Lithuanian armed forces, which were then incorporated in the Red Army. The properties of Lithuanian diplomatic representatives abroad who refused to return on orders from Kaunas were confiscated.

**Repercussions Abroad.** In Berlin, Rome, and other capitals under Axis influence, the protesting Lithuanian diplomatic and consular representatives were forced to turn over their buildings and office records to Soviet officials through the intervention of the Axis governments. However the United States Government announced on July 23 that it would refuse to recognize the legality of Russia's absorption of Estonia, Latvia, and Lithuania and would continue to recognize the Ministers appointed by the ousted anti-Soviet governments. Great Britain followed a similar policy without formally stating her position. In October the British Government requisitioned a number of merchant ships owned by citizens of the Baltic States and claimed by the Soviet Government. The Polish Government-in-Exile, which had protested Russia's transfer of the Vilna territory to Lithuania in 1939, again reiterated its claim to this region when Lithuania was absorbed by Russia.

Germany professed disinterest in the Soviet occupation of the Baltic States, but speeded the resettlement in the Reich of some 31,000 German "co-racials" living in Lithuania.

See ESTONIA, LATVIA, and UNION OF SOVIET SOCIALIST REPUBLICS under *History*; LEAGUE OF NATIONS; REPARATIONS and WAR DEBTS.

**LIVESTOCK.** Reports on the feedcrops and livestock situation in the United States at the close of 1940 indicated abundant supplies of feed stuffs despite a reduction in the total acreage of the four principal grain crops harvested by about 10 per cent below the 1928-32 average. The total supply of feed grains was about 2 per cent above that of 1939 and 12 per cent above the 1928-32 average while the number of grain consuming animal units was estimated to be 5 per cent below this average and over 3 per cent less than during the preceding year. Supplies of wheat millfeeds and related by-products were similar to 1939 levels while stocks of high protein feeds were some 5 per cent higher in 1940 due mainly to increased production of cottonseed and linseed cake. Total hay production was about 3 per cent above the 1939 level. The condition of fall pastures was considerably better than a year earlier with only the Western Corn Belt showing a generally low condition.

The ratios of feed prices to livestock prices which were generally unfavorable for livestock producers during most of 1940 showed considerable improvement in the closing months of the year. With increasing domestic demand for meat ani-

mals, the outlook, according to the U.S. Department of Agriculture, pointed to further improvement along this line in 1941 unless feed production should be unusually low.

The numbers of hogs and sheep in the United States at the beginning of 1940 were essentially the same as in 1934 preceding the severe drought, while cattle numbers were still somewhat below the pre-drought level. However striking shifts in livestock population have occurred in recent years partially due to natural phenomena, particularly drought, but also to the reaction of economic forces. Hogs have increased generally east of the Mississippi River and in all of the Southern and far Western States while numbers in the Western Corn Belt States have materially declined. The Range States show a marked decrease in numbers of cattle and sheep. Greatest increases in cattle numbers have occurred in Iowa and the Eastern Corn Belt States, with gains registered throughout the East and in the Pacific Coast States. Iowa, Missouri, Kentucky, Texas, Oklahoma, and California, show greatest gains in sheep numbers. The stimulus to livestock production in certain areas through use of acres taken out of crops promises to have a far reaching effect on the agricultural enterprise of many States.

The pronounced upswing in swine production of 1938 and 1939 was halted in 1940. The downswing began with a decline of 8 per cent in the spring pig crop followed by a 12 per cent reduction in the fall crop, bringing the 1940 total to approximately 77,000,000 head, 10 per cent below the record crop of 1939. Estimates by the U.S. Department of Agriculture further indicated that the number of sows to farrow in the spring of 1941 would be some 14 per cent below that of 1940. Marketings of hogs in the last quarter of 1940 were considerably larger than a year earlier despite the smaller spring crop with prices holding quite steady in the face of extremely heavy receipts. Slaughter of hogs during October and November was the largest on record for those months. Total Federal inspected slaughter of hogs in 1940 was 50,397,861 head, nearly 22 per cent greater than in 1939. Indications were that the hog supplies throughout 1941 would be materially smaller than in 1940. On Jan. 1, 1941, cold storage stocks of pork totaled 655,517,000 lb., about 200 million pounds above the 1936-40 average for that date. Holdings of lard and rendered pork fat totaled 293,777,000 lb. compared with the 1936-40 average of 104,349,000 lb. Hog prices, which were extremely low at the beginning of the year, remained below the 1939 level except for a brief period in mid-summer and during the closing weeks of the year. Prices received by farmers in mid-December averaged \$5.59 per 100 lb. compared with \$5.03 a year earlier.

The total number of cattle in the United States on Jan. 1, 1940, was slightly over 68,000,000 head, a gain of about 2 million head over the previous year, with indications of a similar gain during 1940. Marketings of cattle and calves during the year were generally above 1938 and 1939 levels. Cattle and calves slaughtered under Federal inspection totaled 9,756,130 and 5,358,695 head respectively, about 3 and 2 per cent larger than in 1939. The Jan. 1, 1941, stocks of frozen and cured beef totaled about 106 million pounds, some 7 million pounds above the 1936-40 average.

The July-November movement of stocker and feeder cattle into the Corn Belt exceeded the 1939 level in every month except November. Indications

at the close of the year were that the number fed in the Corn Belt would be 11 per cent higher than a year earlier, and that the total number of cattle on feed during the 1940-41 season would be somewhat above the 1939-40 level with increased feeding operations in several of the western States. Late reports from the Range States showed generally good supplies of winter grass and forage with cattle going into the winter in the best condition in several years. Market prices for slaughter cattle showed a marked upward trend throughout 1940. Prices received by farmers for beef cattle in mid-December were the highest for that season since 1929 and 10 per cent higher than a year earlier.

The 1940 lamb crop of about 32,700,000 head was the largest on record and 3 per cent larger than that of 1939, with Texas accounting for the major part of the increase. Total Federal inspected slaughter of sheep and lambs in 1940 was 17,351,157 head, less than 1 per cent above that of 1939. Movements of feeder lambs into the Corn Belt from July through November were of record proportions with evidence that the total numbers of lambs fed during the 1940-41 season would be 6 per cent larger than a year earlier. Feeding operations outside the Corn Belt were about 3 per cent higher. Prices of slaughter lambs in 1940 were generally above the 1939 level with mid-December prices on the farm averaging \$7.88 per 100 lb. or 50 cents higher than a year earlier. Improvement in the domestic demand for meat during the last half of the year gave less support to lamb prices than to prices of other livestock. December stocks of frozen lamb and mutton exceeded 5 million pounds, about 4 per cent above the preceding 5 year average.

Meat consumption in the United States during 1939 totaled 17.2 billion pounds, equivalent to 131 lb. per capita, while that of 1940 was nearly 17 per cent above this previous record high. Commensurate with this increase in consumption, the meat-packing industry paid about \$100,000,000 more for livestock in 1940 than in 1939.

marked stimulus to horse and mule production in this country.

**International Conditions.** Fragmentary information from Europe permits only a general appraisal of the livestock and meat situation there during 1940. In 27 European Countries, exclusive of the Soviet Union, at the beginning of the present war, total numbers of hogs, cattle, and sheep reached 82,300,000; 110,768,000, and 128,751,000 respectively, increases of 3, 7, and 8 per cent over 1931-35 averages. During the World War (1914-1918) numbers of hogs, cattle, and sheep, respectively, declined approximately 8, 2, and 2 per cent during the first year of the conflict and 29.3, 7.5, and 13.1 per cent for the entire period which suggests the possible effect of the present war on European livestock populations. Data on livestock numbers during 1940 were not generally available but known shortage of feed supplies pointed to heavier-than-normal slaughter in most areas.

Except in Belgium and France, pork supplies in Continental Europe at the end of 1940 appeared to be above normal. Rationing of meat at that time was fairly common in most of the countries. Both Germany and Italy were obtaining substantial quantities of live hogs, pork, and lard from countries in the Danube Basin under 1940 agreements. All meat and livestock exports of Denmark and neighboring countries, much of which formerly went to Great Britain, were going to Germany. In September, 1940, the Italian Government placed the buying and selling of beef cattle for civilian consumption under government control and indicated that hogs would be handled similarly. All meats were strictly rationed.

With imports from Continental Europe cut off, the United Kingdom was rationing bacon and hams at about one-half normal consumption, consistent with domestic supplies plus imports of Empire products. Domestic production of hogs along with poultry was sharply curtailed as the volume of imported feedstuffs declined. Production of cattle and sheep was less affected because of fairly abundant forage supplies. Since January, 1940, all livestock

MEAT SLAUGHTERED UNDER FEDERAL INSPECTION IN THE UNITED STATES

	<i>Cattle</i>	<i>Calves</i>	<i>Hogs</i>	<i>Sheep, lambs</i>
<b>Number Slaughtered:</b>				
1940 . . . . .	9,756,130	5,358,695	50,397,861	17,351,157
1939 . . . . .	9,446,303	5,264,058	41,367,825	17,241,037
5-year average * . . . .	9,985,848	5,757,192	34,261,739	17,486,281
<b>Total Dressed Weight of Slaughtered Animals</b>				
1940—lbs . . . . .	4,971,070,000	568,045,000	8,709,524,000	702,120,000
1939—lbs . . . . .	4,803,161,448	559,354,696	7,296,299,659	693,945,331
5-year average —lbs . . . . .	4,836,243,992	614,387,358	5,881,847,928	695,579,318
<b>Exports:</b>				
1940—lbs . . . . .	16,654,000 <sup>b</sup>	.....	295,148,000 <sup>c</sup>	615,000
1939—lbs . . . . .	15,163,000 <sup>b</sup>	.....	406,815,000 <sup>c</sup>	486,000
5-year average —lbs . . . . .	13,764,000 <sup>b</sup>	.....	254,639,000 <sup>c</sup>	522,000
<b>Per Capita Consumption</b>				
1940—lbs . . . . .	42.15 <sup>b</sup>	.....	61.37 <sup>c</sup>	5.32
1939—lbs . . . . .	41.31 <sup>b</sup>	.....	52.09 <sup>c</sup>	5.28
5-year average —lbs . . . . .	42.84 <sup>b</sup>	.....	44.08 <sup>c</sup>	5.38

\* Average for 1935-36-37-38-39. <sup>b</sup> Beef and Veal. <sup>c</sup> Pork and Lard.

The downward trend in numbers of horses and mules on farms and the low price of work stock in relation to that of all farm products persisted, while the number of tractors on farms continued to increase. Horses and mules on farms in 1920, 1930, and 1940 numbered approximately 26, 19, and 15 millions respectively. There was little evidence that European War conditions would provide any

marketed in the United Kingdom must be sold to the Government at fixed prices, consistent with farm costs. A British-Canadian agreement of January, 1940, providing for the export to Great Britain of 4,480,000 lb. of Canadian bacon and ham weekly was replaced by a new agreement of November, 1940, which provided for British purchases of not less than 8,185,000 lb. weekly. The stimulus

of exports plus corn-hog price ratios favorable to hog production resulted in a 40 per cent increase in hog marketing during 1940 over 1939. Other classes of Canadian livestock showed slight gains during the year.

Argentine beef exports were up sharply during the first four months of 1940. Shipments were curtailed later, however, so that the year's total was estimated to be 30 per cent below 1939. Large quantities of beef purchased by Great Britain remained undelivered at the close of the year due to inadequate shipping facilities. Other meat-surplus producing countries of South America were confronted with similar export conditions. General efforts to further trade relations between the United States and the South American Republics did not materially affect livestock products during 1940.

**Foreign Trade.** Total imports of animals and animal products by the United States continued to exceed exports by a wide margin. According to data released by the U.S. Department of Commerce both imports and exports for 1940 were below the 1939 level. During 1940 the total value of export items, both edible and inedible, not including fish, fur, and wool was \$84,202,664 as compared with \$94,351,467 for 1939. The value of import items was \$134,696,186 in 1940 and \$157,299,067 in 1939. Exports of meat products, including edible fats and oils, were valued at \$34,810,979 against imports of \$17,950,387. The largest single export item, lard, was in limited demand in the late months of 1940 with Cuba and Mexico the principal buyers. Exports during the year totaled 201,313,796 lb., about 13 per cent of the total lard production in inspected plants. This quantity was 27 per cent below the 1939 level and a troublesome surplus continued to mount. Other pork exports were 28 per cent lower in volume and 41 per cent lower in value than a year earlier. Hides and skins led all other items in import value accounting for over one-third of the total. Cattle imported for slaughter, mainly from Canada and Mexico, had a total value of \$16,588,676, nearly 4 million dollars below that of the previous year. Imports of canned beef, mainly from Argentina, Uruguay, and Brazil, dropped 20 per cent below the 1939 level of 8½ million dollars. Pork imports which exceeded 10 million dollars in 1939 were of negligible proportions in 1940. See also DAIRYING; LEATHER; VETERINARY MEDICINE.

E. C. ELTING.

**LIVING COSTS AND STANDARDS.** According to year-end comment by Isador Lubin, U.S. Commissioner of Labor Statistics (Associated Press, Dec. 28, 1940), the cost of living in the United States has not yet been seriously affected by those events of the past year which might be expected to disturb American economy—the European war, increased production for export, and the large volume of orders placed for national defense. Comparing the index of the Bureau of Labor Statistics for Nov. 15, 1940, with the level for August, 1939, Commissioner Lubin reported an increase over the 16-month period of only 1.5 per cent. Wholesale prices rose more sharply, averaging (for almost 900 products) 6 per cent more than in August, 1939. The fact that living costs have not kept pace with the rise in wholesale prices was attributed partly to “the natural lag in the movement of goods from wholesale to retail markets,” but also to “the vigorous resistance with which retailers have been opposing price advances.” Taking all

factors into account, he said, “It seems probable that living costs, as a whole, will advance slightly during the next few months, but there is nothing in the current market situation to suggest that this increase will amount to more than 2 or 3 per cent in the spring of 1941.”

These conclusions were borne out by those of independent fact-finding groups. The National Industrial Conference Board, comparing November, 1939, with November, 1940, reported an increase of only one-half of one per cent. A survey made by the United Press, covering the first year of the war, indicated that the cost of living in the United States rose “less than 5 per cent” during that period. The International Labor Organization reported that every one of the 40 countries for which it has official reports, experienced a rise in living costs during the year, the rise in many cases being substantial despite war-time efforts at price controls.

A rise in the cost of living may, of course, be sustained without impairment of the standard of living, provided it is accompanied by a rise in wages and family income. In 1939, for example, the average wage or salary received by employees in the United States was \$1329, as compared with \$1294 in 1938 and \$1472 in 1929. While the income in 1939 was thus well below that of 1929, when the reduction in the cost of living is considered the worker was able to buy considerably more with his earnings than in the earlier year. For the trend in earnings in 1940, see LABOR CONDITIONS, under *Wages*.

Table 1 on page 420 shows the Cost of Living index, as compiled quarterly by the Bureau of Labor Statistics, through the year 1940. It will be noted that the index is based on the years 1935–39 instead of 1923–25 as formerly (see previous YEAR BOOKS). The list of items has been revised also to represent more adequately the changed consumption habits of the Nation. The new list includes 198 goods and services, in addition to rents, the most important additions being automobiles, gasoline, fuel oil, electric refrigerators, radios, dry cleaning, and beauty-shop services. Much larger weight was given to electrical appliances than in the old list because of their increased use. The survey now covers 33 cities. (For prices of essentials, see BUSINESS REVIEW under *Commodity Prices* and articles on various products.)

Some indication of the variations in the cost of living for different sections of the country may be had from Table 2, which presents a dollar-and-cents estimate of the amount required to maintain a four-person manual worker's family in each of 31 large cities. The estimates make use of the “basic maintenance” budget devised by the Division of Social Research of the Works Progress Administration in 1935 and revised in part in 1939. They were prepared by applying to the maintenance budget the Bureau of Labor Statistics indexes of living costs (see Table 1) for all items other than food. The food-cost budget was computed in terms of the “adequate diet at minimum cost” of the U.S. Bureau of Home Economics, a somewhat more varied diet than that originally used in the maintenance budget. The figures in the “total” column include fuel, light, furniture, household equipment, and miscellaneous items, in addition to the three major items detailed.

The Citizens Bureau of Governmental Research with eleven collaborating agencies made a special study of costs in New York State, pricing 580 items in each of 14 localities. Comparing the re-



# LIVING COSTS AND STANDARDS 420 LIVING COSTS AND STANDARDS

TABLE 1—ESTIMATED ANNUAL AVERAGE INDEXES OF COST OF GOODS PURCHASED BY WAGE EARNERS AND LOWER-SALARIED WORKERS IN LARGE CITIES COMBINED, 1913-40

[Average 1935-39 = 100]<sup>1</sup>

Year	All items	Food <sup>2</sup>	Clothing	Rent	Fuel, electricity, and ice	House furnishings	Miscellaneous
1913 .....	70.7	79.9	69.3	92.2	61.9	59.1	50.9
1914 .....	71.8	81.8	69.8	92.2	62.3	60.7	51.9
1915 .....	72.5	80.9	71.4	92.9	62.5	63.6	53.6
1916 .....	77.9	90.8	78.3	94.0	65.0	70.9	56.3
1917 .....	91.6	116.9	94.1	93.2	72.4	82.8	65.1
1918 .....	107.5	134.4	127.5	94.9	84.2	106.4	77.8
1919 .....	124.5	152.1	168.7	102.7	91.1	134.1	87.6
1920 .....	143.2	168.5	201.0	120.7	106.9	164.6	100.5
1921 .....	127.7	128.6	154.8	138.6	114.0	138.5	104.3
1922 .....	119.7	120.3	125.6	142.7	113.1	117.5	101.2
1923 .....	121.9	124.0	125.9	146.4	115.2	126.1	100.8
1924 .....	122.2	122.8	124.9	151.6	113.7	124.0	101.4
1925 .....	125.4	132.9	122.4	152.2	115.4	121.5	102.2
1926 .....	126.4	137.4	120.6	150.7	117.2	118.8	102.6
1927 .....	124.0	132.3	118.3	148.3	115.4	115.9	103.2
1928 .....	122.6	130.8	116.5	144.8	113.4	113.1	103.8
1929 .....	122.5	132.5	115.3	141.4	112.5	111.7	104.6
1930 .....	119.4	126.0	112.7	137.5	111.4	108.9	105.1
1931 .....	108.7	103.9	102.6	130.3	108.9	98.0	104.1
1932 .....	97.6	86.5	90.8	116.9	103.4	85.4	101.7
1933 .....	92.4	84.1	87.9	100.7	100.0	84.2	98.4
1934 .....	95.7	93.7	96.1	94.4	101.4	92.8	97.9
1935 .....	98.1	100.4	96.8	94.2	100.7	94.8	98.1
1936 .....	99.1	101.3	97.6	96.4	100.2	96.3	98.7
1937 .....	102.7	105.3	102.8	100.9	100.2	104.3	101.0
1938 .....	100.8	97.8	102.2	104.1	99.9	103.3	101.5
1939 .....	99.4	95.2	100.5	104.3	99.0	101.3	100.7
1940 .....	100.1	96.5	101.7	104.6	99.8	100.5	101.1
March 15 .....	99.8	95.6	102.0	104.5	100.6	100.5	100.8
June 15 .....	100.5	98.3	101.7	104.6	98.6	100.1	100.6
September 15 .....	100.4	97.2	101.6	104.7	99.3	100.3	101.4
December 15 .....	100.7	97.3	101.6	104.9	100.7	100.4	101.8

<sup>1</sup> For previous index, based on 1923-25, see YEAR BOOK, 1939. <sup>2</sup> Covers 51 cities since June, 1920.

TABLE 2—INTERCITY DIFFERENCES IN COST OF LIVING

[June 15, 1940]

City	Total	Food	Clothing	Housing
Atlanta .....	\$1,324.71	\$474.71	\$160.88	\$285.37
Baltimore .....	1,320.67	468.35	166.64	248.77
Birmingham .....	1,280.74	475.23	171.78	230.22
Boston .....	1,434.91	487.80	169.94	260.43
Buffalo .....	1,307.61	470.18	169.25	240.55
Chicago .....	1,454.70	479.82	159.71	290.98
Cincinnati .....	1,325.15	444.85	177.74	268.87
Cleveland .....	1,388.96	452.76	177.06	285.02
Denver .....	1,296.68	450.33	163.51	237.83
Detroit .....	1,427.87	466.22	168.76	305.96
Houston .....	1,297.86	447.41	160.92	244.61
Indianapolis .....	1,289.87	450.12	160.96	241.82
Jacksonville .....	1,299.81	489.05	148.93	219.33
Kansas City .....	1,251.90	450.08	173.83	208.75
Los Angeles .....	1,316.85	436.95	169.90	242.58
Memphis .....	1,294.82	440.01	172.39	261.94
Minneapolis .....	1,408.52	472.32	162.39	305.63
Mobile .....	1,172.77	462.65	155.53	178.02
New Orleans .....	1,265.50	465.10	161.72	207.19
New York .....	1,506.52	522.52	165.77	309.35
Norfolk .....	1,327.94	481.24	171.52	246.15
Philadelphia .....	1,335.85	477.83	169.29	256.14
Pittsburgh .....	1,373.23	477.18	167.90	287.25
Portland, Maine .....	1,357.91	504.46	162.65	201.22
Portland, Ore. .....	1,313.29	474.11	160.92	191.24
Richmond .....	1,330.92	453.61	167.14	252.12
St. Louis .....	1,383.93	477.03	162.84	283.80
San Francisco .....	1,449.18	482.91	172.87	285.82
Scranton .....	1,367.44	484.64	160.68	265.50
Seattle .....	1,375.87	490.62	172.37	195.89
Washington, D. C. .....	1,488.97	487.29	172.32	350.57

sults with those of the Bureau of Labor Statistics for other parts of the country, it was concluded

that city living costs in New York State were 15 per cent above the average in other parts of the country.

**Family Expenditures.** The Bureau of Labor Statistics released during the year a series of reports analyzing the findings of a comprehensive survey of money disbursements by 14,469 families in 42 cities (see YEAR BOOK, 1939, for summary). It will be recalled that the average income of these families was approximately \$1500 and the results were tabulated for ten income levels, ranging from \$500-\$600 for the lowest group to \$3000-and-over.

Although food was the largest item, accounting for 33.5 per cent of total current expense, more than a quarter of these 14,469 families did not spend enough to secure the "low-cost good diet" described by the Bureau of Home Economics. The amount spent per adult-male equivalent rose from \$94 at the lowest income level to \$229 at the highest. It is of interest that, although few families budget their expenditures in advance, most families have a weekly food budget. Weekly expenditures remain remarkably constant between seasons despite the plenty of cheap fresh foods at certain seasons.

**Housing,** including fuel, light, and refrigeration, accounted for one-fourth of the annual expenditure. Two-fifths of the families lived in one-family detached houses, a fourth in apartments, and the rest in semi-detached, row, or two-family houses. Most of them had a bathroom, hot water, electric lights, and gas or electricity for cooking. Two-thirds had central heating and ice, but less than one-third had telephones. Thirty per cent were home owners. The total money expense of home owners was less than that of renters of heated



apartments unless return from investment is included. The home owners had almost twice as much space for the same expenditure.

Clothing expense, the third main item on the budget, averaged 10.6 per cent of the total, ranging from \$49 for the lowest income to \$471 for the highest (7.5 to 14 per cent). High points on the curves for women's clothing were almost half again as high as those for men's. Women at home spent much less for clothing than employed women, even less than employed men. For both men and women the peaks in expenditure are in the early years of maturity.

After the three main requirements—food, shelter, and clothing—have been paid for, less than one-third of the income is left. Travel and transportation, which falls variously into the luxury or the essential category, consumed almost as much money as clothing, largely as a result of automobile ownership. Two out of every five families studied owned cars, the majority having been purchased second-hand. The proportion of car owners is greater in the West than in the East and is relatively small in metropolitan areas like New York and Chicago.

Housefurnishing and operations varied from \$30 to \$90 per year according to income. Full-time domestic service was found to be very rare even at the highest consumption levels; such as was reported occurred largely in Southern cities and not necessarily for the entire year. Part-time service was a rapidly expanding item reported by as many as a fourth of the families in the highest consumption level, average payments being about \$6 per month. Even at the lowest level, laundry was sent out by 15 per cent of the families. From expenditures on furniture it was concluded that once in 20 years is the average frequency for these families to make replacements or additions to their furnishings, once the household has been established.

Expenditures for medical care ranged from \$7 to \$25 per person according to income, but the percentage of income so spent was close to 4 per cent for all levels. These actually reported expenditures were far below all estimates as to the amount of service needed to meet real needs, even on a basis of group care. Personal care took 2 per cent of income and gifts 1.6 per cent.

Despite such obvious inadequacies, Americans now have a higher standard of living than ever before, according to a study made by Dr. Bernhard Ostrolenk, economist at New York City College. In the decade between 1929 and 1939, when population increased 7 per cent, he found that consumption increased as follows for important items: Milk, 9 per cent; fruits and vegetables, 33; butter, 46; canned corn, 51; overcoats, 22; suits, 33; residential electrical power, 120; electric refrigerators, 114; vacuum cleaners, 13, and washing machines, 26. Out of 50 items, decreases were found only for sugar, wheat, and silk consumption, railroad travel, and residential construction.

**Budget Studies.** The following table presents an estimate of the cost of a "health and decency" standard of living for families at different income levels, as prepared by the Heller Committee for Research in Social Economics, University of California. Costs were computed on the basis of San Francisco price levels for March, 1940. The California State sales tax has been omitted.

Against this estimated cost of "health and decency" it is of interest to weigh the actual income of American families. According to a Study of

TABLE 3—ESTIMATES OF ANNUAL BUDGET

	Executive (Family of 4)	Clerk (Family of 5)	Wage Earner (Family of 5)
Total Cost	\$6,453.40	\$2,860.53	\$2,184.25
Payroll taxes	161.20	57.22	43.68
Food	832.76	680.12	622.44
Clothing	856.22	380.19	233.98
Shelter	2,060.54	871.41	595.33
Miscellaneous	2,542.68	871.59	688.82
Automobile	479.05	223.14	223.14
Leisure-time Activities	536.95	181.75	132.55
Insurance	677.60	192.76	114.03
Medical Care	275.00	75.00	75.00

\* And Savings. \* Life

Consumer Purchases recently made by the National Resources Committee, 4 million families have an average income of only \$312. Another 8 million have an average income of \$758, and another 7 million receive an average of \$1224. The families in the two lower groups, earning under \$800 a year, constitute 41.7 per cent of all American families.

**Wartime Living Standards.** The two major factors determining a people's living standard in normal times—average family income measured against prices of essential goods—is complicated in wartime by a third—the curtailment of available supplies of essential goods. The extent to which the well-being of the peoples in Europe has been reduced by lack of supplies may be judged from the following rationing table, quoted from the London Times of Sept. 25, 1940.

TABLE 4—RATIONING IN EUROPE

[In ounces per person per week]

	Bread	Meat	Sugar	Fats	Coffee
Germany	80	17½	8	10½	3½ (substitute)
Protectorate	44	17½	10½	5½	3½
Poland	35	9	5½	2½	9
France	Restricted	Restricted	4½	2	Restricted
Denmark	"	"	13	4	"
Norway	"	"	9	10½	1½
Netherlands	71	"	9	4½	1½
Belgium	56	"	7½	13½	3

\* Supplies usually not equal to official rations

Not shown in the above table are Great Britain and Italy. In the former country bread was unrationed (according to the New York Times, Oct. 20, 1940) but butter and fats were limited to 8 oz. per week, sugar to 8 oz., meat to 32, tea to 2, bacon and ham to 4. Coffee was unrationed. In Italy, coffee was available only for army and hospital use and meat was eaten only three days a week. Bread was limited to 24½ oz. (the lowest ration in Europe), butter and fats to 7, sugar to 4½. In the Soviet Union an acute shortage of foodstuffs was reported early in the year. Meat, potatoes, dairy products, and sugar were among a number of products sold only in limited quantity. Food shortages in Spain resulted in a decree (effective December 1) by which the population was divided into three classes. Consumption of bread was cut down among the more well-to-do in order to provide greater quantities for the poor.

W. L. White reported for the North American Newspaper Alliance (Jan. 7, 1941) his findings with regard to the food situation in Britain and Germany. He reported, for example, that while sugar was rationed in both countries, in England cakes, tarts, and candy were plentiful, in Germany cakes and tarts were non-existent and candy was limited to a quarter of a lb. a month per person.

Butter and bacon also were rationed in both countries. Britain, however, had other fats in abundance, whereas in Germany the absence of fats constitutes a serious dietary deficiency. Fish, unrationed in both countries, is plentiful in Britain but is limited by lack of supply to about two meals per month in Germany. Of vegetables, Germany has only potatoes, cabbages, and turnips in plenty. This correspondent concluded that the standard of living in Germany was barely adequate to sustain reasonable health, whereas that in Britain had far to go before reaching so low a level.

Accounts of food shortages in Europe focused attention on the availability of food supplies in the United States. The Bureau of Agricultural Economics made a survey on the basis of the July crop report, and concluded that supplies would be comparable with those of recent favorable years and were, therefore, completely adequate for domestic consumption. Larger amounts of some commodities were expected to be available for export. See DAIRYING; LIVESTOCK.

Steps were actively taken by the Government to forestall any adverse war effect on American living standards. The National Defense Advisory Commission (q.v.) included a "representative of consumers," whose duties were to watch price trends in consumer goods, to take action if prices tended to skyrocket, to protect standards of living, and work toward their general improvement. Miss Harriet Elliott of the University of North Carolina was appointed to the post and immediately sought the co-operation of consumer and other groups. She announced that, in case of unduly rising prices, her first attack would be through publicity and, if that failed, legal action would be taken through the Department of Justice.

One effort made in Europe to offset the effect of a belligerent status on living standards was the extension of family allowance systems to families of mobilized men. Allowances to the families of British soldiers were considerably higher in 1940 than in 1914, having been increased to 39 shillings per week for the lowest paid soldier with four children. Additional allowances up to 2 lb. per week were available in cases of hardship. Many British employers voluntarily provided supplements to family allowances, equal usually (in the case of men with dependents) to the excess of previous earnings over the service pay and allowances.

See articles listed under HOUSING.

**LOANS, Commercial.** See BANKS AND BANKING.

**LOMBOK.** See NETHERLANDS INDIES under *Area and Population*.

**LONDON.** See EUROPEAN WAR; GREAT BRITAIN under *Area and Population*.

**LOTTERIES.** See NEW MEXICO.

**LOUISIANA.** Area, 48,506 square miles, including 3097 square miles of water. Population, Apr. 1, 1940 (census), 2,363,880, 1930, 2,101,593. New Orleans, the chief city (1940), 494,537; Baton Rouge, the capital, 34,719. The State's urban population (dwellers in places of 2500 or more) rising to 980,439 (1940), became 41.5 per cent of all the inhabitants.

**Agriculture.** Louisiana harvested, in 1940, about 4,155,000 acres of the principal crops. Cotton, the leading crop, occupied 1,126,000 acres and produced 455,000 bales, estimated as worth \$21,612,000 to the growers. Corn, on 1,508,000 acres, yielded 24,128,000 bu. (about \$15,924,000); rice, 451,000 acres, 18,040,000 bu. (\$12,989,000); sugar cane, 259,000

acres, 3,335,000 tons (\$9,171,000); sweet potatoes, 86,000 acres, 4,988,000 bu. (\$3,741,000); tame hay, 354,000 acres, 438,000 tons (\$4,073,000); potatoes, 40,000 acres, 2,280,000 bu. (\$1,824,000).

**Mineral Production.** Louisiana's annual production of native minerals, as reckoned in 1940 by the U.S. Bureau of Mines, totaled \$172,306,761 for 1938. Petroleum made up more than five-eighths of this; natural gas and gasoline derived therefrom, three-tenths; sulphur, much of the remainder. The output of petroleum declined to some 93,869,000 bbl. for 1939, from 95,208,000 bbl. (value, \$110,100,000) for 1938; but the output of 1940 exceeded that of either of the two years previous. The decrease of production had been, essentially, in the Rodessa field where the output of 1939 declined by some 3,000,000 bbl.; a rise of about 1,800,000 bbl. in the yearly production of the coastal district largely offset this and was followed in 1940 by a rise of more than 10,000,000 bbl. in the same area. The Eola field and about a dozen others of less prominence were discovered in the coastal district during 1939. The "gross" production of natural gas was reported, for 1939, as 402,751 million cubic feet. The less inclusive total of gas produced and consumed attained 283,899 million cubic feet, for 1938; this total's value at points of consumption was \$47,991,000. Gasoline taken from natural gas totaled about 92,100,000 gal. (1939), as against 95,634,000 gal. (value, \$3,026,000), for 1938. The production of sulphur attained 422,600 long tons (value, about \$6,750,000) for 1939, as against 294,235 tons for 1938.

**Education.** Louisiana's inhabitants of school age (from 6 years to 18) were stated for the academic year 1939-40 as 382,711 whites and 236,764 Negroes. The year's enrollments in public schools totaled 294,457 white and 172,279 Negro; they included 212,022 white and 157,522 Negro in elementary, and 82,435 white and 14,757 Negro in high school. The year's expenditure for public-school education totaled \$14,137,113. There were 10,714 white and 4120 Negro teachers.

**History.** The inauguration, as Governor, of Sam Houston Jones, a lawyer of Lake Charles, marked the close of 12 years of the rule of Huey Long and his political heirs. The Federal and State courts had convicted some of the conspicuous members of the Long succession and were to convict yet others. But until the election of 1940 it remained to be seen whether the people of the State would stand by the discredited political system. Jones, elected on his declared intention to hunt down and clear out every trace of predecessors' corruption, deprived Long's successors of their last hopes that the popular infatuation strikingly evident at the time of Huey Long's assassination might still work in their favor.

Gov. Earl K. Long, brother of the gifted and invincible Huey, fought hard to be re-elected. He had succeeded Governor Leche on the latter's resignation in June, 1939, at the beginning of the regime's breakdown. He had not been involved in the conspicuous revelations that followed. He had not had time, however, to win the people's trust, and he lacked the persuasiveness and fighting ability of his brother; yet he bore the magic name and was familiar with the political technique. Owing to the lack of any opposition to the Democratic party, the Democratic primary, held in January, virtually bestowed election, in the choice of the State officers. Long, the keynote of whose campaign was the declaration of his own unquestioned

honesty, was but one of five candidates among whom the voters were called to choose on January 16. He obtained the highest vote, but he did not get a sufficient total under the State's election laws. It thus became necessary to hold a second, or run-off primary. In the original primary Jones had run second, by a small plurality over James A. Noe, a wealthy oil man who had formerly held office under the Long machine. Noe's candidacy had cut into the vote that Earl K. Long had hoped to obtain; and now Noe called upon his own following to vote for Jones in the run-off. On February 20, despite a big vote for Long in New Orleans, still under the domination of Mayor Maestri, Jones won by a majority of about 20,000. A general election some weeks later gave effect to the result of the primaries; Jones became Governor (May 14). Another primary (September 10), making nominations for Congress, did away with the majority of the old regime's United States Representatives.

A special session of the Legislature, summoned by Long, met shortly before the February primary and complied with Long's wishes by enacting several vote-getting appropriations—\$1,000,000 for assistance to the needy aged, another \$1,000,000 for free lunches in schools, and a sum to reimburse beekeepers for their losses through operations to exterminate the white-winged beetle. Later efforts of Long, to call another special session after his defeat, failed, due to the fact that many of the Senators absented themselves, preventing a quorum.

Ex-Governor Leche, whose income was reported to have soared to about \$282,000 for 1939, was convicted (June 1) in a Federal District Court at New Orleans, on two counts of using the mails to defraud; he was sentenced to prison for ten years, five for each count. He was held to have, while Governor, ordered the Highway Department to buy trucks at excessive prices and to have received \$31,000 from the seller. The seller of the trucks and former Chairman Abernathy of the Highway Commission, both brought to trial with Leche, pleaded guilty. James A. Noe, former Longite and recent supporter of Jones in the campaign for Governor, was indicted (October 3) on a charge of evasion of Federal taxation of income derived in 1935 from an oil company.

**Election.** In the National election (November 5) Louisiana, despite some antagonism to features of the Federal agricultural policy, gave about the usual overwhelming Democratic vote for President—Roosevelt (Dem.) 319,751, Willkie (Rep.) 52,446; a delegation of 8 Democrats was as usual elected to the U.S. House of Representatives, but the substitution of new nominees for survivors of the Long regime left only three incumbents among the eight.

**Officers.** Louisiana's chief officers, serving after May 14, 1940, were: Governor, Sam Houston Jones (Dem.); Lieutenant Governor, Marc M. Mouton; Secretary of State, James A. Gremillion; Treasurer, A. P. Tugwell; Auditor, L. B. Baynard; Attorney General, Eugene Stanley; Superintendent of Education, John E. Cox.

See LABOR LEGISLATION.

LOUVRE. The. See ART.

LOYALTY ISLANDS. See NEW CALEDONIA.

LÜBECK. See GERMANY under *Area and Population*.

LUMBER. See FORESTRY.

**LUTHERAN CHURCH.** Events of the year 1940 served to make the Lutheran Church more conscious than ever of its world-wide scope. With the Lutheran Churches of Europe engulfed in the disasters of war, American Lutherans have had to assume tremendous responsibility. The American Section of the Executive Committee of the Lutheran World Convention had hardly closed a campaign to raise funds for relief in Finland and France for help to German and Finnish missions cut off from home support and for aid to refugees from Europe to this country, when subsequent developments of the war in Europe made necessary another appeal for funds to maintain 47 foreign mission fields that have been "orphaned" by the war. These are fields of Danish, Dutch, Finnish, German, Norwegian, and Swedish Lutherans and are found in Africa, China, India, Japan, New Guinea, and the Near East. In Canada, current conditions brought about the formation of the Canadian Lutheran Commission, composed of representatives from the Canadian portions of the American Lutheran Church, the Augustana Synod, the Norwegian Lutheran Church, and the United Lutheran Church. At its biennial convention in 1940, the American Lutheran Conference (a federation of five bodies) took action to call all American Lutherans to a conference to consider their responsibility to world Lutheranism; plans for this are now in process.

As a link between Lutherans in different countries, the Lutheran World Convention (American Section) sponsored for the first time in 1940 a regular series of Lutheran broadcasts by short wave to Denmark, Finland, Germany, Norway, Sweden, and South America. These programs carried not only a religious service but a message of courage from American Lutherans to their distressed brothers in the faith. Another potent agent in international Lutheran good will is the Lutheran Hour of the Missouri Lutheran Synod which in 1940 went out over 177 stations in the western hemisphere; 15 of these are in Spanish American countries and use Spanish language transcriptions.

Many of the American Lutheran bodies held general conventions in 1940. In addition to the annual meetings of many smaller bodies, three large ones (American Lutheran Church, Norwegian Lutheran Church, United Lutheran Church) and two federations (American Lutheran Conference and Synodical Conference) held biennial conventions. Important actions taken include: Approval of an agreement on the doctrine of inspiration by the American Lutheran Church and the United Lutheran Church; recognition of certain rights of the conscientious objector by the Augustana Synod and by the United Lutheran Church; acceptance of the Lutheran Icelandic Synod into membership of the United Lutheran Church; approval by many bodies of the protest made by the presidents of the American Lutheran Church and the United Lutheran Church against President Roosevelt's appointment of an ambassador to the Vatican; disapproval by some bodies of the practice of holding "novenas" in Lutheran congregations; action by the Augustana Synod to join the World Council of Churches.

The National Lutheran Council, a common service agency for two-thirds of the Lutherans of America, is leading in various fields of welfare work. It has a commission working on the selection of suitable men for recommendation to chaplaincies in the U.S. Army and training camps. Its

ever growing refugee service now has divisional bureaus in 24 different cities and has dealt with nearly 1100 cases. Its department of welfare, organized in 1939, expanded and entered upon a program of co-ordination of welfare activities in all Lutheran bodies. In keeping with the trend toward better trained social workers and toward higher standards of work, the department inaugurated a placement service for qualified Lutheran welfare workers.

Summarized statistically, the various Lutheran bodies in the United States and Canada have 12,863 ministers, 15,836 organized congregations, 4,910,300 baptized and 3,433,765 confirmed members, 21,920 congregational schools with 1,852,226 pupils. Expenditures in 1939 for local congregational purposes amounted to \$41,254,657 and for the work of the church at large, \$10,277,803.

**LUXEMBURG.** A grand duchy bounded by Germany, France, and Belgium and occupied by German troops on May 10, 1940. Area, 999 square miles; population (1938 estimate), 301,000, most of whom profess the Roman Catholic faith. The inhabitants speak a Germanic dialect; French is their secondary language. Chief towns: Luxembourg (capital), 57,740 inhabitants; Esch-Alzette, chief mining center, 27,517; Differdange, 15,945; Dudelange, 13,572. Births in 1938 numbered 4490; deaths, 3811. There is no illiteracy.

**Production, Trade, etc.** Agriculture supports some 32 per cent of the population. Yields of the chief crops in 1939 were (in metric tons): Wheat, 27,000; barley, 3400; rye, 12,400; oats, 45,000; potatoes, 285,600 (1938). Mining and metallurgical industries are important, production figures for 1939 (in metric tons) being: Pig iron and ferroalloys, 1,776,000; steel ingots and castings, 1,824,000; iron ore, 5,140,632 (1938). Statistics of trade are included in those of Belgium as a result of the Belgo-Luxembourg customs union established May 1, 1922. In 1939 there were 2558 miles of highway; the 318 miles of railway line open to traffic reported receipts of 128,400,000 Luxembourg francs (about \$5,400,000).

**Government.** Budget revenue for 1939 was estimated at 355,229,716 francs; expenditure, 353,439,719; public debt, on Nov. 15, 1938, 762,535,122 francs (Luxembourg franc equalled 1.25 Belgian francs). Previous to the German invasion, executive power and the right to organize the government rested with the Grand Duchess Charlotte, who succeeded to the throne on Jan. 9, 1919. Legislative power was vested jointly in the Grand Duchess and the Chamber of Deputies (lower chamber) of 55 members (comprising in 1940, 25 Catholic-Conservatives, 18 Socialists, 6 Radical-Liberals, and 6 others), elected for a term of six years by universal suffrage. The Council of State (upper house) of 15 members was appointed for life by the sovereign. Premier in 1940, Pierre Dupong (Catholic-Conservative).

**History.** Luxembourg was occupied by German troops on May 10, 1940, in connection with the offensive launched against the Allied forces on the Western Front through Belgium and the Netherlands (see EUROPEAN WAR).

The invasion was not unexpected, despite the repeated assurances of the German Government that it would respect Luxembourg's neutrality. On April 3 the Luxembourg Government announced plans for the evacuation of the capital in case of an emergency. When it came, Grand Duchess Charlotte, the Prince Consort, and their children fled to

Paris, as did members of the Luxembourg Government. No resistance was offered by the small defense force, consisting of only 300 regulars, 250 gendarmes, and about 125 members of the voluntary militia. The invaders were aided in establishing rapid control by some 30,000 Germans living in the Grand Duchy, who had been organized in Nazi groups.

On the day of the invasion, the Berlin Government gave an official explanation of its action in a memorandum submitted to Luxembourg authorities. It declared that Britain and France were prepared to attack the Reich through Belgium and the Netherlands with the aid of the latter countries and that "the offensive . . . will also include the territory of the State of Luxembourg." It continued:

The German Government, therefore, is obliged also to extend the military operations they have undertaken to ward off this attack to the territory of Luxembourg.

The German Government expects the government of the Grand Duchy of Luxembourg will appreciate the situation created by the sole fault of Germany's opponents and will take the necessary measures for insuring that the population of Luxembourg will put no obstacles in the way of German action.

The German Government for their part desire to assure the government of the Grand Duchy of Luxembourg that Germany does not intend, either now or in the future, by these measures to impair the integrity and political independence of the Grand Duchy.

On May 30 the Luxembourg Legation in Paris announced the formation of a Luxembourg legion to fight with the Allied armies. All subjects of the duchy of military age residing in France were called to the colors. With the collapse of French resistance, the Grand Duchess and members of her government fled to Lisbon. From Portugal the Grand Duchess went to London late in August and on October 4 arrived in New York. With her family, which had preceded her to the United States, she moved in mid-November to an estate near Montreal, Canada, where a provisional government was established. The U.S. Government as well as the Allied governments continued to recognize this provisional regime as the legal government of Luxembourg. Credentials of a new Luxembourg Minister to Washington were accepted by President Roosevelt Nov. 8, 1940.

Of some 80,000 Luxemburgers who fled to France upon the German invasion, practically all were reported to have returned by mid-August. On July 25 the German military commander in control of Luxembourg since May 10 was replaced by a civil administrator responsible to the military commander of occupied Belgium and Northern France. The civil administrator was Dr. Gustav Simon, former provincial governor and Nazi *gauleiter* of the neighboring Coblenz-Trier district in Germany. He undertook the incorporation and permanent assimilation of Luxembourg in the Reich.

On August 6 German police marched into the Grand Duchy to take over all police functions, and on the same day Dr. Simon made German the official language of the government and the schools and ruled that the press and all publications must use German exclusively. All French schools were closed. The Constitution of Luxembourg was declared void by Dr. Simon on August 14, the terms "Grand Duchy" and "State of Luxembourg" were prohibited in official documents, and all Luxembourg officials were declared obligated to render loyalty to the government appointed by the German civil administration. This provoked a formal protest from Grand Duchess Charlotte. On August 15 Luxembourg was incorporated within the German

customs area, thus terminating the Belgian-Luxemburg customs union of 1922. The reichsmark currency was introduced August 26, replacing military scrip, and on the following day German foreign-exchange control and related legislation was made effective.

Dr. Simon proclaimed a "new order" for Luxembourg within the framework of the Great German Reich at the first public mass meeting of the "folk German movement of Luxembourg" on September 29. The anti-Jewish legislation in effect in the Reich was introduced into Luxembourg by decree September 7. On October 23 Dr. Simon decreed the dissolution of the Luxembourg Parliament and Council of State. Despite these measures, backed by an active propaganda and police drive, the bulk of the Luxemburgers were reported unreconciled to German rule.

See GERMANY under *History*; LEAGUE OF NATIONS.

**LYNCHING.** The National Association for the Advancement of Colored People announced, in a press release dated Dec. 31, 1940, that five persons were lynched during the year 1940, as compared with a total of four in 1939. Two of the lynchings took place in Georgia, two in Alabama, and one in Tennessee. The cases were described as follows.

Ike Gaston, a barber shop proprietor and the only white man on the list, was beaten to death by a vigilante mob in Atlanta, Ga., on March 7; he was said to have been drunk and to have beaten his wife on numerous occasions. O'Dee Henderson, a 24-year-old steel worker who had been arrested following an altercation with a white man, was shot inside a police station at Fairfield, Ala., May 8. Elbert Williams of Brownsville, Tenn., was found in a river swamp (June 20) the day after he had gone with a group of Negro citizens to the City Hall to secure information about registering to vote. Jesse Thornton was shot to death in Luverne, Ala., June 22, by a mob led by police officials, one of whom he had failed to address as "Mister." Austin Callaway, a 16-year-old boy charged with attempting to attack a white woman, was taken from jail in La Grange, Ga., by several masked men, carried about 8 miles from town, and shot, September 8.

The total of five cases was cited also in the report issued by the Tuskegee Institute. A conference was held late in the year by officials of the Tuskegee Institute, the National Association for the Advancement of Colored People, and the Association of Southern Women for the Prevention of Lynching to compare methods of investigation. A basic method of co-operation was worked out to prevent the issuance of different sets of lynching figures in the future.

**Anti-Lynching Bill.** The Gavagan Anti-Lynching Bill was approved by the House of Representatives in January, 1940, by a vote of 252 to 131. The measure was also voted out by the Senate Judiciary Committee on April 8 (12 to 4), but it was not called for consideration by the Senate prior to the close of the year. The measure sought to penalize any State or local official who failed to make "all diligent effort" to protect persons in his custody or who failed to apprehend or prosecute members of a mob guilty of lynching. The penalty proposed was a fine up to \$5000, imprisonment up to five years, or both. The State subdivision in which a lynching occurred would also be made liable to damages of \$2000 to \$10,000 for each victim.

The House considered the measure for three days, during which time a provision excluding violence in connection with labor disputes was struck out. Passage in the House was attributed by some commentators to the desire of both Democrats and Republicans to win Negro votes in the national election. The Senate's failure to consider the bill (announced by Senator Barkley on October 8) resulted from the threat of a filibuster by Southern senators under the leadership of Senator Connally of Texas. Opponents of the measure argued that the bill was an invasion of State rights and that passage would merely serve to stir racial issues. Senator Wagner, a proponent, argued that 73 lynchings had occurred in the United States in the past six years. See MISSISSIPPI.

**MACAO.** A Portuguese colony in South China. Total area, including the nearby islands of Taipa and Colôane, eight square miles; population (1936 census), 200,000, including 4000 Portuguese. Trade (chiefly transit) is in the hands of the Chinese. Budget estimates for 1939 balanced at 44,937,126 escudos (escudo averaged \$0.0404 for 1939). Governor, Dr. A. T. Barbosa.

**MACHINE DEVELOPMENT.** Engineering changes during 1940 were largely influenced by the war conditions abroad. Much of the machinery and other equipment was designed, or modified, to meet conditions as they arose.

Automobiles for example, were changed but little. Outward appearance was altered to some extent to meet demands of sales departments for something new to talk about, but real changes were few. Neither the fluid fly-wheel nor the more or less automatic transmissions, used to a somewhat larger extent, are entirely new. An attempt was made to put the fluid fly-wheel on the American market about 20 years ago, without success; it did however, make headway in England and was then imported into this country.

Machine tools and similar equipment were but slightly affected by war conditions. The demand, both for regular types of machines, and for machines which are solely used in making arms and munitions, greatly increased, but there have been few fundamental changes in the special machines since the last war. Some machines have been re-designed, and a few entirely new machines have been designed and built, but simple machines play an important part in any emergency of this kind. They have the advantage of being easier to handle by partly trained, or semi-skilled men and women; they are more easily built and cost less to produce, and being more easily built, they can be produced in shops that are not normally in the machine tool field.

The ability to scatter work into many small shops is one of the engineering changes of the period which began as a link in the National Defense program, probably from a survey made by the Ordnance Departments of both Army and Navy which, divided into defense districts, listed plants and plant capacities for many kinds of munitions and supplies. The experience of the last war, with huge plant expansions that became millstones in the postwar days, led to the engineering methods that have now been admirably developed.

One of the best examples of this development is seen in the way in which the Sperry Gyroscope Company increased its output many fold. Realizing that the decentralization of manufacture, the utilization of other plants, could not be accomplished at short notice, this company began the

expansion of facilities before war came or huge orders began to pour in. Selecting parts that could be made by outside plants they picked shops with proper facilities for making them, even while they still had ample facilities in their own plant. These selected shops were supplied with drawings of the best tools and fixtures for the purpose, and were then taught by experienced Sperry men just how the work should be done. These shops together had facilities for producing the intricate castings and for machining them ready for assembly. The complete unit, or the parts that go to make up the unit, can then be shipped to the parent factory for final inspection, assembly, and shipment. At a time when new machine equipment cannot be obtained for months or even years ahead, this method of utilizing idle equipment is an invaluable asset to the machine capacity of the country.

Only those engineers whose duty it is either to procure new machine equipment or to increase greatly the output of war material, can appreciate what this development in engineering management means. The methods also make it possible for new machine tools to be secured in the same way. Lathes, milling machines, automatic screw machines, and machines of other important types can be built in shops whose regular product is of a far different nature; but with co-operation their facilities may be utilized to build much needed machine tool equipment.

Some of the recent developments are of especial interest. Builders of printing presses are now building machine tools and recoil mechanisms. Makers of typesetting machines are building small machine tools, within their capacity. Manufacturers of sewing machines also are adapting parts of their plants to make needed machinery, far different from their usual output, for other manufacturers. All of which means a much better utilization of capacity already in existence, production with much less delay, and with little or no increase in plant capacity.

See ELECTRICAL INDUSTRIES; ELECTRIC LIGHT AND POWER; FARM MACHINERY AND EQUIPMENT; POWER PLANTS.

FRED H. COLVIN.

**MACKENZIE**, District of. See NORTHWEST TERRITORIES.

**MACY FOUNDATION**. See BENEFACTIONS.

**MADAGASCAR**. A French colony in the Indian Ocean. Area, 241,094 square miles; population (1936 census), 3,797,936, including that of the Comoro Islands. Chief towns (1936 populations): Tananarive, the capital (126,515), Majunga (23,684), Tamatave (21,421), Antsirabe (18,215), Tulear (15,180); Fianarantsoa (14,740). Education (Jan. 1, 1939): 1717 schools of all kinds and 221,179 students.

**Production and Trade**. Chief products: maize, rice, coffee, sugar, copra, potatoes, manioc, groundnuts, vanilla, cacao, graphite, mica, phosphates, gold, precious stones, and hides. Cattle breeding is an important industry. The forests contain many valuable woods. Trade (1938): imports, 602,710,000 francs; exports, 819,397,000 francs (franc averaged \$0.0288 for 1938; \$0.0251 for 1939). Shipping (1938): 7364 ships aggregating 4,306,309 tons entered the ports.

**Government**. The budget estimates for 1939 were balanced at 343,660,000 francs. A governor general, assisted by a consultative council, administers the government.

**Comoro Islands**. The islands of Mayotta, Anjouan, Grande Comore, and Mohéli, forming a region under the general government of Madagascar. Area, 800 square miles; population (1936), 128,608. Capital, Zandzi. Chief products: sugar, copra, sisal, and vanilla.

**History**. Resisting both "Free French" and British efforts to change their allegiance, Governor General Leon Cayla and his administration remained loyal to Marshal Pétain's regime at Vichy following the collapse of the French Republic. Except for radio communication with France, the island was cut off from virtually all intercourse with the world by the extension of the British blockade to Madagascar in July. According to statements of the Vichy Government, British troops attempted to land in Madagascar late in July but were barred by the island authorities. Another Vichy statement of September 29 asserted that Governor General Cayla had rejected a British ultimatum calling for repudiation of the Pétain Government and adherence to General Charles de Gaulle's "Free French" movement. See FRANCE under *History*.

**MADEIRA**. An administrative district (Funchal) of Portugal consisting of a group of islands (Madeira, Porto Santo, and three uninhabited islands) in the Atlantic, west of Morocco. Area, 314 square miles; population (1930 census), 211,601. Capital, Funchal (31,352 inhabitants). Chief products: wine, sugar, bananas. Tourists visiting the islands in 1939 totaled 6595 while tourists in transit (on cruise ships, etc.) totaled 98,170. Highways extended 160 miles. See PORTUGAL.

**MADOERA**. See NETHERLANDS INDIES under *Area and Population*.

**MAGAZINES**. See NEWSPAPERS AND MAGAZINES.

**MAGNESIUM**. The aircraft industry was responsible for a greatly increased demand for this metal in 1940. Its use as a war metal was emphasized by the rapid expansion of production facilities. Light alloys of magnesium and other metals are used in aircraft in the form of sand castings, rolled sheet, extruded shapes, tubing, and forgings. Production from brine at Midland, Mich., was augmented by production from sea water in a new plant at Freeport, Texas. The latter went into operation in December, 1940. As a result of this, and increased production at Midland, the output for 1941 was expected to be 30 million lb., compared with 7 million in 1939. The price was 27 cents per lb. in car lots for metal 99.8 per cent pure.

Owing to the war and the consequent exclusion from the United States of imports from Central Europe there was increased production of domestic magnesite, the chief mineral of magnesium. The chief producer was the Northwest Magnesite Co. in the State of Washington. A new 300-ton beneficiation plant using the flotation process was under construction in 1940 and was expected to be in operation about the middle of 1941.

Controversy over patent control of magnesium production and fabrication arose in September, 1940, as a result of assertions by the Department of Justice that German control of patents was restricting domestic production for national defense. This was denied by the industry, which stated that domestic production is under American patents. Licenses granted by patent holders to some 30 companies fabricating magnesium in this country are wholly unrestricted.

According to the U.S. Bureau of Mines, production of primary magnesium in 1940 was 6,250

short tons, the largest output in the history of the domestic industry. Domestic sales of new magnesium equalled production. Official data on world production of magnesium for 1940 were not available, but it is believed that output did not exceed 45,000 short tons, with Germany producing between 18,000 and 21,000 tons. See FERTILIZERS.

H. C. PARMELEE.

#### MAHÉ. See FRENCH INDIA.

**MAINE.** Area, 33,040 square miles; includes water, 3145 square miles. Population by census of April, 1940, 847,226; in 1930, 797,423. Portland had (1940), 73,643; Augusta, the capital, 19,360. Of Maine's 1940 population, 343,057 were urban and 504,169 were rural.

**Agriculture.** Maine harvested, in 1940, about 1,343,000 acres of the principal crops. Three-fourths of this area was in hay, but the greater part of the return from cultivation came from potatoes. Occupying 165,000 acres (largely in Aroostook County), potatoes made 44,055,000 bu., the highest production of any State in the Union, and brought the growers an estimated return of \$17,622,000. This sum fell nearly \$10,000,000 below the reported return for the less abundant potato crop of 1939. Tame hay, on 1,006,000 acres, gave 877,000 tons (about \$7,893,000); oats, on 113,000 acres, 4,520,000 bu. (\$1,808,000); apples, 752,000 bu. (\$714,000).

**History.** Irregularity in the State's accounts came to light early in April through an audit made by a private agency; three high officials were forced to resign, and the position of the Republicans controlling the State government was imperiled for a time. The original disclosure involved the State's comptroller, William A. Runnells, whose office had handled \$35,000 of missing cash. At Governor Barrows' demand Runnells immediately resigned and paid back \$26,420 to the State. Facing prosecution he shot himself twice with a pistol, allegedly by accident, inflicting serious wounds. The progress of the private audit next showed that the State's Auditor, Elbert D. Hayford, and the Deputy Treasurer, Louis H. Winship, had neglected to prevent Runnells from obtaining money by irregular means from the funds of the Highway Department, and these two also resigned at the Governor's demand. The resignation of the State Purchasing Agent and Chairman of Finance, William S. Owen, who had employed Runnells in the financial department in 1932, promptly followed. These three were not accused of having gained by the operations of Runnells. A fifth State officer, Treasurer Belmont A. Smith summoned to resign, pleaded ignorance of the transactions and refused; he declared that changes made in the State's financial organization in 1932 had deprived his office of the means to keep the accounts of the State of Maine in order.

The Legislature had been summoned, just before the disclosure, to meet shortly in special session in order to consider legislation as to unemployment. Barrows took the unusual course of postponing the session, in which the State's Supreme Court sustained his procedure. Thus he was able on May 27 to give the Legislature a more thorough view of the situation: further investigation had raised the total of vanished money to some \$157,000, and search had brought to view considerable sums in safe deposit under the names of members of the Runnells family; the irregularities were found to have extended through many

years. The Legislature held a hearing as to Treasurer Smith's responsibility in the shortages.

The legislative session authorized the State's expenditure for its own defense and State bonds were later issued therefor.

A review of the State government's whole financial condition was made by an outside agency soon after discovery of the Runnells' irregularities. It produced the unexpected information that the assets of the sinking fund's reserve, \$1,817,847, much exceeded the total by the figures of Runnells, but nothing was found to show looting beyond the \$157,000 that had been taken from time to time in relatively small amounts.

At the State primary elections (June 17), Governor Barrows, despite his vigorous handling of the financial scandal, was defeated by former Gov. Ralph O. Brewster for the Republican nomination to the U.S. Senate; the Democrats nominated former Gov. Louis J. Brann.

Members of Jehovah's Witnesses were roughly handled in Sanford for not letting their children salute the flag. Fearing further attack, several of the sect at its headquarters in Kennebunk soon afterward opened fire with shotguns and seriously wounded two men who had approached in the night (June 9). After police had taken away the shooting Witnesses a mob burned down their building; in October their leader was found guilty of assault with intent to kill. Governor Barrows issued (June 15) a proclamation ordering all aliens in the State to be registered for identification as precaution against foreign agents' activities.

**Elections.** At the State's general election (September 9) the Republicans prevailed, electing Sumner Sewall Governor, by 162,719 votes to 92,003 for Fulton J. Redman (Dem.); Ralph O. Brewster (Rep.) was elected to the U.S. Senate, by 150,149, as against 105,740 for Louis J. Brann (Dem.), and three Republicans were chosen United States Representatives. On November 5 the State gave its popular vote to Willkie (Rep.), 163,951, for President, over Roosevelt (Dem.) who received 156,478.

**Officers.** Maine's chief officers, serving in 1940, were: Governor, Lewis O. Barrows (Rep.); Secretary of State, Frederick Robie; Treasurer, Belmont A. Smith; Auditor, Elbert D. Hayford (see *History*, above); Attorney General, Franz U. Burkett; Commissioner of Education, Bertram E. Packard.

**MALACCA.** See BRITISH MALAYA.

**MALARIA.** See BIOLOGICAL CHEMISTRY.

**MALAY STATES.** See BRITISH MALAYA.

**MALDIVE ARCHIPELAGO.** See under CEYLON.

**MALTA.** A British colony in the Mediterranean, consisting of the islands of Malta (95 sq. mi.), Gozo (26 sq. mi.), and Comino (1 sq. mi.). Civil population (Jan. 1, 1939), 268,668. Capital, Valletta. Vital statistics (1938): 8704 births, 5399 deaths, and 1778 marriages. Education (1938-39): 168 schools of all kinds and 34,846 students. Malta is an important naval base for the British Mediterranean Fleet.

**Production and Trade.** Chief products: barley, wheat, potatoes, maize, oranges, figs, honey, grapes, and cotton. Livestock (1939): 34,470 goats, 15,936 sheep, 6707 swine, 4540 cattle, and 8799 horses, mules, and asses. Trade (1939): Imports, \$4,167,465; exports, \$659,812, including re-exports of \$433,756. Shipping (1938): 2512 ships aggregating 4,488,153 tons entered the ports.



**Government.** Budget (1939-40): revenue, £1,499,811; expenditure, £1,420,699. The estimates for 1940-41 indicate a deficit of £750,000. Malta is governed by Letters Patent of Feb. 14, 1939, which provided for a new constitution. There is a council of government consisting of 5 ex-officio members, 3 official members, 2 unofficial members nominated by the governor, and 10 elected members. The governor presides over the council and has a casting vote but no original vote. English and Maltese are the official languages of Malta. Governor (acting) and Commander-in-Chief, Maj.-Gen. W. G. S. Dobbie; Lieutenant Governor, Sir Edward Jackson (appointed Jan. 12, 1940).

**History.** The day after Italy declared war upon Britain and France (June 10, 1940), the Italian air force began incessant attacks upon the strongly fortified British naval base at Valletta. By the end of the year 203 raids had been made upon Malta's capital, with relatively little damage to either civilian or military-naval establishments, according to neutral correspondents. However the arrival of numerous German bombing planes and pilots at the Italian air base at Catania in near-by Sicily at the year-end presaged more difficult times for Malta in 1941. See EUROPEAN WAR.

Preceding or immediately following June 10 the British authorities interned Enrico Mizzi, leader of the pro-Italian faction of the Nationalist party in the Council of Government, and various other potential fifth columnists. Sir Arturo Mercieca, Chief Justice and President of the Court of Appeal, was requested to resign because of his pro-Italian leanings. The bulk of the Maltese people were reported to have enthusiastically supported the British cause. Lord Strickland, an elected member of the Council of Government and former Governor during the Church-State controversy of the early 1930's, died Aug. 22, 1940 (see *NECROLOGY*).

**MAMMALS.** See *ZOOLOGY*.

**MANADO.** See *NETHERLANDS INDIES* under *Area and Population*.

**MANCHOUKUO.** An empire in northeastern Asia established under Japanese protection Mar. 1, 1932; comprising the former Chinese provinces of Fengtien, Kirin, and Heilungkiang in Manchuria, and Jehol in Inner Mongolia. Capital, Hsinking (formerly Chang-chun). Ruler in 1940, Emperor Kangtê, who was enthroned Mar. 1, 1934.

**Area and Population.** Including the South Manchuria Railway Zone under direct Japanese jurisdiction but excluding Kwantung (q.v.), the area of Manchoukuo is estimated by Japanese sources at 503,013 square miles. The population on Dec. 31, 1937, was estimated at 36,949,975, including 35,533,729 Manchoukuoans (predominantly Chinese, with Manchu and Mongol minorities), 931,300 Koreans, 418,300 Japanese, and 66,326 others, mainly Russians. The population of Mukden on Dec. 31, 1938, was 810,465, and of the other chief cities on June 30, 1938: Harbin, 467,483; Hsinking, 360,294; Antung, 210,759; Kirin, 132,272; Yingkow, 159,470. The net immigration of Chinese laborers in 1938 was 291,097; of Korean peasants, 15,850.

**Defense.** The National Mobilization Law of Feb. 26, 1938, empowered the government to draft "man-power and material resources in wartime or in an emergency." On Apr. 6, 1940, it was announced that compulsory military service would be introduced one year later (see *HISTORY*). The

regular Manchoukuoan army, organized and officered mainly by Japanese, numbered about 80,000 in 1939. The navy included 1 destroyer, 15 gunboats, 6 patrol ships, and various smaller craft. In addition, nearly 500,000 picked Japanese troops and a strong air force were concentrated in Manchoukuo.

**Education and Religion.** Education statistics for June, 1939, showed 15,877 primary schools with 1,579,169 pupils; 254 secondary schools, with 60,368 pupils; 14 colleges, with 4372 students; 16 normal schools, with 4045 students; and 65 vocational schools, with 5043 students. According to a Japanese source, there were on Dec. 31, 1937, 1,770,692 Buddhists, 377,337 Taoists, 153,844 Roman Catholics, 132,636 Mohammedans, and 51,393 Protestants. Lamaism was believed to have far more adherents than Buddhism, but no statistics as to their number were available.

**Production.** Agriculture supports about 85 per cent of the population. Yields of the chief crops in 1938 were (in metric tons): Soybeans, 4,612,000; rice, 4,750,000; kaoliang, 4,680,000; millet, 3,134,000; corn, 2,306,000; wheat, 979,000; other cereals, 1,114,000. Livestock in September, 1937, included 1,683,200 cattle, 1,965,900 sheep, 5,335,800 swine, 1,243,000 goats, and 12,800 camels. The wool clip in 1937 was about 7,000,000 lb. Coal and lignite output in 1937 was about 14,100,000 metric tons; iron ore, pig iron, steel, magnesite, gold, lead, and oil shale are the other chief minerals and metals (for latest available figures, 1936, see *YEAR BOOK*, 1938). On Dec. 31, 1938, there were 3900 industrial establishments and business concerns, including 712 manufacturing plants, 186 mining and ceramics concerns, 28 electric and gas industries, and 2062 banking and commercial enterprises.

**Foreign Trade.** Imports in 1939 totaled 1,783,366,000 yuan (1,274,748,000 in 1938); exports, 826,190,000 yuan (725,454,000). Of the 1939 imports, Japan supplied 1,505,011,000 yuan; United States, 87,739,000; China, 64,226,000; Germany, 51,786,000. Japan took 516,792,000 yuan worth of exports in 1939, China, 165,207,000; Germany, 50,358,000. Leading 1939 exports: Soybeans, 206,378,000 yuan; bean cakes, 123,958,000 yuan; coal, 24,059,000 yuan.

**Finance.** Excluding transfers and duplications between different accounts, expenditures in the budget for 1940 were estimated at 1,639,862,000 yuan (1,044,810,000 in 1939). Net revenues for 1940 were estimated at 1,144,962,687 yuan and an additional 506,880,313 yuan were to be borrowed, as compared with net revenues of 634,262,000 yuan and loans of 396,262,000 yuan in the 1939 budget.

The public debt on Dec. 31, 1938, totaled 858,918,000 yuan of which 346,750,000 yuan were borrowed in Japan. The Manchoukuo yuan was pegged to the Japanese yen (1 yuan equals 1 yen) on Oct. 28, 1935. The yen exchanged at \$0.2596 in 1939 and \$0.2344 in 1940.

**Transportation.** The railway mileage of Manchoukuo on Jan. 1, 1940, totaled 6600 miles, of which 3500 miles were constructed during the preceding seven years with Japanese capital. All lines are owned or operated by the South Manchuria Railway Co., which is controlled by the Japanese Government. During 1939 the railways carried 62,160,000 passengers (including troops). Freight carried for the year ended Mar. 31, 1939, totaled about 50,732,000 metric tons. The Tailing-Nancha-Tangyuan connecting link of the railway from



Suihua to the new Japanese city and military base of Chiamussu (Kiamusze) on the Sungari River was opened to traffic May 1, 1940. Roads and highways extended 18,527 miles at the end of 1939; motor highways totaled 2503 miles, or about double the figure for the end of 1938. A network of airlines connects all of the principal Manchurian cities with those of Korea, Japan, and North China.

Normally three-fourths of the foreign trade of Manchoukuo passes through Dairen, chief ocean terminus of the South Manchuria Railway Co. Construction of a great new port at Tatung at the mouth of the Yalu River was begun in 1940. A third rail-sea route between Japan and Manchoukuo via Niigata, Japan, and Rashin, Korea, was opened Feb. 11, 1940, providing a shorter rail service to Hsinking and Chiamussu. Steamer services were maintained over 4222 miles of inland waterways.

**Government.** Under the Constitution of Mar. 1, 1934, as amended July 1, 1937, Manchoukuo is a monarchy in which the Emperor exercises both executive and legislative powers, the latter being subject to the approval of the Legislative Council, an advisory body appointed by the Emperor. There is also a Privy Council of five members; a State Council, or cabinet, of six departments; and a General Affairs Board, attached to the State Council, which supervises budgets and national policies.

Under a protocol signed Sept. 15, 1932, Manchoukuo and Japan agreed "to co-operate in the maintenance of their national security; it being understood that such Japanese forces as may be necessary for this purpose shall be stationed in Manchoukuo." Actually, the government is controlled by the Japanese Ambassador to Manchoukuo, who is also commander-in-chief of the Japanese and Manchoukuoan troops in Manchoukuo and Kwantung (q.v.). Japanese Ambassador and commander-in-chief in 1940, Lieut. Gen. Yoshikiro Umezu (appointed, September, 1939). Prime Minister, Marshal Chang Ching-hui (appointed Mar. 21, 1935).

**History.** The Japanese-Manchoukuoan and Soviet-Outer Mongolian boundary commission that met at Harbin Dec. 9, 1939, to delimit the disputed Manchoukuoan-Outer Mongolian frontier in the Nomonhan district (see *YEAR BOOK*, 1939, p. 457) broke off the negotiations at the end of January, 1940. A series of minor frontier clashes ensued during March, April, and May. However the parleys were resumed at Chita on August 3 and on August 26 the commission announced an agreement for the delimitation of the frontier. This lessened danger of the renewal of the sanguinary fighting of 1939 in the Khalka River sector, but various other parts of the Manchoukuoan-Siberian and Manchoukuoan-Outer Mongolian frontiers remained in controversy. Another source of friction was removed when the Hsinking Government on Jan. 3, 1940, paid the Soviet Government the final installment for its share of the Chinese Eastern Railway, transferred in March, 1935.

The truce enabled Japan to proceed with the strengthening of its military-economic base in Manchuria while simultaneously expanding into French Indo-China and the South Seas. More Japanese and Manchoukuoan funds were poured into Manchurian strategic railways, highways, air bases, and frontier defense systems, all designed

for an eventual struggle with the Soviet Union. On April 6 the Hsinking Government announced that the establishment of a Manchoukuoan conscript army for service under the Japanese commander-in-chief in Manchuria would begin a year later, following an intensive propaganda campaign to prepare the people for this innovation. Youths were to be called for three years' service at the age of 19, with the annual contingent restricted to about 33,000. Japanese officials also continued recruiting White Russians in Manchoukuo, Inner Mongolia, and China proper for eventual service against the Soviet armies.

Japanese investments in Manchoukuo, mainly for industrial developments, amounted to 1,103,713,000 yen in 1939 or an increase of 664,000,000 yen over 1938. In 1940 the rate of development was curtailed by the tightness of the Japanese money market, reflected in the failure of efforts by the South Manchuria Railway Co. to raise the equivalent of \$7,500,000 by debenture flotations. A new arrangement between the railway company and the Manchoukuo Government in December, 1939, exempted the company from its obligation to render an account of its returns from the State Railways to the government. The company, in turn, agreed to make an annual payment of 15,000,000 yen to the government. An acute shortage of foreign exchange was reported at the year end to be curtailing imports of vitally needed articles from countries outside of the yen bloc.

The Manchoukuoan budget for 1940 (see *Finance*) bore an increasing share of the burden of Japan's expansionist policy in northeastern Asia. There were substantial increases in appropriations for the Tatung Institute and the State Foundation University, founded to train administrators and other officials (mostly Japanese) for East Asia; for the Concordia Society, established to promote good will toward Japan and its policies among the Manchurian peoples; and for the Department of Public Peace, which was charged with an increasing share of Japan's local defense problems. Further large sums were appropriated for the settlement in Manchoukuo of Japanese colonists.

Meanwhile the Japanese continued to tighten their grip on the Manchurian economic system. All but a small fraction of the country's economic enterprises were placed under Japanese control through government ownership and management or a licensing system. The government monopoly system, covering opium, petroleum products, salt, and matches was extended on Nov. 1, 1939, to include soybeans, the chief agricultural product. Private monopolies controlling the import and sale of books, newspapers, other periodicals, sheet music, and plywood were established. Prices offered farmers and dealers for soybeans by the Staple Products Monopoly were so low that a sellers' strike was instituted early in 1940. More foreign and native traders and merchants were squeezed out by manipulation of the Trade Control and Exchange Control laws on behalf of Japanese interests. Only two American firms retained branch offices in Manchoukuo in May, 1940. Dividends and profits remitted to Japan from Manchurian enterprises in 1939 were estimated at 300,000,000 yen.

During June and July Emperor Kangtè paid a state visit to Emperor Hirohito in Japan. Wang Ching-wei, head of the new Japanese-controlled Nanking regime, agreed to recognize Japan's pro-

tectorate over Manchoukuo. Early in February it was reported that 200 Japanese had been killed by Chinese guerrillas in attacks northeast of Kirin.

See CHINA and MONGOLIA under *History*.

**MANDATED TERRITORIES.** Following is a list (as of Dec. 31, 1940) of territories conquered from the German and Ottoman empires during the World War and mandated by the League of Nations to various of the Allied Powers under the terms of the Treaty of Versailles.

<i>Mandated Territory*</i>	<i>Mandatory Power</i>	<i>Former Owner</i>
Cameroon, French	France	Germany
Cameroons, British	Great Britain	Germany
Japanese Pacific Islands	Japan	Germany
Nauru	British Empire	Germany
New Guinea, Territory of	Australia	Germany
Palestine	Great Britain	Ottoman Empire
Ruanda-Urundi	Belgium	Germany
Samoa, Western	New Zealand	Germany
South-West Africa	Union of South Africa	Germany
Syria and Lebanon	France	Ottoman Empire
Tanganyika Territory	Great Britain	Germany
Togo, French	France	Germany
Togoland	Great Britain	Germany

\* Iraq, a territory mandated to Great Britain, became an independent State by treaty with the mandatory power on June 30, 1930.

See the separate article on each mandated territory.

**MANGANESE.** Satisfactory progress was made during 1940 in providing the United States with an adequate supply of ores and concentrates, with the result that no apprehension was felt about a shortage that might affect production of munitions. The Metals Reserve Company, a subsidiary of the Reconstruction Finance Corporation, organized to buy strategic metals and minerals, awarded several contracts. One with the Anaconda Copper Mining Company was for 240,000 long tons of high-grade concentrates to be delivered at the rate of 80,000 tons per annum. Anaconda expended one and one-half million dollars in preparation for this production at the Emma mine in the Butte district. Another contract was made with the New-al-Pitt Corporation for an estimated 180,000 long tons of high-grade material from deposits in New Mexico. All of this was supplemented by the prospect of obtaining 135,000 tons a year from Cuba. Intermediate grades were available in Brazil and Chile. Electrolytic manganese was made in small quantity at Knoxville, Tenn.

The Census of Manufactures, 1939, shows the substantial progress made in the manganese industry of the United States in the preceding decade. Compared with 1929 the number of mines was increased from 21 to 34; wage earners from 354 to 494. Wages rose from \$392,362 to \$480,120. Production of merchantable ore rose from 40,762 tons to 47,672 tons, the average manganese content of the natural ore was 36.34 per cent. Of the 1939 production only 7900 tons was of ferro-grade containing a minimum of 48 per cent manganese.

See **CHEMISTRY, INDUSTRIAL**.

H. C. PARMELEE.

**MANITOBA.** A prairie province of Canada. Area, 246,512 square miles; population (June 1, 1939, estimate), 727,000, compared with 711,216 (1936 census). Vital statistics (1939): 13,563 living births, 6157 deaths, 7676 marriages. Chief towns (with 1936 populations): Winnipeg, the capital (215,814), Brandon (16,461), St. Boniface (16,275), Portage la Prairie (6538). Education

(1938): 166,276 students in schools of all kinds.

**Production.** The gross value of agricultural production in 1939 was \$95,052,000. Chief field crops (1939): wheat 63,000,000 bu., oats 34,500,000 bu., barley 28,000,000 bu., rye 2,000,000 bu., flaxseed 525,000 bu., potatoes 100,800 tons, roots 31,850 tons, hay and clover 706,000 tons, alfalfa 132,000 tons, fodder corn 270,000 tons. In 1940 the value of field crops was \$61,957,000 (\$61,358,000 for 1939). Livestock (1939): 787,000 cattle, 315,000 horses, 230,000 sheep, 311,000 swine, 5,951,000 poultry. Fur production (1938-39) was valued at \$1,267,700 (\$989,975 in 1937-38). Forestry output (1939) equaled 65,380 M cu. ft. valued at \$2,299,214. In 1938 the fish catch was worth \$1,811,124.

Mineral production (1939) was valued at \$17,137,930 of which copper (70,458,890 lb.) accounted for \$7,110,711, gold (180,875 fine oz.) \$6,537,003, zinc (40,302,747 lb.) \$1,236,891, silver (1,028,485 fine oz.) \$416,413. Manufacturing (1938): 1072 factories, 23,507 employees, \$48,308,248 net value of products.

**Government.** Finance (1938-39): Revenue and expenditure were estimated to balance at \$16,960,854. The King is represented by a lieutenant governor (appointed by the governor general in council) who is advised by a ministry whose members belong to the legislative assembly of 55 members elected for a five-year term by popular vote of the people. Six senators (appointed for life) and 17 elected commoners represent Manitoba in the Dominion parliament at Ottawa. Lt. Gov. R. F. McWilliams (assumed office Nov. 1, 1940); Premier, John Bracken (Liberal-Progressive).

**History.** On Nov. 4, 1940, Manitoba was placed under the legislative guidance of a coalition government with Premier John Bracken at its head. The cabinet included Conservative, Co-operative Commonwealth Federation, Social Credit, and Liberal-Progressive members. The voters of the province were expected to approve or reject the new government at a provincial general election to be held early in 1941.

**MANNERHEIM LINE.** See **EUROPEAN WAR** under *Finnish Campaign*.

**MANUAL TRAINING.** See **EDUCATION**.

**MANUFACTURES, Census of.** The Bureau of the Census of the U.S. Department of Commerce released on Dec. 29, 1940, the latest of its biennial reports on manufactures in the United States. According to the Bureau's summary, the manufacturing industries of the United States, including the printing and publishing industries, manufactured products in 1939 whose combined value totaled \$56,828,807,223. This was 64 per cent less than the value of products of these industries for 1937 and 16.6 per cent less than for 1929. The wage earners, both full-time and part-time, who were engaged in manufacturing these products totaled 7,887,242 which was 8 per cent less than in 1937 and 5.9 per cent less than in 1929. Although the manufacturing activities of the country did not reach the 1937 or the 1929 levels in 1939, the latter year did rank next to these two years during the past decade. In terms of actual goods produced, 1939 was probably closer to these earlier years than is indicated by the total value of products manufactured or the employment figures, since the level of prices was lower in 1939 than in either of the other two years and technological developments undoubtedly affected to some extent the productivity of labor.

TABLE 1—SUMMARY, BY GROUPS OF INDUSTRIES, FOR 1939

Group	Number of establishments	Salaries personnel <sup>1,2</sup>	Wage earners (average for the year) <sup>1,3</sup>	Salaries <sup>1,4</sup>	Wages <sup>4</sup>	Value of products <sup>4,5</sup>
All groups, total	184,244	1,049,468	7,887,242	\$2,542,040,011	\$9,089,927,984	\$56,828,807,223
1. Food and kindred products	51,454	113,232	824,009	262,187,331	913,981,553	10,603,950,671
2. Tobacco manufactures	765	4,757	87,525	11,355,748	68,439,717	1,322,189,139
3. Textile-mill products and other fiber manufactures	6,293	61,997	1,075,702	149,762,645	902,171,863	3,897,437,872
4. Apparel and other finished products made from fabrics and similar materials	20,365	53,472	758,302	132,455,695	660,609,295	3,358,255,400
5. Lumber and timber basic products	11,520	24,607	360,613	51,908,720	310,381,443	1,122,057,978
6. Furniture and finished lumber products	8,457	32,349	293,820	73,403,617	274,733,251	1,267,724,013
7. Paper and allied products	3,279	31,069	264,715	84,868,716	309,856,579	2,019,568,217
8. Printing, publishing and allied industries	24,879	142,912	324,615	331,673,493	493,643,339	2,578,494,382
9. Chemicals and allied products	9,203	63,109	287,136	165,144,382	356,184,902	3,733,657,723
10. Products of petroleum and coal	989	18,547	105,428	48,106,292	173,710,817	2,953,973,409
11. Rubber products	595	18,636	120,740	44,436,839	161,409,811	902,328,802
12. Leather and leather products	3,508	23,865	327,663	55,195,641	294,289,718	1,389,513,718
13. Stone, clay, and glass products	7,024	32,961	287,522	78,817,363	329,589,927	1,440,151,489
14. Iron and steel and their products, except machinery	8,993	117,116	966,371	297,527,758	1,313,633,202	6,591,530,456
15. Nonferrous metals and their products	5,600	34,562	228,753	86,081,442	299,219,667	2,572,854,496
16. Electrical machinery	2,014	57,528	256,467	139,614,726	335,819,534	1,727,217,631
17. Machinery (except electrical)	9,506	106,686	522,975	258,327,232	748,268,262	3,254,173,950
18. Automobiles and automobile equipment	1,133	46,211	398,963	115,208,037	646,405,891	4,047,872,729
19. Transportation equipment except automobiles	968	28,211	157,096	63,652,023	239,253,940	882,896,840
20. Miscellaneous industries	7,699	37,641	238,827	92,312,311	258,325,273	1,162,958,308

<sup>1</sup> No data for employees of central administrative offices are included.

<sup>2</sup> The 1939 Census of Manufactures questionnaire, for the first time, called for personnel employed in distribution, construction, etc., separately from the manufacturing employees of the plants, and therefore, the data probably are not strictly comparable. Employees of the plants reported as engaged in distribution and construction activities in 1939 are not included in this preliminary report but will be included in the final report.

<sup>3</sup> This is an average of the numbers reported for the several months of the year. In calculating it, equal weight must be given to full-time and part-time wage earners (not reported separately by the manufacturers), and for this reason it exceeds the number that would have been required to perform the work done in the industries if all wage earners had been continuously employed throughout the year. The quotient obtained by dividing the amount of wages by the average number of wage earners should not, therefore, be accepted as representing the average wage received by full-time wage earners. In making comparisons between the figures for 1939 and those for earlier years, the likelihood that the proportion of part-time employment varied from year to year should be taken into account. Also see footnote 2, above.

<sup>4</sup> Profits or losses cannot be calculated from the census figures because no data are collected for certain expense items, such as interest, rent, depreciation, taxes, insurance, and advertising.

<sup>5</sup> The aggregates for cost of materials and value of products include large but indeterminable amounts of duplication due to the use of the products of some industries as material by others. This duplication occurs, as a rule, between different industries, and is not found to any great extent in individual industries.

TABLE 2—SUMMARY FOR 1939, BY INDUSTRIES

[For combined totals for all industries, see table 1]

Group No	Industry	Number of establishments	Salaries personnel	Wage earners (average for the year)	Salaries	Wages	Value of products
13	Abrasive wheels, stones, paper, cloth, and related products	124	1,851	7,734	\$5,443,620	\$10,683,071	\$71,271,168
17	Agricultural machinery (except tractors)	317	5,587	27,806	11,051,197	35,228,807	167,895,292
19	Aircraft and parts, including aircraft engines	125	13,771	48,637	27,976,663	77,488,188	279,496,844
15	Alloying, and rolling and drawing of nonferrous metals (except aluminum)	188	5,363	38,816	13,235,301	56,282,378	445,060,017
15	Aluminum ware, kitchen, hospital, and household (except electrical appliances)	32	888	6,297	2,192,950	7,774,778	37,124,898
15	Aluminum products (including rolling and drawing and extruding), not elsewhere classified	162	2,983	17,249	6,476,896	25,539,148	169,819,269
9	Ammunition	13	687	4,264	1,395,058	4,952,610	29,091,475
3	Artificial leather and oilcloth	36	634	3,976	1,673,592	5,391,326	43,434,067
20	Artists' materials	42	137	397	321,625	464,389	4,070,141
13	Asbestos products (except steam packing and pipe and boiler covering)	79	1,276	9,979	2,960,053	11,578,739	60,774,252
14	Automobile stampings	90	1,242	8,597	3,283,252	11,970,203	47,833,155
18	Automobile trailers (for attachment to passenger cars)	79	177	1,426	367,493	1,501,270	7,941,996
16	Automotive electrical equipment	84	2,855	17,495	6,509,312	24,896,474	109,761,620
1	Baking powder, yeast, and other leavening compounds	47	505	2,335	1,706,273	3,654,208	31,774,637
6	Baskets for fruits and vegetables	153	451	8,048	816,117	4,470,188	14,286,273
16	Batteries, storage and primary (dry and wet)	221	2,365	15,034	5,361,603	19,209,426	117,410,394
3	Battling, padding, and wadding; upholstery filling	124	548	4,504	1,561,789	4,120,350	30,213,085
20	Beauty-shop and barber-shop equipment	72	420	1,986	1,163,672	1,817,595	13,006,333
10	Beehive coke	29	69	685	73,101	701,108	4,781,094
1	Beet sugar	85	1,477	10,410	2,941,734	12,361,317	134,396,017

TABLE 2—SUMMARY FOR 1939, BY INDUSTRIES (Continued)

Group No.	Industry	Number of establishments	Salaried personnel	Wage earners (average for the year)	Salaries	Wages	Value of products
4	Belts (apparel), regardless of material . . . . .	245	453	4,222	\$1,079,482	\$4,066,591	\$19,076,348
1	Biscuit, crackers, and pretzels . . . . .	356	2,388	29,173	5,695,122	28,549,620	200,792,878
14	Blast furnace products . . . . .	81	1,911	19,537	5,387,999	28,312,336	550,802,313
	Blended and prepared flour made from purchased flour . . . . .	78	176	706	407,261	593,196	17,894,332
17	Blowers; exhaust and ventilating fans . . . . .	77	734	3,885	1,781,270	5,371,111	28,606,349
9	Bluing . . . . .	13	30	55	87,800	55,925	1,142,341
19	Boat building and boat repairing . . . . .	202	316	2,630	770,348	2,897,445	10,884,542
14	Bolts, nuts, washers, and rivets—made in plants not operated in connection with rolling mills . . . . .	155	2,040	14,331	5,574,286	18,332,950	84,117,969
9	Bone black, carbon black, and lampblack . . . . .	53	208	1,574	534,300	2,001,097	14,626,876
8	Bookbinding and related industries . . . . .	1,133	3,936	25,773	9,729,733	29,062,627	102,591,313
8	Books: printing without publishing . . . . .	690	3,365	16,547	10,106,634	25,037,639	87,686,088
8	Books: publishing and printing . . . . .	150	1,657	6,091	4,060,474	8,404,779	39,517,202
8	Books: publishing without printing . . . . .	556	6,862	135	14,127,081	195,671	109,579,001
12	Boot and shoe cut stock and findings . . . . .	520	1,955	18,845	4,546,390	17,195,728	129,399,406
1	Bread and other bakery products (except biscuit, crackers, and pretzels) . . . . .	18,049	16,719	201,537	36,993,955	262,000,268	1,211,395,278
13	Brick and hollow structural tile . . . . .	800	2,479	29,069	\$5,557,905	\$26,349,346	\$78,153,227
20	Brooms . . . . .	320	346	3,787	537,930	2,756,770	11,842,422
20	Brushes . . . . .	245	1,258	7,891	3,004,394	7,988,974	48,466,966
20	Buttons . . . . .	316	958	10,972	2,288,501	8,622,711	29,817,188
9	Candles . . . . .	28	142	840	514,310	816,811	6,329,179
1	Candy and other confectionery products . . . . .	1,252	4,676	49,740	11,795,526	41,084,966	297,761,813
1	Cane sugar—(except refineries) . . . . .	78	687	4,217	826,974	2,573,319	33,526,898
1	Cane-sugar refining . . . . .	27	1,706	14,133	3,820,757	16,196,690	384,412,492
1	Canned and dried fruits and vegetables (including canned soups) . . . . .	2,007	7,585	98,022	13,805,535	65,234,801	587,343,024
1	Canned fish, crustacea, and mollusks . . . . .	214	828	15,735	1,685,631	7,228,083	65,455,696
4	Canvas products (except bags) . . . . .	334	907	3,869	2,116,050	3,620,832	24,408,030
20	Carbon paper and inked ribbons . . . . .	58	440	1,741	1,359,481	2,132,172	20,776,745
16	Carbon products for the electrical industry, and manufactures of carbon or artificial graphite . . . . .	31	692	3,189	1,825,174	4,483,609	18,375,580
3	Carpets and rugs, wool . . . . .	43	2,375	25,591	5,797,694	30,143,651	140,337,725
3	Carpets, rugs, and mats made from such materials as paper fiber, grass, jute, flax, sisal, cotton, cocoa fiber, and rags . . . . .	84	317	3,137	684,887	2,116,087	9,758,261
3	Carpet yarn, woolen and worsted . . . . .	18	225	3,137	722,788	3,499,528	19,982,522
19	Cars and car equipment—railroad, street, and rapid-transit . . . . .	143	3,964	24,521	8,879,313	34,614,506	168,381,877
17	Cars and trucks, industrial . . . . .	55	609	2,732	1,330,932	3,149,298	17,319,579
6	Caskets, coffins, burial cases, and other morticians' goods . . . . .	599	2,108	12,447	5,232,149	13,392,154	70,353,137
14	Cast-iron pipe and fittings . . . . .	74	1,221	16,488	2,991,244	17,483,095	65,079,052
13	Cement . . . . .	160	2,768	23,801	7,408,199	31,588,404	192,611,304
1	Cereal preparations . . . . .	70	1,011	7,458	2,779,590	9,856,757	119,391,055
1	Cheese . . . . .	2,682	742	5,009	1,173,927	5,154,695	108,207,060
9	Chemicals not elsewhere classified . . . . .	543	14,076	60,268	38,221,310	94,883,537	839,750,366
1	Chewing gum . . . . .	27	354	2,627	1,036,287	3,285,748	60,783,246
4	Children's and infants' coats—made in contract factories . . . . .	45	34	1,181	66,515	1,325,388	1,946,728
4	Children's and infants' coats—made in inside factories or by jobbers engaging contractors . . . . .	108	343	2,130	909,159	3,007,718	24,970,797
4	Children's and infants' dresses (including house coats and sportswear' middles, slacks, beach wear, etc)—made in inside factories or by jobbers engaging contractors . . . . .	182	771	10,646	2,067,690	8,063,761	46,742,013
4	Children's and infants' dresses (including house coats and sportswear' middles, slacks, beach wear, etc)—made in contract factories . . . . .	114	106	4,487	157,529	2,598,719	3,841,533
4	Children's and infants' wear not elsewhere classified—made in contract factories . . . . .	22	26	995	49,041	677,566	1,040,894
4	Children's and infants' wear not elsewhere classified—made in inside factories or by jobbers engaging contractors . . . . .	103	297	4,365	710,301	3,502,811	17,941,909
20	Children's vehicles . . . . .	44	448	4,319	1,109,759	4,712,998	19,117,410
13	China firing and decorating (for the trade) . . . . .	24	47	421	125,557	425,644	2,334,161
1	Chocolate and cocoa products . . . . .	39	783	6,464	2,108,825	7,711,129	99,018,203
6	Cigar boxes, wooden, part wooden . . . . .	59	170	3,101	517,408	2,017,076	6,330,768
2	Cigarettes . . . . .	35	1,385	27,426	3,729,394	26,067,632	1,037,747,517
2	Cigars . . . . .	598	2,398	50,897	5,075,463	34,179,556	160,754,424
13	Clay products (except pottery), not elsewhere classified . . . . .	99	160	1,651	335,828	1,493,937	4,450,202
13	Clay refractories, including refractory cement (clay) . . . . .	165	1,053	12,211	2,406,212	12,324,290	42,191,454
9	Cleaning and polishing preparations, blackings, and dressings . . . . .	637	1,981	5,128	5,390,114	5,676,266	89,766,752
15	Clocks, watches, and materials and parts (except watchcases) . . . . .	74	1,726	17,878	4,130,252	20,467,333	84,846,136
4	Clothing, leather and sheep-lined . . . . .	97	443	4,672	971,712	4,578,002	22,142,238
3	Cloth sponging and miscellaneous special finishing . . . . .	112	438	2,811	1,241,240	3,851,672	23,682,404

TABLE 2—SUMMARY FOR 1939, BY INDUSTRIES (Continued)

Group No.	Industry	Number of establishments	Salaried personnel	Wage earners (average for the year)	Salaries	Wages	Value of products
9	Coal-tar products, crude and intermediate.....	49	447	2,338	\$1,029,267	\$3,598,411	\$42,917,034
7	Coated and glazed paper .....	140	1,241	7,449	3,701,443	9,384,260	84,386,593
4	Coats, suits, and skirts (except fur coats)—made in contract factories .....	846	647	21,405	1,220,990	22,856,164	32,851,413
4	Coats, suits, and skirts (except fur coats)—made in inside factories or by jobbers engaging contractors .....	1,120	3,025	24,048	8,723,756	33,560,567	281,145,798
14	(old-rolled steel sheets and strip and cold-finished steel bars made in plants not operated in connection with hot-rolling mills .....	43	775	5,644	2,362,987	8,177,807	70,401,099
15	Collapsible tubes .....	14	202	1,933	645,015	1,903,311	9,471,816
9	Colors and pigments .....	89	1,480	5,839	3,924,319	8,114,349	83,885,847
17	Commercial laundry, dry-cleaning, and pressing machinery .....	82	677	2,705	1,742,731	3,476,555	21,838,863
16	Communication equipment .....	227	9,300	32,119	25,325,092	44,444,379	191,326,489
9	Compressed and liquified gases—not made in petroleum refineries or in natural gasoline plants ..	379	793	3,960	2,171,646	5,853,935	53,364,936
13	Concrete products ..	2,040	2,759	17,363	6,601,037	18,799,873	130,393,396
1	Condensed and evaporated milk ..	562	1,608	9,705	3,129,038	11,233,725	209,755,891
17	Construction and similar machinery (except mining and oil-field machinery and tools) ..	199	4,146	17,259	9,434,266	25,198,311	140,137,586
7	Converted paper products not elsewhere classified ..	384	3,330	21,775	8,713,637	22,184,555	161,305,558
1	Cooking and other edible fats and oils, not elsewhere classified ..	56	1,000	4,673	2,337,688	5,396,788	186,252,453
6	Cooperage ..	350	678	7,193	1,644,766	6,560,047	38,261,442
3	Cordage and twine ..	116	1,153	12,096	3,086,404	10,184,862	56,685,817
6	Cork products ..	35	392	2,923	1,003,577	3,301,627	17,723,584
1	Corn sirup, corn sugar, corn oil, and starch ..	35	1,170	6,764	3,214,357	10,585,599	119,408,253
4	Corsets and allied garments ..	272	1,949	18,765	5,325,931	15,734,491	84,417,950
20	Costume jewelry and costume novelties (jewelry other than fine jewelry) ..	289	1,227	10,808	2,686,909	8,754,638	33,921,990
3	Cotton broad woven goods ..	661	10,754	312,249	23,095,871	225,175,272	869,354,285
3	Cotton narrow fabrics ..	163	1,260	13,318	3,144,181	11,776,206	48,500,589
9	Cottonseed oil, cake, meal, and linters ..	447	2,530	15,191	4,897,471	8,939,334	171,476,253
3	Cotton thread ..	75	1,190	13,298	2,328,494	10,529,271	51,376,151
3	Cotton yarn ..	349	2,534	70,452	5,379,506	45,055,469	198,940,444
1	Creamery butter ..	3,506	5,652	17,953	8,430,365	18,378,961	492,221,462
1	Cured fish ..	114	249	1,893	610,186	1,669,604	15,614,728
4	Curtains, draperies, and bedspreads—contract factories ..	75	68	1,109	93,708	797,803	1,678,806
4	Curtains, draperies, and bedspreads—made in regular factories or by jobbers engaging contractors ..	370	1,179	15,798	2,646,797	9,471,636	70,232,983
1	Custom slaughtering, wholesale ..	40	90	641	198,801	688,864	1,932,722
14	Cutlery (except aluminum, silver, and plated cutlery) and edge tools ..	266	1,811	15,399	4,966,557	16,797,297	59,924,396
20	Dental equipment and supplies ..	131	827	4,245	2,440,963	4,825,367	31,546,707
7	Die-cut paper and paperboard, and converted cardboard ..	121	716	4,354	2,146,109	5,453,990	33,263,907
20	Dolls (except rubber) ..	84	289	3,052	676,961	2,836,614	12,132,373
14	Doors, window sash, frames, molding, and trim (made of metal) ..	205	1,462	7,740	3,821,877	10,531,328	48,219,102
4	Dress and semidress gloves and mittens: cloth, cloth and leather combined ..	49	207	3,396	373,940	2,297,627	7,703,088
9	Drugs and medicines (including drug grinding) ..	1,094	7,012	22,386	20,148,737	23,897,990	364,985,404
3	Dyeing and finishing cotton, rayon, silk, and linen textiles ..	468	6,864	60,237	17,740,876	61,744,518	271,167,139
3	Dyeing and finishing woolen and worsted ..	63	575	3,821	1,655,921	3,944,885	37,437,032
16	Electric lamps ..	55	1,413	9,622	3,490,230	10,689,019	84,827,985
16	Electrical appliances ..	138	2,950	19,890	7,034,840	25,408,770	145,696,194
16	Electrical measuring instruments ..	59	1,805	6,976	4,322,125	9,881,124	41,797,495
16	Electrical products not elsewhere classified ..	175	1,493	6,014	3,790,409	7,409,584	39,048,906
15	Electroplating, plating, and polishing ..	643	997	8,206	2,517,782	9,382,801	28,168,051
8	Electrotyping and stereotyping, not done in printing establishments ..	234	1,155	4,409	3,817,973	8,919,769	29,045,159
17	Elevators, escalators, and conveyors ..	183	2,390	8,915	5,548,273	13,357,937	64,128,051
4	Embroideries, other than Schiffli-machine products—contract factories ..	357	222	4,189	451,408	3,323,654	8,220,437
4	Embroideries, other than Schiffli-machine products—made in regular factories or by jobbers engaging contractors ..	54	66	608	139,412	504,561	1,686,181
4	Embroideries: Schiffli-machine products ..	398	284	3,750	832,262	3,247,549	14,121,853
14	Enameled-iron sanitary ware and other plumbers' supplies (not including pipe and vitreous and semi-vitreous china sanitary ware) ..	259	2,651	24,605	6,827,206	30,768,552	125,578,189
14	Enameling, japanning, and lacquering ..	80	210	1,821	589,177	2,062,275	6,935,646
15	Engraving on metal (except for printing purposes) ..	94	203	1,419	574,059	1,866,457	5,863,670
8	Engraving (steel, copperplate, and wood); plate printing ..	436	1,085	5,353	2,562,203	7,156,404	22,163,638
7	Envelopes ..	169	1,083	8,689	3,398,231	9,596,844	50,118,134
9	Essential oils ..	14	54	255	262,681	357,346	9,813,799
9	Explosives ..	80	801	7,242	2,324,138	10,964,498	71,053,206
6	Excelsior ..	53	84	925	172,129	700,246	2,987,285

TABLE 2—SUMMARY FOR 1939, BY INDUSTRIES (Continued)

Group No.	Industry	Number of establishments	Salaries per person	Wage earners (average for the year)	Salaries	Wages	Value of products
20	Fabricated plastic products, not elsewhere classified	216	2,081	15,094	\$4,936,817	\$17,688,104	\$71,904,067
14	Fabricated structural steel and ornamental metal work, made in plants not operated in connection with rolling mills	1,138	6,601	35,477	16,504,392	47,549,506	284,669,659
20	Feathers, plumes, and artificial flowers	314	530	6,650	1,156,757	4,582,411	18,503,971
3	Felt goods, wool, hair, and jute (except woven felts and hat bodies and hats)	37	354	3,346	850,737	3,856,988	23,573,823
9	Fertilizers	764	2,666	18,744	5,251,099	13,678,397	185,684,328
7	Fiber cans, tubes, and similar products	116	764	6,637	1,819,906	6,962,529	33,345,334
14	Files	22	370	3,205	832,615	3,838,520	11,293,946
4	Finishing of men's and boys' hats of fur felt, wool felt, and straw	151	698	6,909	1,625,612	6,207,422	33,240,221
14	Firearms	23	781	5,001	1,503,622	8,846,317	17,711,651
20	Fire extinguishers, chemical	28	311	995	702,274	1,273,055	9,228,416
9	Fireworks	59	190	1,158	454,757	987,446	4,628,181
9	Fish and other marine oils, cake, and meal	76	230	1,523	749,804	1,307,934	13,622,312
13	Flat glass	37	1,519	16,738	3,711,843	24,008,619	102,389,012
1	Flavoring extracts and flavoring sirups, not elsewhere classified	477	1,344	3,589	4,480,541	3,764,360	139,901,840
1	Food preparations, not elsewhere classified	1,007	2,314	13,120	6,102,670	11,179,273	172,459,397
17	Food-products machinery	379	3,500	13,979	8,873,586	18,936,642	90,840,544
13	Floor and wall tile (except quarry tile)	49	492	5,681	1,022,424	5,931,149	17,658,885
1	Flour and other grain-mill products	2,143	5,548	24,771	12,517,968	28,369,796	649,943,088
12	Footwear (except rubber)	1,070	14,082	218,028	29,416,005	183,657,529	734,673,111
14	Forgings, iron and steel—made in plants not operated in connection with rolling mills	207	2,018	15,372	6,223,167	22,652,054	104,883,196
10	Fuel briquets	32	73	410	140,449	484,719	5,287,282
4	Fur coats and other fur garments, accessories, and trimmings	2,175	2,812	13,094	7,644,694	23,403,321	168,031,656
20	Furs, dressed and dyed	145	550	5,115	2,153,029	9,065,676	22,395,325
14	Galvanizing and other coating—carried on in plants not operated in connection with rolling mills	83	197	1,212	752,859	1,342,647	6,195,640
20	Games and toys (except dolls and children's vehicles)	343	1,736	15,610	4,086,597	12,656,729	55,400,894
8	General commercial (job) printing	9,595	20,298	96,039	48,795,502	132,957,236	515,435,609
16	Generating, distribution, and industrial apparatus, and apparatus for incorporation in manufactured products, not elsewhere classified	491	21,354	70,401	50,074,952	104,083,541	470,462,442
13	Glass containers	77	2,917	25,753	7,064,560	34,181,498	158,271,647
9	Glue and gelatin	80	595	3,039	1,807,407	3,941,588	34,331,639
15	Gold and silver leaf and foil	26	64	563	201,590	469,577	2,108,990
8	Gravure, rotogravure, and rotary photogravure (including preparation of plates)	24	403	2,623	1,442,202	5,436,278	18,614,837
14	Gray-iron and semisteel castings	1,161	5,839	58,430	15,343,487	70,757,944	209,719,754
9	Grease and tallow (except lubricating greases)	310	842	5,201	2,176,287	6,508,509	58,226,218
8	Greeting cards (except hand-painted)	109	1,542	7,522	3,348,337	7,264,165	39,715,439
9	Gum naval stores (processing but not gathering or warehousing)	755	879	971	491,346	333,833	17,361,933
13	Gypsum products	68	692	4,936	1,466,119	6,665,759	46,241,980
20	Hair work	42	47	322	128,527	260,723	1,401,105
4	Handkerchiefs—made in contract factories	20	27	1,105	72,960	693,182	1,182,047
4	Handkerchiefs—made in inside factories or by jobbers engaging contractors	60	245	3,734	718,258	2,627,303	20,419,116
20	Hand stamps, stencils, and brands	289	548	2,211	1,340,830	2,615,029	10,811,835
14	Hardware not elsewhere classified	434	4,965	35,645	11,945,424	40,220,860	154,475,928
9	Hardwood distillation and charcoal manufacture	43	245	1,770	452,858	1,530,675	6,843,172
4	Hat and cap materials, trimmings, etc	55	99	796	246,749	743,134	4,687,304
3	Hat bodies and hats, fur felt	43	830	9,928	2,184,024	11,837,057	39,500,929
3	Hat bodies and hats, wool felt	12	280	4,421	569,358	4,210,354	16,009,816
3	Hats, straw	11	32	488	81,718	438,470	1,549,107
3	Hatters' fur	37	163	1,893	509,524	1,579,033	10,956,246
14	Heating and cooking apparatus, except electric, not elsewhere classified	138	612	2,919	1,450,883	3,507,970	20,329,879
3	Hosiery—full-fashioned	499	4,479	97,200	11,634,319	100,774,988	277,170,371
3	Hosiery—seamless	433	2,971	61,852	6,214,807	41,862,208	138,665,487
13	Hotel china	17	316	4,350	781,133	4,639,398	9,359,660
4	House dresses, uniforms, and aprons—made in contract factories	255	274	10,961	419,515	6,368,350	9,251,940
4	House dresses, uniforms, and aprons—made in inside factories or by jobbers engaging contractors	487	1,977	27,833	4,332,325	17,637,610	104,446,282
4	Housefurnishings (except curtains, draperies, and bedspreads)	472	1,192	10,623	2,840,286	8,059,340	67,521,325
6	Household furniture	1,592	8,915	95,010	20,519,927	83,998,671	328,629,913
1	Ice cream and ices	2,734	4,739	15,708	10,662,066	17,344,036	285,806,781
1	Ice, manufactured	3,975	5,149	16,009	10,816,261	17,691,894	130,166,312
12	Industrial leather belting and packing leather	190	489	2,337	1,342,410	2,860,652	24,410,104
17	Industrial machinery, not elsewhere classified	579	5,863	21,936	15,078,243	31,178,421	140,628,049
9	Insecticides, fungicides, and related industrial and household chemical compounds	774	2,103	5,017	6,088,709	5,393,213	93,443,777

TABLE 2—SUMMARY FOR 1939, BY INDUSTRIES (Continued)

Group No.	Industry	Number of establishments	Salaries per person	Wage earners (average for the year)	Salaries	Wages	Value of products
16	Insulated wire and cable . . . . .	79	2,598	15,696	\$6,428,107	\$18,637,729	\$120,390,050
17	Internal-combustion engines . . . . .	74	3,689	14,752	8,863,156	21,503,252	110,357,964
20	Jewelry cases and instrument cases . . . . .	132	578	5,127	1,545,944	4,691,283	16,670,434
15	Jewelers' findings and materials . . . . .	82	400	2,813	1,410,107	2,974,875	22,488,960
15	Jewelry (precious metals) . . . . .	886	3,195	11,358	5,823,681	14,243,142	71,418,667
3	Jute goods (except felt) . . . . .	22	370	3,586	907,971	3,118,291	16,897,414
3	Knitted cloth . . . . .	229	1,189	10,917	3,313,247	10,165,641	68,662,722
3	Knitted gloves . . . . .	20	184	5,574	423,497	3,839,330	12,385,831
3	Knitted outerwear (except knit gloves)—contract factories . . . . .	233	165	4,109	297,945	3,197,994	6,549,610
3	Knitted outerwear (except knit gloves)—regular factories or jobbers engaging contractors . . . . .	476	1,910	18,440	4,669,279	15,518,406	97,641,147
3	Knitted underwear . . . . .	199	2,505	38,536	6,099,817	27,404,769	113,353,402
6	Laboratory, hospital, and other professional furniture . . . . .	82	497	2,982	1,324,627	3,350,765	14,655,180
3	Lace goods . . . . .	63	799	7,254	1,943,266	8,106,909	24,137,550
20	Lamp shades . . . . .	128	250	2,671	530,034	1,715,155	8,375,706
15	Lapidary work . . . . .	90	38	267	76,278	390,556	5,128,926
6	Lasts and related products . . . . .	48	233	1,519	608,690	1,995,127	6,672,100
17	Laundry equipment, domestic . . . . .	42	1,184	7,466	2,575,500	9,277,024	61,601,221
12	Leather gloves and mittens . . . . .	233	765	9,995	1,475,659	7,408,682	26,830,856
12	Leather goods not elsewhere classified . . . . .	160	231	2,462	617,849	2,087,363	8,911,482
12	Leather tanned, curried, and finished—contract factories . . . . .	111	467	5,457	1,346,032	6,212,934	16,709,502
12	Leather tanned, curried, and finished—regular factories or jobbers engaging contractors . . . . .	335	3,247	41,795	9,867,469	50,570,248	329,728,052
15	Lighting fixtures . . . . .	568	3,066	20,477	8,313,801	23,238,474	124,581,725
13	Lime . . . . .	269	938	9,458	2,046,625	9,068,627	36,971,171
3	Linen goods . . . . .	9	125	1,735	308,314	1,496,185	6,297,642
3	Linoleum, asphalted-felt-base and other hard-surface floor coverings, not elsewhere classified . . . . .	17	666	7,028	1,660,575	10,405,841	69,874,978
9	Linseed oil, cake, and meal . . . . .	25	244	2,120	529,613	3,193,158	68,011,767
1	Liquors, distilled . . . . .	135	1,031	4,091	2,307,246	4,884,598	56,080,195
1	Liquors, rectified or blended . . . . .	148	992	2,819	2,172,276	3,215,970	49,143,605
8	Lithographing and photo-lithographing (including preparation of stones or plates and dry transfers) . . . . .	749	5,148	26,000	15,328,775	37,929,201	154,394,787
19	Locomotives (including frames) and parts, railroad, mining, and industrial . . . . .	15	1,489	6,470	3,394,602	9,656,650	47,425,590
5	Logging camps and logging contractors (not operating sawmills) . . . . .	967	927	22,785	2,109,609	22,703,068	69,620,906
9	Lubricating oils and greases—not made in petroleum refineries . . . . .	232	950	2,128	2,691,225	2,713,225	49,056,857
1	Macaroni, spaghetti, vermicelli, and noodles . . . . .	328	805	6,013	1,996,566	5,383,421	46,153,471
8	Machine and hand typesetting (including advertisement typesetting) . . . . .	641	1,371	6,244	3,639,855	10,424,914	25,096,497
17	Machine-shop products, not elsewhere classified . . . . .	2,125	12,667	60,717	31,655,905	81,639,539	360,334,229
17	Machine-shop repairs . . . . .	1,459	1,470	9,176	2,888,503	12,273,448	38,166,267
17	Machine-tool and other metalworking machinery accessories, metal-cutting and shaping tools, and machinists' precision tools . . . . .	954	4,257	25,161	12,989,143	41,346,606	125,630,124
17	Machine tools . . . . .	200	8,220	36,624	21,645,706	62,333,150	218,044,728
14	Malleable-iron castings . . . . .	83	1,828	18,041	4,190,316	21,555,489	53,450,770
1	Malt . . . . .	52	281	1,459	1,265,603	2,593,142	38,478,581
1	Malt liquors . . . . .	605	5,823	36,089	20,098,523	62,211,236	526,076,938
6	Matches . . . . .	28	418	5,426	886,632	5,597,503	25,577,201
6	Mattresses and bedsprings . . . . .	947	2,645	18,342	6,205,591	19,493,113	113,114,633
17	Measuring and dispensing pumps . . . . .	38	1,116	5,054	2,539,987	6,750,717	44,286,332
17	Measuring instruments, mechanical (except electrical measuring instruments, watches, and clocks) . . . . .	68	1,324	6,692	3,109,168	8,873,656	39,684,434
1	Meat packing, wholesale . . . . .	1,478	17,074	119,853	40,111,363	161,523,772	2,648,325,552
17	Mechanical power-transmission equipment . . . . .	218	4,732	30,268	12,465,834	43,751,830	170,291,472
4	Men's and boys' hats and caps (except felt and straw) . . . . .	270	328	3,382	654,507	2,876,566	11,605,495
4	Men's and boys' shirts (except work shirts), collars, and nightwear—made in contract factories . . . . .	141	346	13,371	626,068	7,619,301	11,191,950
4	Men's and boys' shirts (except work shirts), collars, and nightwear—made in inside factories or by jobbers engaging contractors . . . . .	449	2,633	57,082	5,419,783	37,322,688	181,174,168
4	Men's and boys' suits, coats, and overcoats (except work clothing)—made in contract factories . . . . .	1,078	1,355	48,487	2,694,991	43,684,136	61,660,487
4	Men's and boys' suits, coats, and overcoats (except work clothing)—made in inside factories or by jobbers engaging contractors . . . . .	1,371	6,496	89,031	17,639,442	96,044,275	536,612,780
4	Men's and boys' underwear—made in contract factories . . . . .	10	27	1,211	40,354	696,558	1,094,784
4	Men's and boys' underwear—made in inside factories or by jobbers engaging contractors . . . . .	44	234	5,333	422,135	3,031,901	15,598,176

TABLE 2—SUMMARY FOR 1939, BY INDUSTRIES (Continued)

Group No.	Industry	Number of establishments	Salaried personnel	Wage earners (average for the year)	Salaries	Wages	Value of products
4	Men's neckwear—made in contract factories	34	23	917	\$54,275	\$549,831	\$987,713
4	Men's neckwear—made in inside factories or by jobbers engaging contractors	347	759	8,686	1,894,426	6,796,109	45,404,814
17	Metalworking machinery and equipment, not elsewhere classified	178	4,036	15,899	10,071,719	25,089,052	98,975,454
4	Millinery	1,050	2,757	24,298	6,967,965	26,059,759	105,600,643
13	Minerals and earths, ground or otherwise treated	237	851	5,858	2,082,160	5,749,781	38,903,146
13	Mineral wool	58	264	1,885	582,230	1,820,727	8,237,553
17	Mining machinery and equipment	65	1,207	4,940	2,927,295	6,276,899	33,558,909
6	Mirror frames and picture frames	182	423	3,220	1,052,066	3,064,776	13,249,507
13	Mirrors and other glass products made of purchased glass	557	1,402	10,012	3,314,625	10,615,452	49,886,406
20	Miscellaneous fabricated products not elsewhere classified	582	1,772	13,608	4,132,753	11,251,780	51,849,418
4	Miscellaneous fabricated textile products not elsewhere classified	300	839	5,852	2,119,238	4,789,063	31,640,283
20	Models and patterns (except paper patterns)	683	810	5,566	2,351,736	9,036,886	22,329,056
13	Monuments, tombstones, cut-stone, and stone products not elsewhere classified	1,244	2,739	18,516	5,635,563	21,999,696	75,811,785
19	Motorcycles, bicycles, and parts	36	805	6,973	1,993,462	8,973,875	43,052,278
18	Motor vehicles, motor-vehicle bodies, parts, and accessories	1,054	46,034	397,537	114,840,544	644,904,621	4,039,930,733
9	Mucilage, paste, and other adhesives except glue and rubber cement	64	162	285	398,298	289,857	4,168,855
20	Musical instruments, parts, and materials not elsewhere classified	101	518	3,191	1,139,102	3,917,243	11,552,380
14	Nails, spikes, etc., not made in wire mills or in plants operated in connection with rolling mills	36	328	2,515	823,173	2,730,275	12,907,854
13	Natural graphite, ground and refined	6	18	55	70,173	65,530	1,251,206
20	Needles, pins, hooks and eyes, and slide and snap fasteners	58	1,718	10,403	3,796,022	11,804,341	38,155,126
8	Newspapers publishing and printing	6,879	66,550	96,991	147,529,764	164,355,744	898,225,000
8	Newspapers publishing without printing	431	1,849	260	2,362,178	363,455	11,963,611
1	Nonalcoholic beverages	4,504	7,571	21,317	19,314,670	20,344,719	365,778,930
13	Nonclay refractories	46	415	4,792	1,039,422	5,316,179	26,906,439
15	Nonferrous metal foundries (except aluminum)	600	1,411	9,699	3,778,132	12,210,365	55,636,898
15	Nonferrous metal products not elsewhere classified	438	3,858	24,834	10,547,907	34,751,402	141,765,939
17	Office and store machines, not elsewhere classified	123	6,008	36,204	13,774,135	49,981,728	150,170,237
6	Office furniture	152	1,622	11,776	3,644,594	13,674,150	54,750,091
14	Oil burners, domestic and industrial	130	714	1,498	1,654,287	1,893,283	18,468,017
17	Oil-field machinery and tools	223	2,538	12,519	6,644,051	18,740,996	88,977,327
1	Oleomargarine—not made in meat-packing establishments	18	260	984	766,318	1,294,512	34,101,757
20	Ophthalmic goods lenses and fittings	91	2,106	10,252	4,692,686	12,246,003	44,954,653
20	Optical instruments and lenses	30	240	1,372	633,398	1,847,767	4,745,579
20	Organs	34	139	989	301,467	1,054,067	3,420,893
10	Oven coke and coke-oven byproducts	83	2,092	21,008	5,771,766	11,779,615	342,197,303
9	Paints, varnishes, and lacquers	1,166	7,265	22,334	21,006,952	31,701,798	434,960,890
7	Paper and paperboard mills	638	12,318	110,575	32,980,602	142,600,328	933,015,664
7	Paper bags, except those made in paper mills	119	1,036	11,081	3,006,039	10,628,601	85,776,374
7	Paperboard containers and boxes not elsewhere classified	1,338	7,610	62,530	21,564,680	63,806,013	382,709,595
17	Paper-mill, pulp-mill, and paper-products machinery	99	1,398	5,409	4,043,242	7,775,242	32,419,924
6	Partitions, shelving, cabinet work, and office and store fixtures	716	2,324	13,826	5,774,712	17,735,228	70,718,293
10	Paving blocks and paving mixtures asphalt, creosoted wood, and composition	231	498	2,437	1,283,673	2,681,421	32,754,308
20	Pencils (except mechanical) and crayons	40	550	3,779	1,448,956	3,434,391	15,859,756
20	Pens, mechanical pencils, and pen points	70	598	4,463	1,572,366	4,328,516	24,880,890
9	Perfumes, cosmetics, and other toilet preparations	539	2,240	10,363	6,947,461	9,643,540	147,465,585
8	Periodicals publishing and printing	600	8,094	20,985	18,047,843	33,002,502	202,015,136
8	Periodicals publishing without printing	1,958	16,994	436	38,765,489	564,797	266,831,618
10	Petroleum refining	485	14,746	72,840	38,194,786	128,214,054	2,461,126,549
8	Photoengraving, not done in printing establishments (including preparation of plates)	694	2,603	9,207	8,009,450	22,568,156	55,619,445
20	Photographic apparatus and materials and projection equipment (except lenses)	160	4,419	17,271	11,098,065	25,286,669	133,899,429
20	Piano and organ parts and materials	23	136	1,315	456,875	1,430,642	4,771,563
20	Pianos	35	512	5,311	1,111,252	6,123,348	20,493,110
1	Pickled fruits and vegetables and vegetable sauces and seasonings	377	1,119	9,908	2,579,644	7,393,306	72,637,388
5	Planing mills not operated in conjunction with saw-mills	3,076	8,041	62,838	17,579,828	62,815,065	320,613,516
9	Plastic materials	38	2,061	6,966	4,757,869	9,839,935	77,653,314
5	Plywood mills	86	656	9,805	1,650,801	9,942,874	38,878,932
13	Porcelain electrical supplies	42	703	6,018	1,817,789	6,530,168	20,817,045
13	Pottery products not elsewhere classified	151	611	6,054	1,575,793	6,998,313	16,593,344
1	Poultry dressing and packing, wholesale	765	1,413	14,500	2,400,792	8,645,247	138,318,081



TABLE 2—SUMMARY FOR 1939, BY INDUSTRIES (Continued)

Group No.	Industry	Number of establishments	Salaried personnel	Wage earners (average for the year)	Salaries	Wages	Value of products
14	Power boilers and associated products	448	4,707	18,889	\$11,206,036	\$25,298,161	\$140,959,533
1	Prepared feeds (including mineral) for animals and fowls	1,383	3,541	15,401	8,312,760	16,252,988	401,880,238
1	Preserves, jams, jellies, and fruit butters	171	549	3,717	1,327,093	3,125,619	38,025,559
15	Primary smelting and refining of nonferrous metals	63	3,717	27,630	9,056,365	38,411,086	956,572,486
9	Printing ink.....	206	1,085	2,572	3,493,147	3,701,318	49,131,575
17	Printing-trades machinery and equipment	231	2,263	9,376	5,995,149	14,646,956	55,581,691
3	Processed waste and recovered wool fibers—contract factories	27	71	619	173,706	563,961	1,449,449
3	Processed waste and recovered wool fibers—regular factories or jobbers engaging contractors	126	561	4,225	1,632,276	3,370,149	31,524,545
20	Professional and scientific instruments (except surgical and dental)	218	2,977	9,429	7,379,126	13,708,826	61,017,302
6	Public-building furniture	106	918	5,900	1,929,171	6,567,855	26,678,659
7	Pulp goods (pressed, molded)	14	93	701	190,025	818,699	3,826,393
7	Pulp mills	194	2,379	26,870	5,879,111	33,087,514	226,851,822
17	Pumping equipment and air compressors	337	4,867	19,180	11,153,546	26,208,019	134,940,777
1	Quick-frozen foods	36	141	2,641	280,792	1,656,025	10,107,442
16	Radios, radio tubes, and phonographs	224	7,752	43,508	17,849,784	47,025,658	275,870,165
4	Raincoats and other waterproof garments (except oiled cotton)	76	223	2,323	560,519	1,873,838	11,304,341
6	Rattan and willowware (except furniture) and baskets other than vegetable and fruit baskets	47	157	1,377	455,320	925,968	3,917,695
9	Rayon and allied products	30	5,266	48,332	12,291,353	60,029,523	247,065,556
3	Rayon broad woven goods—contract factories	79	246	4,313	449,173	3,119,831	5,306,825
3	Rayon broad woven goods—regular factories or jobbers engaging contractors	196	2,633	65,432	6,023,577	53,435,008	272,713,927
3	Rayon narrow fabrics	120	621	5,999	1,326,151	4,754,593	20,516,419
3	Rayon throwing and spinning—contract factories	32	116	2,423	232,921	1,480,436	3,066,274
3	Rayon yarn and thread, spun or thrown—regular factories or jobbers engaging contractors	52	400	5,930	826,916	3,996,548	26,470,882
11	Reclaimed rubber	10	112	1,072	386,207	1,477,036	6,894,018
17	Refrigerators, domestic (mechanical and absorption), refrigeration machinery and equipment and complete air-conditioning units	309	5,011	35,160	11,791,494	48,391,944	278,645,540
1	Rice cleaning and polishing	72	592	2,346	1,152,351	1,533,096	42,363,349
4	Robes, lounging garments, and dressing gowns	264	724	7,377	1,598,959	5,700,600	39,830,309
10	Roofing, built-up and roll, asphalt shingles, roof coating (except paint)	129	1,069	8,048	2,642,517	9,849,900	107,826,873
13	Roofing tile	16	82	628	147,968	615,607	1,824,881
11	Rubber boots and shoes (including rubber-soled footwear with fabric uppers)	13	2,101	14,861	3,479,190	16,801,537	49,980,591
11	Rubber products not elsewhere classified	519	7,407	50,692	17,320,674	53,357,735	264,525,200
12	Saddlery, harness, and whips	156	366	2,755	706,058	2,388,239	12,118,430
14	Safes and vaults	16	229	1,236	495,615	1,589,088	6,084,319
1	Salad dressings	134	402	2,556	870,102	2,433,965	48,941,846
9	Salt	40	407	3,737	1,065,635	4,235,484	27,530,172
13	Sand-lime brick, block and tile	27	42	346	85,624	414,466	1,915,878
1	Sausage casings—not made in meat-packing establishments	37	98	987	294,159	882,335	6,014,658
1	Sausages, prepared meats, and other meat products—not made in meat-packing establishments	1,067	1,812	11,443	5,004,781	13,473,199	208,048,345
5	Sawmills, veneer mills, and cooperage-stock mills, including those combined with logging camps and with planing mills	7,391	14,983	265,185	30,568,482	214,920,436	692,944,624
14	Saws	87	606	4,072	1,546,391	5,197,649	18,470,682
17	Scales and balances	56	605	2,839	1,517,774	3,306,476	14,350,068
14	Screw-machine products and wood screws	345	2,277	16,924	6,579,689	22,106,007	82,806,869
15	Secondary smelting and refining, gold, silver, and platinum	66	238	1,115	848,022	1,686,944	101,783,864
15	Secondary smelting and refining of nonferrous metals, not elsewhere classified	108	756	3,608	2,437,029	4,366,477	82,038,323
13	Sewer pipe and kindred products	65	412	6,406	1,012,401	6,817,738	18,295,679
17	Sewing machines, domestic and industrial	39	1,166	7,840	2,769,627	11,156,855	29,706,544
15	Sheet-metal work not specifically classified	1,262	3,398	18,749	8,957,056	23,078,689	137,341,231
19	Shipbuilding and ship repairing	406	7,658	66,611	20,199,650	104,473,303	327,387,099
20	Signs, advertising displays, and advertising novelties	1,386	3,271	17,206	8,167,527	20,557,406	87,625,220
3	Silk broad woven goods—contract factories	37	70	1,096	103,907	724,812	1,101,949
3	Silk broad woven goods—regular factories or jobbers engaging contractors	82	708	8,754	1,496,565	7,605,930	35,732,233
3	Silk narrow fabrics	100	373	4,309	943,033	3,852,093	13,131,079
3	Silk throwing and spinning—contract factories	78	536	12,374	1,028,945	7,637,806	15,853,452
3	Silk yarn and thread spun or thrown—regular factories or jobbers engaging contractors	53	534	9,191	1,473,938	6,735,942	48,004,996
15	Silverware and plated ware	150	1,519	12,105	3,607,027	15,304,394	62,771,158
12	Small leather goods	118	370	3,615	938,708	2,750,588	14,334,433
9	Soap and glycerin	264	3,630	13,624	8,607,914	18,800,527	302,634,474

TABLE 2—SUMMARY FOR 1939, BY INDUSTRIES (Continued)

Group No.	Industry	Number of establishments	Salaried personnel	Wage earners (average for the year)	Salaries	Wages	Value of products
20	Soda fountains, beer dispensing equipment, and related products	51	322	1,590	\$795,003	\$2,389,452	\$13,659,820
9	Soybean oil, cake, and meal	47	338	1,481	663,469	1,889,457	43,946,647
1	Special dairy products	51	364	2,378	849,202	2,426,951	57,569,300
17	Special industry machinery, not elsewhere classified	207	2,413	10,388	6,266,111	15,160,633	55,785,016
20	Sporting and athletic goods not elsewhere classified	350	1,780	13,816	3,899,997	14,220,581	64,753,813
14	Springs, steel (except wire)—made in plants not operated in connection with rolling mills	53	441	2,940	1,113,419	4,277,439	23,044,252
14	Stamped and pressed metal products (except automobile stampings)	655	4,413	33,113	11,688,732	37,535,454	178,395,076
13	Statuary and art goods (except stone and concrete)—factory production	126	143	983	315,005	1,150,324	3,440,114
14	Steam and hot-water heating apparatus (including hot-water furnaces)	68	1,000	8,493	2,077,671	9,921,515	45,377,801
13	Steam and other packing; pipe and boiler covering	134	880	5,906	2,484,252	7,190,308	37,170,483
17	Steam engines, turbines, and water wheels	18	1,294	3,902	3,116,932	6,349,143	24,751,466
14	Steam fittings, regardless of material	180	4,571	21,815	10,125,087	29,629,764	111,985,627
14	Steel barrels, kegs, and drums	64	621	6,072	1,585,881	7,360,075	49,165,973
14	Steel castings	164	4,292	30,088	11,020,411	41,941,774	135,466,423
14	Steel works and rolling mills	253	34,527	368,904	88,554,227	569,724,280	2,720,019,564
17	Stokers, mechanical, domestic and industrial	61	748	3,549	1,689,956	4,789,265	24,545,164
14	Stoves, ranges, water heaters, and hot-air furnaces (except electric)	449	5,194	41,701	12,657,540	48,069,160	223,427,130
12	Suitcases, briefcases, bags, trunks, and other luggage	329	908	8,326	2,380,936	7,918,929	36,591,482
20	Surgical and medical instruments	50	319	1,626	1,006,020	1,978,574	8,052,120
20	Surgical supplies and equipment not elsewhere classified, orthopedic appliances	360	1,969	8,468	4,728,519	8,547,630	79,398,442
4	Suspenders, garters, and other goods made from purchased elastic material	66	303	2,558	630,697	1,956,082	15,482,865
13	Tableware, pressed or blown glass and glassware not elsewhere classified	115	2,880	27,330	6,508,597	30,114,795	97,317,363
9	Tanning materials, natural dyestuffs, mordants, assistants, and sizes	158	800	2,716	2,739,758	3,002,734	42,164,716
13	Terra cotta	12	158	1,099	304,622	1,298,603	3,175,310
4	Textile bags—not made in textile mills	216	1,127	11,991	2,739,199	10,002,651	121,702,151
17	Textile machinery	300	3,219	21,904	7,697,178	27,614,519	93,276,326
15	Tin and other foils (except gold and silver foil)	12	140	1,328	357,818	1,937,721	19,071,847
14	Tin cans and other tinware not elsewhere classified	248	4,886	31,770	10,801,712	36,397,817	372,616,014
11	Tires and inner tubes	53	9,016	54,115	23,250,768	89,773,503	580,928,993
2	Tobacco (chewing and smoking) and snuff	132	974	9,202	2,550,891	8,192,529	123,687,198
20	Tobacco pipes and cigarette holders	32	173	2,481	497,076	2,406,530	7,507,616
14	Tools (except edge tools, machine tools, files, and saws)	387	2,586	15,343	6,387,757	18,002,210	75,290,333
17	Tractors	30	6,269	31,275	11,187,232	49,845,575	253,951,435
19	Transportation equipment not elsewhere classified	41	208	1,252	437,985	1,149,973	6,268,610
4	Trimings (not made in textile mills), stamped art goods, and art needlework—contract factories	395	409	5,553	1,090,618	5,338,560	12,509,807
4	Trimings (not made in textile mills), stamped art goods, and art needlework—made in regular factories or by jobbers engaging contractors	227	498	3,728	1,368,737	3,152,643	26,138,877
4	Trousers (semidress), wash suits, and washable service apparel	297	1,055	19,541	2,295,078	12,841,415	60,984,613
20	Umbrellas, parasols, and canes	90	262	2,862	669,495	2,191,255	11,519,990
6	Upholstered household furniture	853	3,234	29,949	7,062,492	30,082,203	128,723,519
9	Vegetable and animal oils, not elsewhere classified	54	234	1,108	557,039	1,236,515	30,456,835
17	Vending, amusement, and other coin-operated machines	51	564	3,842	1,827,870	4,631,710	23,142,882
6	Venetian blinds	274	788	5,179	1,356,600	4,808,267	25,965,350
1	Vinegar and cider	132	188	1,059	361,450	876,651	7,505,800
13	Vitreous-china plumbing fixtures	25	491	4,534	1,109,177	6,315,843	21,978,821
14	Vitreous enameled products, including kitchen, household, and hospital utensils	55	1,237	10,809	2,989,049	11,441,682	44,239,055
13	Wallboard and wall plaster (except gypsum), building insulation (except mineral wool), and floor composition	124	974	6,227	2,024,508	6,288,111	35,753,840
7	Wallpaper	46	499	4,054	1,468,733	5,333,246	24,968,843
15	Watchcases	42	400	2,409	894,374	2,939,759	9,791,605
13	Whiteware	31	629	11,728	1,776,339	13,149,932	27,800,677
6	Window and door screens and weather strip	162	429	2,830	1,077,562	2,983,580	15,223,769
6	Window shades	273	435	3,261	913,144	3,411,297	27,070,810
1	Wines	301	676	2,056	1,444,302	2,023,106	32,782,080
14	Wire drawn from purchased rods	95	3,080	21,969	8,511,162	29,965,840	176,503,111
14	Wirework not elsewhere classified	669	3,882	30,386	10,407,633	35,538,502	158,816,863
16	Wiring devices and supplies	146	2,259	14,564	5,787,761	16,905,970	94,305,273
4	Women's and misses' blouses and waists—made in contract factories	132	125	5,109	247,320	3,482,765	5,311,394
4	Women's and misses' blouses and waists—made in inside factories or by jobbers engaging contractors	170	460	4,564	1,252,820	3,909,750	36,419,098

TABLE 2—SUMMARY FOR 1939, BY INDUSTRIES (Continued)

Group No.	Industry	Number of establishments	Salaried personnel	Wage earners (average for the year)	Salaries	Wages	Value of products
4	Women's and misses' clothing, not elsewhere classified—made in contract factories	100	128	3,703	\$242,067	\$2,527,648	\$4,311,175
4	Women's and misses' clothing not elsewhere classified—made in inside factories or by jobbers engaging contractors	231	554	6,281	1,318,880	5,386,948	35,759,421
4	Women's and misses' dresses (except house dresses)—made in contract factories . . . . .	1,490	1,199	49,742	2,580,706	46,747,846	64,935,922
4	Women's and misses' dresses (except house dresses)—made in inside factories or by jobbers engaging contractors	1,426	5,824	53,996	17,800,519	61,652,253	441,324,635
4	Women's, children's, and infants' underwear and nightwear of cotton and flannelette woven fabrics	174	727	11,349	1,387,694	7,462,179	37,184,478
4	Women's, children's, and infants' underwear and nightwear of knitted fabrics	139	457	6,398	1,061,087	4,372,776	24,608,459
4	Women's, children's, and infants' underwear and nightwear of silk and rayon woven fabrics	372	1,215	20,509	2,969,628	14,349,204	90,627,640
4	Women's neckwear, scarfs, etc.	107	201	1,931	594,148	1,678,146	11,947,604
12	Women's pocketbooks, handbags, and purses	286	985	14,048	2,558,125	11,238,826	55,806,860
6	Wooden boxes except cigar boxes	642	1,966	25,351	4,185,238	19,159,030	87,353,766
9	Wood naval stores . . . . .	25	350	2,353	771,693	1,866,991	14,114,193
6	Wood preserving . . . . .	218	1,029	11,242	2,009,948	9,764,258	106,295,341
6	Wood products not elsewhere classified . . . . .	886	2,433	21,993	5,011,157	17,680,122	69,185,697
17	Woodworking machinery	130	915	3,622	2,280,521	4,656,946	21,604,106
3	Woolen and worsted manufactures—contract factories	76	468	6,081	1,325,439	6,061,441	13,156,533
3	Woolen and worsted manufactures—regular factories and jobbers engaging contractors	583	8,771	140,022	22,944,457	133,487,752	685,311,713
20	Wool pulling . . . . .	17	69	836	263,866	1,100,973	13,122,104
4	Work clothing (except work shirts), sport garments (except leather), and other men's and boys' apparel not elsewhere classified	742	3,146	56,959	6,785,718	36,796,518	184,222,956
4	Work gloves and mittens, cloth, cloth and leather combined . . . . .	94	383	8,901	691,173	5,663,036	22,457,470
4	Work shirts . . . . .	87	566	13,449	870,862	7,269,148	35,672,002
9	Writing ink . . . . .	15	86	254	247,538	247,116	2,951,259
14	Wrought pipes, welded and heavy riveted—made in plants not operated in connection with rolling mills	49	991	8,370	2,750,936	12,306,077	75,864,616
16	X-ray and therapeutic apparatus and electronic tubes	84	692	1,959	1,815,337	2,744,251	17,945,038

The tables (pp. 431-439) show the results of the census, first by groups of industries and secondly by individual industries in alphabetical order. A separate report was made showing, also, the relative importance of leading industries in terms of employment. Nine industries employed a total of 2,133,890 wage earners out of the total of 7,887,242 employed in all industry. The number of wage earners in each of the nine was as follows: Motor vehicles, bodies, parts, and accessories, 397,537; steel works and rolling mills, 368,904; cotton broad woven goods, 312,249; sawmills, veneer, and cooperage-stock mills, 265,185; footwear, except rubber, 218,028; bakery products except biscuit, crackers, and pretzels, 201,537; woolen and worsted manufactures, 140,022; wholesale meat packing, 119,853; paper and paperboard mills, 110,575.

**MANUFACTURING.** See BUSINESS REVIEW; ELECTRICAL INDUSTRIES; MANUFACTURES, CENSUS OF; the countries under *Manufacturing or Production*; the States under *Manufacturing*.

**MAPLE PRODUCTS.** See SUGAR.

**MAPPING.** See the articles on GEOLOGICAL SURVEY and GEOLOGY.

**MARIANA ISLANDS.** See JAPANESE PACIFIC ISLANDS

**MARIHUANA.** See NARCOTIC DRUGS CONTROL.

**MARITIME COMMISSION, U.S.** See SHIPBUILDING; SHIPPING.

**MARITIME LABOR BOARD.** See SHIPPING.

**MARKETING.** The volume of distribution at both wholesale and retail expanded during 1940, as a result of the national defense program and the consequent increase in national income. When the volume of sales increases, problems of price cutting and regulation of competitive practices tend to become less acute, because there is more business available for all types of distributors, so that interest in such trade problems was less intense. The war produced new problems for wholesalers and retailers, since imports from Europe were largely cut off during the latter part of the year and there was widespread fear that trade with the Far East also might be limited or halted because of new restrictions imposed by the U.S. Government or the extension of the war to that part of the world. The conflict abroad also curtailed foreign markets for many American exports, although a sharp increase in armament shipments to British Empire countries was an offsetting influence.

The gigantic national defense program launched by the U.S. Government affected marketing in a number of respects. First, it made the Government the most important purchaser of a wide range of products. Not only war materials but huge quantities of woolen cloth, cotton goods, shoes, lumber, and other products were purchased by the Federal Government for the armed forces. Separate divisions were set up in the Advisory Commission to the Council of National Defense for purchases and price stabilization, and buying for the armed forces was partially centralized. Furthermore, to meet

the new situation, a large proportion of Government purchases were effected through negotiated contracts, rather than on a competitive bidding basis. In many instances, "escalator clauses" were inserted to protect contractors against unlooked for increases in their costs. It was generally recognized, however, that the procurement organization of the Federal Government would have to be further developed to carry out efficiently the vast program of purchases required for the defense and aid to Britain programs. Early in January, 1941, the Office of Production Management was set up to accomplish this. With the application of priority restrictions expected in the later phases of the armament program, wholesale and retail distributors knew they would be affected in a number of respects, and prepared accordingly. Under a drastic priority system, many distributors will find it impossible to obtain deliveries to maintain their sales volumes in the case of many products. Hence, they sought to expand stocks on hand late in the year.

**Raw Materials Marketing.** The marketing of agricultural products was affected by the loss of European export outlets. This was most notable in the case of raw cotton, exports of which fell to negligible levels comparable to those of the Civil War period. Exports to the continent of Europe practically halted, except for a trickle of shipments to Russia via Vladivostok. Even British Empire countries preferred to obtain cotton outside the United States, in order to conserve their dollar exchange resources for the purchase of war materials here. Because the Government absorbed surplus cotton and other leading agricultural products by taking them over as collateral for loans to farmers, however, prices of farm products remained firm. The Government sought to reduce acreage for such crops further, insofar as this was possible under the Agricultural Adjustment Act, in order to hold down the amount of surplus output which would be turned over to it as security for loans.

In view of the clouded international situation, measures were taken to build up reserves in this country of imported raw materials, particularly those regarded as "strategic" because they play a role in war (see RECONSTRUCTION FINANCE CORPORATION), and the marketing of raw materials was considerably affected by the supervisory role of the Price Stabilization Division of the National Defense Advisory Commission (q.v.).

Trading on the commodity futures exchanges declined sharply. The turnover on all futures exchanges aggregated 2,131,000 contracts, which compared with 2,377,000 contracts in 1939. With strict control of commodity prices by governments here and abroad, there was a tendency to curtail the use of hedging facilities. Furthermore, in the case of imported commodities, the accumulation of large stocks by Government corporations and the belief that a cessation of shipments to this country would make contracts calling for future delivery of limited value to those covering their requirements in this way contributed to the decline in turnover. The futures exchanges made efforts to increase interest in their markets, however, contending that the possibility of the end of the war and relaxation of Government controls made hedging more desirable than ever for conservative manufacturers and merchants.

**Wholesale Trade.** Wholesalers enjoyed a larger volume of sales. The sharp increase in the volume and scope of Government buying produced a new situation for many wholesalers. In the food

industry, for example, a committee was set up to confer with national defense officials to assure jobbers' ability to fulfill the demands of Army posts and cantonments, many of which were being established in out-of-the-way places. As far as possible, wholesalers in each area sought to meet such demands through the use of their existing warehouse and other facilities. Despite the large size of Army and Navy purchases, wholesalers in many instances found they could fill defense orders, although in other cases the Government preferred to deal directly with manufacturers.

Percentage changes in the volume of wholesale trade, month by month, during 1940, as compared with 1939, as reported by the Bureau of the Census on the basis of reports from a varying number of wholesalers, were as follows:

#### WHOLESALE TRADE

[Sales of Wholesalers Reporting to The Bureau of The Census and The National Association of Credit Men. Figures not comparable as number of reporting concerns varies]

Month	1940	Percentage change from 1939
January	\$182,777,000	+10.3
February	189,979,000	+12.1
March	205,256,000	+0.8
April	223,232,000	+11.3
May	220,473,000	+6.8
June	221,460,000	+6.1
July	221,214,000	+10.5
August	217,647,000	+5.7
September	243,779,000	-5.1
October	246,405,000	+10.0
November	214,296,000	+7.0
December	214,821,000	+15.0

**Retail Trade.** Department store sales increased 4.4 per cent during 1940, as compared with the year before, according to the Board of Governors of the Federal Reserve Board.

Changes in sales volume of stores in various Federal Reserve Districts for the year were as follows:

#### DEPARTMENT STORE SALES

[Change in Volume, 1940 as compared with 1939]

Federal Reserve District	Percentage Change (+ Increase)	Federal Reserve District	Percentage Change (+ Increase)
Boston	+3	Chicago	+7
New York	...	St. Louis	+7
Philadelphia	...	Minneapolis	+3
Cleveland	.....	Kansas City	...
Richmond	...	Dallas	...
Atlanta	...	San Francisco	...

Sales of other types of stores over the three years 1938-40 varied as follows:

#### RETAIL SALES

[1929-31 = 100]

Type of Stores	1938	1939	1940
Variety Chain Stores*	99.3	103.5	107.6
Grocery Chain Stores	94.1	102.5	112.5
Rural Merchandise Stores	114.1	127.5	134.6

\* Base, 1935-39 = 100

A breakdown of retail trade by kinds of business is shown in the table on page 441, which was published (Feb. 14, 1941) by the U.S. Department of Commerce as part of the Sixteenth Census of the United States.

While retail trade thus showed a substantial overall increase, there were several special developments incident to the national defense program and the war. Supplies of many types of imported

## UNITED STATES STORES, SALES, PERSONNEL, PAY ROLL AND STOCKS BY KINDS OF BUSINESS: 1939

[Sixteenth Census of the United States, 1940]

Kind of business	Number of stores	Sales (add 000)	Active proprietors of unincorporated businesses	Number of employees* (average for year)	Pay roll* (add 000)	Stocks on hand, end of year, at cost (add 000)
UNITED STATES	1,770,355 1,587,718 1,476,365	\$42,039,138 32,791,212 48,329,652	1,613,673 1,440,108 1,434,704	4,600,817 3,898,258 4,286,516	\$4,529,499 3,568,167 5,044,128	\$5,122,583 4,271,280 7,199,656
<i>Food Group</i>	560,549	10,164,967	516,976	798,462	760,762	589,938
Grocery stores (without fresh meats)	200,303	2,225,435	178,182	131,102	110,663	196,202
Combination stores (groceries-meats)	187,034	5,496,318	173,799	408,900	354,140	343,947
Dairy products stores	7,382	142,728	4,111	20,314	17,892	3,237
Milk dealers	9,452	597,283	9,207	81,586	140,078	4,859
Meat markets	35,630	700,243	35,886	47,798	50,984	7,817
Fish (sea food) markets	6,730	50,554	6,968	5,280	4,246	490
Candy, nut stores	4,625	40,200	3,087	6,775	5,040	1,191
Confectionery stores	43,390	255,100	42,690	23,801	15,104	13,411
Delicatessen stores	9,909	132,365	9,895	8,140	6,911	9,109
Fruit stores, vegetable markets	27,666	222,239	28,282	20,075	15,993	3,187
Bakeries, caterers	16,985	168,027	14,284	26,941	21,735	1,398
Egg and poultry dealers	6,532	63,350	6,545	4,966	3,514	670
Other food stores	4,911	71,125	4,040	12,784	14,462	4,420
<i>General Stores (with food)</i>	39,688	810,342	38,646	60,701	47,376	174,130
<i>General Merchandise Group</i>	50,267	5,665,007	36,362	867,007	803,485	922,178
Department stores	4,074	3,974,998	560	566,052	611,706	561,493
Dry goods stores	15,628	229,286	14,748	26,597	22,730	77,192
General merchandise stores with food	2,737	112,108	2,448	10,828	9,409	25,767
General merchandise stores—other	10,882	371,814	8,714	51,764	37,836	118,072
Variety stores	16,946	976,801	9,892	211,766	121,804	139,654
<i>Apparel Group</i>	106,959	3,258,772	82,329	388,737	420,823	674,674
Men's-boys' furnishings stores	5,122	93,203	4,187	7,273	9,049	27,258
Men's-boys' hat stores	802	15,598	465	1,580	1,819	2,606
Men's-boys' clothing stores (and furnishings)	15,577	664,511	13,194	57,730	80,382	194,671
Family clothing stores	10,053	429,454	8,317	56,334	58,478	106,800
Women's ready-to-wear stores	25,820	1,009,494	20,711	133,586	132,674	127,752
Furriers, fur shops	2,214	94,133	1,794	10,289	16,809	18,761
Millinery stores	10,799	118,586	7,472	23,559	18,888	5,023
Corset and lingerie shops	2,338	27,938	2,111	3,254	3,077	6,265
Hosiery shops	2,293	35,307	1,531	7,989	3,893	4,562
Other women's accessories stores	1,863	37,318	1,261	4,090	3,769	6,492
Infants' wear shops	625	13,436	554	1,341	1,275	3,223
Other apparel stores	3,292	36,448	3,204	5,186	4,872	8,145
Custom tailors	5,674	66,282	5,523	12,380	16,088	10,149
Men's shoe stores	2,472	78,770	650	5,694	7,462	16,427
Family shoe stores	15,280	384,156	10,417	40,711	42,831	113,247
Women's shoe stores	2,735	154,138	938	17,741	19,457	23,293
<i>Furniture—Household—Radio Group</i>	52,827	1,733,257	42,491	214,235	280,545	366,761
Furniture stores	19,902	973,157	17,361	104,751	146,311	213,375
Floorcoverings stores	1,986	58,618	1,826	6,083	9,311	15,148
Drapery, curtain, upholstery stores	930	15,843	859	1,906	2,054	3,702
China, glassware, metalware stores	778	21,821	582	2,915	3,655	6,755
Interior decorators	886	27,930	759	3,235	4,676	4,936
Antique shops	3,324	17,743	3,321	1,594	2,178	18,815
Other home-furnishings stores	4,108	84,772	3,733	19,459	21,335	19,290
Household appliance dealers	11,095	294,518	4,846	49,185	60,301	45,979
Radio—household appliance stores	6,907	190,180	6,463	19,512	23,596	28,968
Radio stores	2,409	22,901	2,361	2,261	2,461	3,758
Radio—musical instrument stores	502	25,774	380	3,334	4,667	6,035
<i>Automotive Group</i>	60,132	5,546,035	51,238	389,298	507,947	554,960
Motor-vehicle dealers (new and trade-in)	31,511	4,290,064	27,318	287,270	378,615	403,998
Motor-vehicle—farm implement dealers	1,170	88,607	1,239	6,638	7,259	13,449
Motor-vehicle dealers (retail-wholesale)	928	428,922	512	22,794	34,714	31,649
Used-car dealers	6,980	193,790	6,808	12,981	14,177	25,985
Accessory, tire, battery dealers	18,525	523,685	14,424	57,601	70,665	75,611
Motorcycle dealers	513	8,619	504	895	1,023	2,032
Aircraft dealers	51	2,358	22	273	375	497
Motorboat, yacht dealers	454	9,990	411	846	1,119	1,739
<i>Filling Stations</i>	241,858	2,822,495	231,475	235,527	198,934	105,401
<i>Lumber—Building Group</i>	39,667	1,761,205	26,135	169,799	220,628	389,053
Lumber yards	20,621	1,196,817	10,615	109,624	143,269	295,714
Building-materials dealers	4,446	281,642	3,387	25,649	34,002	36,583
Heating—plumbing equipment dealers	4,262	102,404	3,644	14,932	18,924	15,470
Paint, glass, wallpaper stores	8,480	152,673	6,781	15,642	19,495	35,012
Electrical supply stores	1,858	27,669	1,708	3,952	4,938	6,274
<i>Hardware Group</i>	39,646	973,709	39,620	82,497	91,532	317,063
Hardware stores	29,147	629,276	28,709	56,762	63,679	227,852
Farm implement—tractor—hardware dealers	10,499	344,433	10,911	25,735	27,853	89,211
<i>Eating Places</i>	169,792	2,135,020	170,002	594,648	405,896	34,900
Restaurants, cafeterias, lunchrooms	99,068	1,764,854	101,276	529,528	364,451	29,466
Lunch counters and stands	62,673	332,295	61,364	58,728	37,532	4,487
Soft drink, juice, ice cream stands	8,051	37,871	7,362	6,392	3,913	947

## UNITED STATES STORES, SALES, PERSONNEL, PAY ROLL AND STOCKS, ETC. (Continued)

Kind of business	Number of stores	Sales (add 000)	Active proprietors of unincorporated businesses	Number of employees (average for year)	Pay roll* (add 000)	Stocks on hand, end of year, at cost (add 000)
<b>Drinking Places</b> .....	135,594	1,385,032	136,217	212,235	159,689	38,164
Drinking places with meals .....	82,310	967,736	82,596	159,966	118,775	25,954
Drinking places—other .....	53,284	417,296	53,621	52,269	40,914	12,210
<b>Drug Stores</b> .....	57,903	1,562,502	49,673	189,403	172,733	304,883
Drug stores with fountain .....	39,452	1,205,241	33,257	156,366	137,994	218,799
Drug stores—other .....	18,451	357,261	16,416	33,037	34,739	86,084
<b>Liquor Stores (packaged goods)</b> ..	19,136	586,351	13,670	25,676	30,782	66,203
<b>Other Retail Stores</b> .....	172,375	3,496,437	154,825	349,792	407,609	543,135
Fuel and ice dealers .....	38,329	887,617	34,784	96,315	109,910	66,445
Fuel-oil retailers .....	2,843	125,925	2,426	9,169	13,873	5,089
Hay, grain, and feed stores (with groceries)	1,860	64,912	1,523	3,905	3,210	6,203
Hay, grain, and feed—farm implements	1,126	82,820	785	4,786	5,032	10,280
Hay, grain, and feed stores—other ..	13,786	476,245	11,645	26,660	25,707	42,394
Farm and garden supply stores .....	4,915	155,312	4,074	13,710	13,447	21,498
Jewelry stores .....	14,559	361,595	13,077	35,249	53,965	162,599
Book stores .....	2,845	73,842	2,156	12,434	13,932	16,152
Stationery stores .....	3,497	58,814	3,317	6,690	7,703	12,933
Cigar stores, cigar stands .....	18,504	207,781	16,748	14,425	14,085	18,456
Florists .....	16,055	148,741	16,074	23,128	22,641	9,493
Gift, novelty, souvenir shops .....	7,429	53,568	7,227	6,317	5,548	17,076
News dealers .....	7,407	72,427	6,038	11,671	6,335	3,894
Office, store appliance and equipment dealers	3,600	149,216	2,850	19,949	29,049	27,108
Office, store, school supply dealers ..	1,539	59,370	1,124	8,097	11,300	12,619
Opticians .....	5,995	60,567	5,412	7,655	11,919	6,770
Photographic supply—camera stores ..	1,112	32,343	982	3,277	4,086	6,412
Sporting goods stores .....	2,605	56,914	2,393	5,229	6,653	16,234
Bicycle shops .....	941	6,837	937	765	630	1,620
Luggage stores .....	759	19,345	606	1,942	2,601	6,080
Piano, musical instrument stores .....	2,930	65,127	2,534	8,282	11,049	16,237
Scientific, medical instrument and supply dealers	961	17,509	774	2,113	3,007	3,222
Other retail stores .....	18,778	259,610	17,339	28,024	31,927	54,321
<b>Second-hand Stores</b> .....	23,962	138,007	24,014	22,800	20,758	41,140
Book stores (second-hand) .....	588	4,050	578	441	488	2,790
Clothing, shoe stores (second-hand)	3,558	9,766	3,430	1,673	922	2,380
Furniture stores (second-hand) .....	7,875	31,461	7,882	4,016	3,061	6,461
Tires, accessories, parts (second-hand)	6,403	39,863	6,814	8,208	6,888	8,953
Pawn shops (sales) .....	1,373	22,868	1,252	2,993	4,357	12,904
Other second-hand stores .....	4,165	29,997	4,058	5,469	5,042	7,652

\* Employees and pay roll include paid executives of corporations but not the number and compensation of proprietors of unincorporated businesses.

<sup>1</sup> Revised to exclude service garages and other automotive service businesses formerly classified as Retail but now included in the Service Census.

merchandise, such as jewelry, wines, and toys, became increasingly difficult to obtain, and retailers sought to substitute domestic products. Sales of luxury goods showed much smaller increases, by and large, than distribution of lower priced products, reflecting the increased taxes on higher incomes, lower stock market prices, and sharp price increases for many imported luxury products. Late in the year, consumers showed a tendency to anticipate purchases of durable consumer goods, fearing price increases, delivery delays, or reduced output of these products because of the defense program.

The Department of Justice launched a comprehensive investigation into the food industry, on the complaint of independent retailers that restraint of trade and monopoly existed in food distribution, particularly in the marketing of fresh fruits and vegetables. Enforcement of re-sale prices in the liquor trade broke down in several communities, particularly New York, and sentiment among liquor retailers for the enforcement of fair trade laws by State regulatory commissions increased. The Department of Justice, however, was critical of State fair trade laws generally, and the Miller-Tydings Act in particular, as bars to free price competition.

Self-service food supermarkets enjoyed further growth, numbering about 8000 by the end of the

year, of which about 5500 were individually owned and the rest operated by chain store enterprises. The independent supermarkets reported they had a total turnover of about \$2,000,000,000 for the year.

See AGRICULTURAL MARKETING SERVICE; SUPERMARKETING ADMINISTRATION. For marketing quotas, see AGRICULTURAL ADJUSTMENT ADMINISTRATION.

JULES I. BOGEN.

**MARKLE FOUNDATION.** See **BENEFACCTIONS.**

**MARMARICA, Battle of.** See **EUROPEAN WAR under British Victories in Africa.**

**MARQUESAS ISLANDS.** See **OCEANIA, FRENCH.**

**MARRIAGE.** See **LAW under Domestic Relations.**

**MARSHALL ISLANDS.** See **JAPANESE PACIFIC ISLANDS.**

**MARTINIQUE.** A French island in the West Indies, between the British islands of Dominica and St. Lucia. Area, 385 square miles; population (Jan. 1, 1938), 255,000. Chief towns: Fort-de-France, the capital (52,051 inhabitants); Le Lamentin (16,303). Chief products: Sugar, cacao, bananas, pineapples, and rum. Education (1938): 32,870 students in schools of all kinds. Trade

(1938): Imports, United States \$6,756,000; exports, United States \$8,918,000. The budget for 1937 balanced at 101,100,000 francs.

**History.** With France's capitulation to Germany in June, 1940, the future status of Martinique became a matter of importance to both the United States and Great Britain as well as to the inhabitants of the island. Upon the French collapse, the aircraft carrier *Béarn*, carrying 100 new American-built military planes in addition to its normal complement of 40 aircraft, took refuge in Fort-de-France harbor. The light cruiser *Emile Bertin* also arrived from France, carrying government gold estimated at \$250,000,000 that had been removed from Paris during the German offensive. Several other French naval vessels, a supply of munitions, and some colonial troops were also in Martinique and near-by Guadeloupe.

To prevent these forces and the gold from falling under Axis control through an acquiescent French Government, the British demanded the demilitarization of the French naval vessels. On July 4 British warships began to patrol the entrance to Fort-de-France harbor and the French naval commander was warned that his ships would be attacked if they left. Washington then intervened with three objectives in view—to prevent an Anglo-French collision in the West Indies, to forestall the conversion of Martinique into an Axis advance base through the co-operation of the Vichy Government, and to prevent British occupation of the island. A strong American naval force was sent to watch developments at Martinique and on July 19 the State Department announced that the American consulate would be reopened at Fort-de-France. Later in the month the Havana Conference (see PAN AMERICANISM) established inter-American machinery for taking over European colonies in the Americas if necessary to prevent Axis control.

Washington's mediatory efforts helped to bring about a working agreement between British and French governmental and naval heads in the Caribbean in August. The French naval vessels in Fort-de-France and Guadeloupe were to be virtually demilitarized. The military force in Martinique was demobilized, with the exception of several thousand local conscripts undergoing military training. The American planes were stored on an open field near Fort-de-France, with vital parts removed. And the gold stock was removed from the *Emile Bertin* and stored in Fort St. Louis in the capital. The status of Martinique was the subject of further discussions between Washington and Vichy later in the year. French proposals to strengthen its defenses were opposed by the United States Government. See FRANCE under *History*.

French officials in Martinique, led by Governor Bressolles and Admiral Robert, commander-in-chief of the French West Indian forces, remained loyal to the Vichy Government despite the sympathy of most of the inhabitants for Gen. Charles de Gaulle's "Free French" movement. Pro-de Gaulle sentiment was encouraged by the virtually complete economic isolation resulting from the British blockade and other factors. Following an investigation of the political situation in Martinique by one of his agents, Marshal Pétain on December 13 appointed Yves Marie Nicol as Governor, succeeding M. Bressolles.

**MARYLAND.** Area, 12,327 square miles; includes water, 2386 square miles. Population (Unit-

ed States Census): April, 1940, 1,821,244; 1930, 1,631,526. Baltimore (1940), 859,100; Annapolis (the capital), 13,069.

**Agriculture.** In 1940 Maryland's harvested area of principal crops totaled 1,679,000 acres. Corn led all crops both in extent and in estimated return to the cultivator. Corn occupied 501,000 acres, made 17,535,000 bu., and by estimate was worth \$12,224,000 to the growers. Wheat, on 388,000 acres, gave 7,566,000 bu. (about \$5,826,000 of return); tame hay, on 422,000 acres, 55,000 tons (\$6,105,000); tobacco, 38,000 acres, 31,920,000 lb. (\$6,544,000); potatoes, 25,200 acres, 2,898,000 bu. (\$1,826,000); sweet potatoes, 9000 acres, 1,485,000 bu., (\$1,188,000); barley, 79,000 acres, 2,172,000 bu. (\$1,129,000); apples, 2,077,000 bu. (\$1,350,000). Farms (1940): 42,110; in area, they averaged 99.7 acres.

**Mineral Production.** Minerals produced from Maryland's soil, as reckoned in 1940 by the U.S. Bureau of Mines, attained \$9,407,723 for 1938. Of this, coal, sand and gravel, cement, and clay products made over nine-tenths. Coal mines yielded 1,281,413 net tons, value \$2,705,000 for 1938; for 1939, 1,468,000 tons. Clay products (exclusive of pottery: 1938, \$1,210,947. Apart from the total of native minerals, furnaces producing pig iron from outside ores, largely foreign, shipped 1,219,611 gross tons in 1938 and 1,805,080 tons in 1939. Production of coke, essentially from outside coal, rose from 1,105,262 net tons (1938) to 1,578,973 tons (1939).

**History.** On February 15 an instance of the old ill-feeling between whites and Negroes arose in one of the State's rural parts. A band of whites broke into the Worcester County (eastern shore) jail and seized two Negro women held there in connection with the murder and robbery of a white farmer, Harvey Pilchard, at his home in Stockton. The captors took the women to the Pilchard house, apparently to make them name the murderers. Five of the State police followed a few hours later and recaptured the women; the mob was dispersed, but one of the police suffered severe injury.

In the National election (November 5) Maryland's vote ran heavily Democratic. Roosevelt (Dem.) got 385,546 votes, to 269,534 for Willkie (Rep.); U.S. Senator G. L. Radcliffe (Dem.) was re-elected, defeating Harry W. Nice (Rep.); Democrats were elected to fill the State's six seats in the House of Representatives. The popular vote adopted five changes in the State constitution and rejected four. The chief of those adopted deprived public officers' salaries of exemption from income tax, and allowed the establishment of "people's courts"; the chief ones rejected would have limited the General Assembly's regular sessions to 90 days and forbidden a Governor's directly succeeding himself.

**Officers.** Maryland's chief officers, serving in 1940, were: Governor, Herbert R. O'Connor (Dem.); Secretary of State, Francis Petrott; Treasurer, Hooper S. Miles; Comptroller, J. Millard Tawes; Attorney General, William C. Walsh.

**MASSONS.** See FREEMASONRY.

**MASSACHUSETTS.** Area, 8266 square miles; includes water, 227 square miles. Population (U.S. Census), April, 1940, 4,316,721 (3,859,476 urban and 457,245 rural); 1930, 4,249,614. Boston (the capital), had (1940) 770,816 inhabitants; Worcester, 193,694; Springfield, 149,554.

**Agriculture.** Farmers harvested, in 1940, 483,100 acres of the principal crops. Tame hay, on

401,000 acres, gave 586,000 bu. estimated as worth \$9,142,000 to the producers; cranberries, a specialty of the southeastern section, on 13,400 acres, yielded 325,000 bbl. (\$4,128,000); tobacco, 6100 acres, 9,281,000 lb. (\$2,438,000); potatoes, 19,000 acres, 3,135,000 bu. (\$2,508,000); corn, 38,000 acres, 1,558,000 bu. (\$1,137,000); apples for market, 2,174,000 bu. (\$2,283,000).

**Education.** Data for the academic year 1939-40 reckoned the number of Massachusetts' inhabitants of school age, by age-groups, thus: 114,754, from 5 years to 7; from 7 to 16, 638,287. The year's enrollments of pupils in public schools numbered 700,305 (a drop of some 17,000 from the year before). Enrollments comprised 410,141 elementary, 107,622 in junior high schools, and 182,542 in high schools. The year's expenditures for public-school education came to \$69,818,825 for support and \$4,586,245 for outlay. Teachers in public schools numbered 25,656; their salaries averaged \$1959 for the year.

**Manufactures.** Yearly production of manufactured goods in Massachusetts totaled \$2,457,599,210 for 1939; \$2,620,788,793 for 1937. Other aggregates for 1939 (each with that for 1937 subjoined): 9006 (8619) establishments employed 459,877 (496,036) persons for wages of \$500,197,872 (\$556,076,897), paid for materials, etc., and contract work \$1,267,375,848 (\$1,364,299,029), and added to material, by manufacture, a value of \$1,190,223,362 (\$1,256,489,764).

**History.** A sequel to the efforts of Governor Saltonstall's incoming administration, in 1939, to correct waste of the State's money came in January, 1940, in a series of decisions of the Superior Court. These reduced by nearly one-half the State's liability on contracts made by Governor Hurley and Commissioner of Education Reardon (thereafter removed), to the amount of \$410,232, for ostensible repair of damage done by the hurricane at the teachers' colleges. The Court also ruled out an architect's claim to a fee of 6 per cent on the amount of the contracts. The Supreme Judicial Court dismissed in May a petition of Attorney General Dever to require a special session of the General Court, for correcting alleged faults in its act of 1939 for redistricting the State; the redistricting act was sustained.

Orders on account of the Federal Government's program to increase the Nation's defenses helped activity in some Massachusetts textile industries and in other lines of production, as the year ran on. Dependency on public aid became less common.

The difficulties of the New Haven Railroad system and of its subsidiary, the Old Colony Railroad, were not permanently settled, but the litigation over the proposal to cease operation of the greater part of the Old Colony's unremunerative passenger service and to drop the line from the New Haven system was temporarily settled; insurance companies that held about \$72,000,000 of the system's securities consented to further operation of the line for a limited time. The State and Governor Saltonstall in person had strenuously opposed abandonment, holding it the carrier's duty to go on operating, even though at a loss, in the public interest.

Boston's City Council adopted for the current fiscal year a budget totaling \$46,245,217; this exceeded that of the previous year by \$630,832 and required putting the rate of the tax on property above \$4 per \$100 of assessed valuation. Greater allowance for a single big item, the removal of

snow, made up the whole rise. Heavy and rising taxation stung taxpayers into activity in some of the other cities. A group in Cambridge brought suit and won in the Supreme Judicial Court, in June, a decision voiding the city's proposed budget as tardily and inadequately drawn; this compelled Cambridge to limit expenditure to the total of the previous year's budget. In Lowell a taxpayers' association sought by petition to submit the municipal budget to a popular referendum. See FIRE PROTECTION; WATER WORKS AND WATER PURIFICATION.

The Shell Union Oil Corp. announced plans to build 85 miles of pipe line connecting Fall River with Boston and Worcester; it designed to use Fall River as a port for landing the product of its refineries in the Gulf States, and oil was to be pumped overland to the big market in the State's two chief cities. In New Bedford the remaining indictments brought against several local officials in 1938 for corrupt conduct were dropped in May after an acquittal of Mayor Carney and three others tried for conspiracy in the granting of contracts to transport WPA workers. The Unemployment Compensation Commission, after an investigation, charged (April 17) that thousands of unwarranted claims to compensation had been paid in Lawrence. The town of Ware, its chief industry having moved south 28 months before, was reported in February to have successfully followed the example of Manchester, N.H.; townsmen had raised money, bought the abandoned manufactory through Ware Industries, Inc., a company created for the purpose, and rented the premises among 17 manufacturers giving employment in the production of hats, shoes, woolen textiles, and woodwork. The town of Natick appropriated for the experiment of putting bumps in the roadway in order to reduce the speed of vehicles on a street much frequented by children. On Cape Cod a great tract in Bourne, Sandwich, Mashpee, and Falmouth towns was made into Camp Edwards, at cost of several millions, to serve for training United States troops. See AQUEDUCTS; BIRTH CONTROL.

**Elections.** The popular vote in the general election (November 5) went to Roosevelt (Dem.), 1,076,522, for President and against Willkie (Rep.), 939,700, in the proportion of about 8 to 7. United States Senator David I. Walsh (Dem.), 1,088,838 votes, was re-elected, defeating Henry Parkman, Jr. (Rep.), 838,122; but Governor Saltonstall (Rep.), 999,864 votes, was re-elected, beating Attorney General Paul A. Dever (Dem.), 992,414, by a margin of a few thousand. Democrats gained a majority in the Governor's Council, a body of sufficient powers to restrict the Governor's action in many respects. Referenda in many localities revealed unexpectedly strong support for proposals to get money for raising old-age pensions to \$40 a month by operating a State lottery.

**Officers.** Massachusetts' chief officers, serving in 1940, were: Governor, Leverett Saltonstall (Rep.); Lieutenant Governor, Horace T. Cahill; Secretary of the Commonwealth, Frederic W. Cook; Treasurer, William E. Hurley; Auditor, Thomas J. Buckley; Attorney General, Paul A. Dever; Commissioner of Education, Walter F. Downey.

**MASSILIA.** See FRANCE under *History*.  
**MATERNAL WELFARE AND MOR-  
 TALITY.** See CHILDREN'S BUREAU.  
**MAURITANIA.** See FRENCH WEST AFRICA.  
**MAURITIUS.** See BRITISH EMPIRE.



**MEAT.** See **LIVESTOCK.**

**MECKLENBURG.** See **GERMANY** under *Area and Population.*

**MEDALS.** See **SCULPTURE.** For medals awarded, see the subject.

**MEDICINE AND SURGERY.** The past year saw no striking new developments in the field of medicine, but rather there was a uniform and orderly advance on many fronts. In particular, additional experiences tended to confirm the importance of previously described advances in the fields of chemotherapy and nutritional research, and to indicate that they may be of even greater importance than at first had been expected. In other fields, positions tentatively established were similarly consolidated. World War II was not without its repercussions in medicine. Interest was revived in military medicine in all of its phases, but perhaps particularly in the treatment of wounds and of compound fractures, and in the use of preserved blood, or plasma, in the treatment of hemorrhage and shock. Furthermore, numerous measures were taken to prepare the profession against any emergency which might arise.

Of general interest to medicine in its sociologic and economic aspects was the indictment filed on Dec. 20, 1938, in the District Court of the United States for the District of Columbia, charging the American Medical Association, three local medical societies, and twenty-one individual defendants with conspiracy to violate Section 3 of the Sherman Anti-Trust Act. This charge was based on the activities of certain units of organized medicine which, it was alleged, constituted a conspiracy to restrain Group Health Association, a non-profit co-operative association of governmental employees in the District of Columbia, "in its business of arranging for the provision of medical care and hospitalization to its members and their dependents on a risk-sharing prepayment basis." As reported in the 1939 **YEAR BOOK**, demurrers to the indictment had been sustained by Mr. Justice Procter, and the request of the Department of Justice that the Supreme Court accept jurisdiction on an appeal (without following the usual course through the Circuit Court of Appeals) had been denied. In the meantime, the Government had appealed the ruling to the United States Court of Appeals for the District of Columbia, and on Mar. 4, 1940, this Court filed its opinion reversing the decision of the District Court and remanding the case to the District Court for a trial on the merits. A petition of the defendants to the Supreme Court of the United States to grant a writ of certiorari to review the decision of the Court of Appeals was opposed by the Government, and was denied by the Supreme Court on June 3. The significance of this action is interpreted by the Editors of the *Journal of the American Medical Association* as follows:

"The fact that the Supreme Court of the United States declined to review the decision of the Court of Appeals at this time, does not mean, as all lawyers know, that the Supreme Court of the United States approved the opinion of the Court of Appeals, but means only that for the present the Supreme Court of the United States is satisfied with the action of the Court of Appeals in sending the case back to the District Court for a trial on its merits. If the result of such a trial should be adverse to the defendants, the question whether the practice of medicine is a trade, within the meaning of the language used in the Sherman Anti-Trust Law, would still be an open question for the Supreme Court of the United States to decide. The Supreme Court of the United States has not yet decided that the practice of medicine in the District of Columbia is a trade within the meaning of the language of the Sherman Anti-Trust Law." (*Jour. Am. Med. Assn.*, 115: 222, 1940.)

On October 17 United States Attorney Curran announced that Justice Morris of Criminal Court No. 2 of the District of Columbia had disqualified himself from sitting on the case by his former connection with the Justice Department, and because of the fact that Justice Letts of Court No. 1 had a heavy assignment for the next few weeks, "I have taken the case off the assignment and it will be set down for trial in the future on a date agreeable to both the Government and the defendants."

Of importance as indicating a new trend in medicine was the publication in April of *The Directory of Medical Specialists Certified by American Boards*, (Columbia University Press, New York). This volume, prepared under the editorial direction of Dr. Paul Titus and Dr. J. Stewart Rodman, contains the names, addresses, and a brief account of the training of some 14,000 specialists who have been certified by the various examining boards for the medical specialties. It makes readily available information concerning specialists in various branches of medicine in any given community. As the importance of certification by the various examining boards gains increasing recognition, it seems that not only may hospital appointments be conditioned by evidence of competency as indicated by certification, but that there may even be developed legal restrictions concerning so-called specialization. Although unquestionably the names of many competent specialists are not included in this directory—since they have not as yet sought certification—the volume does, nevertheless, make available the names of a large group concerning whose training and qualifications as specialists there can be no doubt.

At the present time there are in this country fourteen approved examining boards in the medical specialties, the work of which is co-ordinated by the Advisory Board for the Medical Specialties, organized in 1938, of which Dr. Willard C. Rappleye is the president. The specialties covered are anaesthesiology, dermatology and syphilology, internal medicine, obstetrics and gynecology, ophthalmology, orthopedic surgery, otolaryngology, pathology, pediatrics, psychiatry and neurology, radiology, surgery, urology, plastic surgery, and neurological surgery.

Although the requirements for certification by the different boards vary, they nevertheless have certain basic features, among which are satisfactory moral and ethical standing in the profession, membership in some of the units of organized medicine, limitation of practice to the specialty, an adequate period of postgraduate training (usually a minimum of three years in an approved hospital), and evidence of competency as furnished by written and oral examinations as well as in some instances by observation by the Board of the technical proficiency of the applicant. There is but little question that the specialty boards not only have afforded a great impetus to the improvement of postgraduate medical education in this country, but also that they will insure an improved standard of practice in the various specialties.

**Medical Preparedness.** Events of the past year have indicated that medicine is to play an important role in the National Defense Program. On September 19 an Executive Order was issued by the Council of National Defense, with the approval of the President, establishing as a subordinate body to the Council, a committee to be known as The Health and Medical Committee. The committee consists of Dr. Irvin Abell, Chairman; the Sur-

geon General of the Army; the Surgeon General of the Navy; the Surgeon General of the Public Health Service, and the Chairman of the Division of Medical Sciences of the National Research Council. The duties of the committee are to "advise the Council of National Defense regarding the health and medical aspect of national defense and to co-ordinate health and medical activities affecting the national defense." It was a source of considerable satisfaction to physicians generally that Dr. Abell, former President of the American Medical Association and an outstanding figure in organized medicine, was made chairman of this committee.

Another activity of physicians has been in relation to the Selective Service Act. Throughout the country they have volunteered their services to the local draft boards. The importance of physicians in deciding whether claims for exemption on account of physical disability are just, is too obvious to deserve comment. The profession is proud of the part it will take in the selection of the New Citizens Army.

Many general hospitals and particularly those associated with medical schools, have been asked by the Surgeon General of the Army to organize military hospitals which, in case of emergency, could function promptly. There has been a gratifying response to this appeal, and a number of plans for base hospitals and for evacuation hospitals have been set up. These organizations will be manned by a complete staff including doctors, nurses, technicians, and lay employees.

Considerable attention is being devoted to the public health aspect of mobilization, particularly in regard to communicable diseases, the control of venereal disease, and the detection and prevention of tuberculosis in recruits. It is also apparent that the widespread physical examination of young men from 21 to 35 years of age will be important in at least two aspects—first, in determining the degree of physical fitness of a considerable section of the general population, and second in permitting the early diagnosis and treatment of many remediable conditions.

Certain problems are beginning to arise because of the induction into active service of a large number of physicians in the Medical Reserve Corps. Hospitals are beginning to feel the loss of junior staff members and house officers. Also, in some smaller communities, a considerable burden has been placed on older physicians by the departure of their younger colleagues.

So important does the American Medical Association consider the present crisis that it has announced the forthcoming publication of a new periodical *War Medicine*, which will be devoted to consideration of the various phases of medical service under military conditions. Beginning in January, 1941, this Journal was scheduled to be issued bi-monthly.

**Surgery of Modern Warfare.** Out of the disastrous civil war in Spain came the report of a new method of treatment of compound fractures with results so striking that it seems likely to be adopted by military surgeons in all countries. In a small book by J. Trueta (*Treatment of War Wounds and Fractures With Special Reference to the Closed Method as Used in the War in Spain*, 146 pp. New York, Paul B. Hoeber, Inc., 1940) of the Spanish Republican Army, and Chief Surgeon of the General Hospital of Catalonia, reports are made upon the treatment of 1073 cases, most

of them due to war wounds. The results in this group were considered to be good or satisfactory in 976 cases, and, most interesting of all, there were only 6 deaths. The method had as its chief aim the complete immobilization of the injured extremity in a circular plaster of Paris cast after a preliminary careful debridement of the wound and reduction of the fracture. This simple technique is in striking contrast to the elaborate traction methods of the last world war and the associated irrigation of the wound with chemicals. A method similar in principle to that of Trueta has long been advocated in this country by H. Winnett Orr of Lincoln, Neb., and the late William S. Baer of Baltimore, but it had been used chiefly in the treatment of osteomyelitis, and it remained for Trueta to apply this principle of physiologic rest of the injured extremity to a large series of war wounds. Trueta emphasizes that rest allows the formation of clots in the small veins and capillaries of the injured area, thus preventing the spread of infection, and hastening the healing of the wound. It is his practice to apply the cast directly to the unpadded skin of the extremity and as a rule it is not changed for a period of 10 to 15 days, and only then chiefly because of the offensive odor of the accumulated wound secretions. Dr. Rudolph Matas, the Dean of American Surgeons, visited the Catalonian war zone and had the opportunity of inspecting Trueta's wards. In describing his experience he says: "I had an opportunity to see several plaster encasements removed from arms and thighs after they had been in situ for from 15 to 21 days. The stench of the soiled encasements was nauseating. A magma, or mush, of decomposing pus, wound secretions including sweat and other matter, covered the surface of the wound under the plaster bandage. But after wiping this off with warm water and soap, and when the packs were removed, I was surprised to see the excellent, healthy, pink, well granulated appearance of the wounds, coupled with a very satisfactory condition of the patients—no fever, no pain, good appetite, etc. This was indeed a revelation which I had not anticipated, . . . in fact if there was one essential for the successful treatment of fractures, it was plaster of Paris. By the close of the war, plaster had risen to the level of an apotheosis in surgical esteem." Another American surgeon who saw service with the Republican Army in Spain, Dr. Leo Elosser, has recently written very interestingly of his experiences (*Jour. Am. Med. Assn.* 115: 1848, 1940).

Coller and Farris have recently reviewed the current literature concerning war injuries. (*Surgery, Gynecology & Obstetrics*, 72: 15, 1941). In regard to wounds of the cranium, they point out that the German Army during the Polish campaign often transported those with head wounds to the interior by air in order that they might have the benefit of skilled neurosurgical assistance. It is reported that the British Army has prepared mobile units equipped to do cranial surgery at the front. Both of these reports indicate the necessity for the treatment of those with cranial injuries by surgeons especially trained in this field, and having access to adequate equipment. Concerning thoracic and abdominal wounds, emphasis is again placed upon the importance of early treatment, since the chances of survival vary inversely with the period allowed to elapse before treatment is instituted. It seems probable that air transport will play an increasingly important role in the evacuation of the wounded. Other items of interest are the develop-

ment of light armor for various parts of the body. In the past war, for instance, it was demonstrated that the incidence of cranial wounds could be reduced from 15 per cent to 3 per cent by the use of steel helmets. Since many wounds are caused by small missiles of low velocity, light armor is now being proposed for the chest, for the hands, and for the eyes.

**The Use of Desiccated Blood Plasma.** When whole blood is centrifuged, the solid elements (red blood cells) are separated from the fluid component (plasma). For some time it has been recognized that in certain conditions, such as shock and severe burns, only plasma is lost from the circulatory system; consequently the replacement of plasma by transfusion is more effective than is the administration of whole blood. The recent development of methods by which blood plasma may be concentrated by means of drying from the frozen state, promises to be of very great importance. The "adtevac" process of Hill and Pfeiffer at the Baylor University School of Medicine, apparently offers a reliable and inexpensive method for the desiccation of blood in large quantities. (*Annals of Internal Medicine* 14: 201, 1940.) Dried blood plasma has certain unique advantages. It may be stored practically indefinitely without deterioration, and there is no loss of antibodies or of complement. Because of the small volume of the dried product, it may be transported in large quantities with ease. Since it is prepared from pooled plasma of various types, the agglutinins are absorbed and consequently it may be given without the necessity of typing or cross matching with the blood of the recipient. Finally, since the plasma can be redissolved in small amounts of water, it may be given in as concentrated a form as desired. Because of the concentration it may be administered with greater simplicity and speed than whole blood. The chief uses of concentrated plasma, according to Hill, are first the regulation of blood volume; second, control of plasma protein level, and third, special adjustment of fluid balance where hypertonic effects are essential. Only in instances where red blood cells must be added to the patient's circulation is transfusion of whole blood definitely superior.

Interest in blood substitutes has, of course, been greatly stimulated by the present war. Two groups of English workers, Buttle and his co-workers at Middlesex Hospital, and Aylward and his colleagues in Manchester, have reported experimental studies of the use of concentrated plasma and serum. According to the former, plasma is the most efficacious blood substitute of any of the materials which they have studied. Aylward has been particularly interested in the technique of the drying and concentration of plasma, and is convinced of the superiority, particularly so far as use in war is concerned, of dried plasma over whole plasma. (Buttle et al., *Lancet* 2: 507, 1940.) (Aylward et al., *Brit. Med. Jour.* 2: 4165, 1940.)

The first extensive report of the use of desiccated plasma in shock is that of Hill, Muirhead, Ashworth, and Tigertt (*Jour. Am. Med. Assn.* 1941—in press). They point out that the essential aim of the treatment of shock, regardless of its cause, is the restoration of circulating blood volume since the syndrome is generally agreed to depend upon a diminution of the blood volume in relation to the capacity of the vascular system. Concentrated blood plasma appears to be ideal in this respect since larger amounts of protein can be

more rapidly placed into the circulation than by any other method, and because the hypertonic plasma tends to effect an immediate reversal of the abnormal physiologic changes of shock—that is to say, fluid is returned to the blood stream from tissues into which it had previously been lost. Finally, it seems probable that concentrated plasma directly stimulates the tone of the vascular system and causes a decrease in the permeability of the blood vessels. They report upon the use of concentrated blood plasma in 45 carefully studied cases of shock of various types. Of this number 19 cases were considered to be severe, 16 moderately severe, and 10 mild. The results of treatment in this group were considered to be excellent in 36 cases, fair in 8 cases, but poor in but 1 case.

They also have found concentrated plasma to be of great value in treatment of the shock associated with severe hemorrhage, and point out that the loss of red cells does not reach a critical level until 60 to 75 per cent have escaped from the circulation. It has been their practice, then, in cases of shock associated with hemorrhage, to administer plasma first and then as the blood pressure rises, to give in addition transfusions of whole blood. One point emphasized by these workers is the safety of the method. Previous reports have indicated that reactions to the administration of concentrated plasma might be frequent. The Baylor workers, however, encountered only three febrile reactions in 299 administrations of concentrated plasma. They believe that if the dried material is dissolved in suitably prepared non-pyrogenic water, reactions will be very rare indeed.

Without reporting a series of cases in detail, Hill indicates that concentrated plasma is likely to prove of great use in the treatment of a number of other conditions; among them first, severe burns in which loss of plasma is probably the chief cause of early death; second, in a variety of states characterized by a decrease in the level of the blood proteins; and third, for its hypertonic effect in such conditions as increased intracranial pressure. Among other conditions in which its use is being studied are nephrosis and the toxemias of pregnancy.

It seems likely that the administration of concentrated plasma will come to be a commonly used and effective therapeutic agent quite comparable in its status to the transfusion of whole blood. Although its uses probably will be many, at the present, because of the world war, interest will be centered chiefly in its use in hemorrhage and shock. Preparations are already being made to supply the British Army with a large amount of the material derived from donated blood. It seems not unlikely that it may be found practicable in the stress of military combat to administer adequate amounts of concentrated plasma to the wounded in the field. Certainly it is a method of treatment which may be used at the emergency aid station. It should in many instances prove to be a lifesaving measure.

Flösford, Stokes, and Mudd, of the University of Pennsylvania, who have for some time been interested in the preparation of dried plasma, are carrying on studies similar to Hill's, and in September reported upon a method of desiccation called the "desivac" process which, they say, "is more economical than earlier procedures with vacuum drying on a large scale required, for instance in the preservation of human blood plasma for use as a blood substitute. It is entirely mechanical in operation; the water vapor is removed directly from

the high vacuum space, and is discharged to the atmosphere in the liquid phase. Low temperature condensation or chemical desiccants are not required." (*Jour. Am. Med. Assn.* 115: 1095, 1940.)

The present interest in matters pertaining to the composition of the blood in relation to surgical problems is shown by the fact that a large part of the program of the meeting of the American Surgical Association held this year in St. Louis, Mo., was devoted to a symposium on the fluid and electrolyte needs of the surgical patient. Such subjects as the structure of the blood, blood preservation, sodium chloride metabolism, plasma volume in acute intestinal obstruction, plasma loss in severe dehydration and shock, and hypoproteinemia were discussed.

It may be mentioned in passing that at the present time studies are being carried on by Wangenstein at the University of Minnesota on the use of bovine plasma administered to man. (*Proc. of the Society for Experimental Biology and Medicine* 43: 6161, 1940.) Experiences to date, while favorable, are too limited to allow of prediction as to its ultimate utility. Should the transfusion of bovine plasma prove practicable, it is clear that an unlimited source of plasma will have been found. Such an advance would certainly be one of the very first order.

**Sulfanilamide and Its Derivatives.** Experiences gained during the past year have demonstrated conclusively the importance of the sulfonamide group of drugs in the treatment of infections. Contrary to the usual experience with new therapeutic agents, the early hopes aroused by reports of the use of sulfanilamide have not only proved to be well founded, but rather it is not too much to say that the importance of this new therapeutic agent is only now beginning to be realized. At present it is apparent that the specific action of sulfanilamide and its related compounds in pyogenic infections is clearly as striking as that of quinine in malaria and the arsphenamines in syphilis. A representative opinion is that of Dr. E. K. Marshall, Jr., Professor of Pharmacology in The Johns Hopkins University, in an address published in the *North Carolina Medical Journal*, March, 1940, that "its introduction into medicine is to be ranked with the two great therapeutic discoveries in all medicine—the discovery of anesthesia and that of aseptic surgery."

In previous YEAR BOOKS the story of the discovery of sulfanilamide and of its introduction into clinical medicine has been told, and, in 1938, the related compound, sulfapyridine, was described. This year we report on still another derivative—sulfathiazole—which has been found to be very effective in the treatment of infections caused by the staphylococcus.

Before discussing the new derivative, certain points of interest regarding the mode of action of sulfanilamide are worthy of mention. Among these is the important contribution of Lockwood and Lynch (*Jour. Am. Med. Assn.* 114: 935, 1940) who have shown that the bacteriostatic action of sulfanilamide and sulfapyridine is most marked in culture media completely devoid of peptone. Since peptone is one of the end products of proteolytic changes in tissue resulting from necrosis, these findings help to explain the clinical observation that sulfanilamide is much more effective in the treatment of generalized or of diffuse spreading infections than in the treatment of localized lesions, such as abscesses, which contain necrotic tissue.

Another interesting discovery is that of Harris and Kohn (*Science* 92: 11, 1940) that bacteria grown and subcultured in the presence of sulfonamide drugs might eventually develop strains against which the sulfonamides would have little or no bacteriostatic action. This finding throws light on the clinical observation that in the presence of long continued inadequate treatment with sulfanilamide, the bacteria appear to develop a resistance to the drug.

Among the new uses listed for sulfanilamide was its prophylactic administration prior to operations involving a resection of the bowel. Lockwood and Ravdin (*Surgery* 8: 43, 1940) found that by this means they were able definitely to lower the incidence of postoperative peritonitis. Sulfanilamide has also been recommended in the treatment of chronic undermining, burrowing ulcer of the skin, a dreaded complication sometimes following the drainage of peritoneal abscesses, and in the treatment of patients with severe burns.

Several reports have attested its value in the treatment of chancroid, in which a shorter healing time of the genital ulcer has been found. Among conditions in which its use has been recommended, on an experimental basis, are Hodgkin's Disease, tularemia, and lupus erythematosus. It has also been used experimentally in diphtheria and in subacute bacterial endocarditis.

Other findings of importance are that the cyanosis which frequently appears as a transient manifestation during sulfanilamide therapy, is due to the presence of methemoglobin in the blood, and, it may be mentioned, is of little clinical significance. It has been found that the cyanosis may be counteracted by nicotinic acid (a constituent of the vitamin B complex) and by methylene blue.

A point of practical importance is the recent demonstration that sulfanilamide is satisfactorily absorbed from the rectum. This route of administration may be useful in the presence of nausea and vomiting which sometimes follow oral administration of the drug.

Numerous reports during the year have again emphasized the importance of the toxic phenomena which may be associated with the use of the sulfonamide compounds, and have indicated the necessity for the careful study both by clinical and by laboratory means, of the patients undergoing treatment, since most of the toxic effects disappear if the drug is promptly withdrawn upon their occurrence.

During the past year studies have been made of the use of sulfanilamide in the local treatment of wounds, in contrast to its systemic administration. Preliminary results seem to be quite encouraging. Jensen and his co-workers at the Minneapolis General Hospital have treated thirty-nine cases of compound fractures and two compound dislocations by placing crystalline sulfanilamide in the wounds at the time of debridement and reduction of the fractures. They report that all of these wounds healed without infection. In a similar series of ninety-four compound fractures treated in the same fashion, except that no sulfanilamide was employed, 27 per cent developed infection, and in 5 per cent of the cases amputation was necessary. These authors believe that the increased effectiveness of sulfanilamide used locally may be explained by the fact that a local concentration of the drug from seventy to eighty times greater than that occurring with systemic administration may be obtained. Key and Burford conducted experimental studies which

showed that the local implantation of sulfanilamide in compound fractures had no inhibitory effect upon the healing of the bones. Sulfanilamide has also been used in the local treatment of perineal wounds following resection of the rectum by Mayo and Miller. Herrell and Brown, also of the Mayo Clinic, have reported encouraging results from its local use in infected wounds of the scalp, thorax, and abdomen. Similar studies are currently being carried on in many clinics, and it is probable that within the next year the value of sulfanilamide used locally, as well as its limitations, will be determined. Informal clinical reports from England and from the Continent indicate that there is a considerable interest in the use of sulfanilamide in war wounds, but it is probably too early yet to estimate just how effective this form of treatment will be.

**Sulfathiazole.** During the past year a new derivative of sulfanilamide—sulfathiazole—has been the subject of extensive experimental study and of widespread clinical trial. This compound 2 (para-amino-benzene-sulfonamide) thiazole is a sulfanilamide derivative of hetero-cyclic amines, first prepared by Fosbinder and Walter (*Jour. Am. Chem. Soc.* 61:20, 32, 1939). Similar compounds have been synthesized by Lott and Bergeim. Preliminary experiences indicate that it probably will be an important addition to the sulfonamide series.

It has been found in animal experiments that the acute toxicity of the drug is definitely less than that of sulfapyridine. Its chronic toxicity, on the other hand, is probably about the same as that of sulfapyridine. In clinical use its administration is much less frequently followed by nausea and vomiting than is that of sulfapyridine—a finding of some importance. It is true, however, that such toxic phenomena as drug fever and drug rashes are not uncommon with sulfathiazole therapy, and several instances of a rather peculiar congestion of the conjunctiva and sclera associated with a generalized erythematous skin rash, have been observed. It is, therefore, obvious that its clinical use must be attended by the same rigid precautions as have been found necessary in the administration of sulfanilamide and sulfapyridine.

Sulfathiazole seems to be absorbed more rapidly and excreted more readily than sulfapyridine. Because a smaller fraction of the drug is subject to acetylation in the body, it seems likely that precipitation in the kidneys with the formation of small urinary calculi will occur less commonly than in the case of sulfapyridine. The therapeutic effect of sulfathiazole seems to be about equal to that of sulfapyridine in the treatment of pneumococcal, streptococcal, and meningococcal infections, but it apparently is definitely superior to sulfapyridine in the treatment of infections caused by the staphylococcus. In the present state of our knowledge it appears to be the drug of choice in the treatment of staphylococcal sepsis, staphylococcal pneumonia, and carbuncle. It has also proved to be effective in certain cases of staphylococcal osteomyelitis. In infections of the urinary tract it promises to be of considerable value, according to Carroll, Kappell, and Lewis (*Jour. Am. Med. Assn.* 115: 1350, 1940). It has been found to be effective against the Staphylococcus, Gonococcus, Streptococcus faecalis, Aerobacter aerogenes, and to a less extent against Bacillus proteus and Bacillus pyocyaneus. They report recovery following its use in cases of renal abscesses, carbuncle, furunculosis, osteomyelitis, septicemia, ulcers of the penis, pyelonephritis, im-

petigo, and other infections. Spink and Hanson (*Jour. Am. Med. Assn.* 115:840, 1940) have reported on the use of sulfathiazole in 128 patients suffering from a variety of infections. In 33 cases of pneumococcal pneumonia sulfathiazole appeared to be fully as effective as sulfapyridine. Fifteen consecutive patients with staphylococcal septicemia were successfully treated with sulfathiazole. They also found it to be of value in urinary tract infections. Flippin, Schwartz, and Rose (*Annals of Internal Medicine* 13:2038, 1940) contrasted a series of 100 cases of pneumonia treated with sulfathiazole with a similar number treated with sulfapyridine, and found that although sulfapyridine appeared to reduce the temperature more rapidly than sulfathiazole, the mortality rate was slightly lower in the sulfathiazole series. Furthermore, patients treated with sulfathiazole were less subject to nausea and vomiting.

In summary, then, it may be said that this new sulfanilamide derivative appears to possess certain very definite advantages over both sulfanilamide and sulfapyridine, particularly in the treatment of staphylococcal infections. But, as Dr. Perrin H. Long, one of the outstanding American students of chemotherapy, has said, "the evaluation of these new chemotherapeutic compounds will necessitate extensive experimental and clinical investigation in order to determine their efficiency in the control of infections and their clinical toxic manifestations. Until the time when such data are in hand, it is hoped that enthusiasms do not outrun common sense."

**High Blood Pressure.** Dr. Soma Weiss, of Harvard, has contributed an excellent review of medical progress relating to arterial hypertension (*New England Jour. of Medicine* 223: 939, 1940). Probably the most important development in this field has been the recognition of the importance of decreased blood flow through the kidneys (so called renal ischemia) as a cause of high blood pressure in man. We have previously reported (1937 YEAR BOOK) the fundamental studies of Goldblatt on experimental hypertension in which it was conclusively demonstrated that a persistent elevation of blood pressure could be produced at will in animals by a constriction of the renal arteries by means of a specially devised clamp. It now seems clear that a similar renal ischemia may be brought about in man by a variety of pathologic processes. These Weiss classifies as (1) "congenital malformations" (such as hypoplasia of the renal artery), (2) "Inflammatory vascular diseases" (such as nephritis and renal infections), and (3) "Degenerative vascular diseases" (such as arteriosclerotic occlusive lesions of the renal artery, and diffuse arteriosclerosis of the whole renal arterial system). He states, "... renal ischemia is considered today the most important cause of hypertension." It should be pointed out, however, that high blood pressure is still thought to be caused in many instances by a diffuse vascular disease (arterial and arteriolar sclerosis) without renal ischemia, and that it also may result from non-organic vascular disease associated with several endocrine and nervous disorders.

Although active investigation regarding the mechanism by which renal ischemia produces hypertension is being carried on, no final answer is as yet available. Studies indicate, however, that the ischemic kidney liberates into the blood stream a material which causes arterial constriction and elevation of the blood pressure. Since this phenomenon

occurs in the denervated kidney as well as in the intact one, it appears to have a humoral rather than a nervous basis. Pressor substances derived from the kidney (notably "renin") are being extensively studied, but interpretation of these studies is as yet difficult.

One interesting line of work is that of Williams, Grollman, and Harrison who prepared a kidney extract which contained an anti-pressor substance, which when injected before renin would diminish the pressor effect of the latter, and which would reduce the blood pressure of rats with hypertension due to the removal of renal tissue. In some of the experiments untoward effects followed the fall in blood pressure.

Recently these same workers have treated a small group of hypertensive patients with this renal anti-pressor substance, and in most of the subjects a decline in pressure was observed. (*Jour. Am. Med. Assn.* 115:1169, 1940). Further clinical reports of these workers will be awaited with interest.

**The Role of the Vertebral Veins in the Spread of Cancer.** An important anatomical study was that of Batson of the University of Pennsylvania regarding the function of the vertebral veins, and their part in the spread of metastases (*Annals of Surgery*, 112:138, 1940). Pathologists and clinicians alike in the past have been puzzled by the occurrence of widespread deposits of cancer throughout the body without carcinomatous involvement of lungs, through whose blood vessels it was thought the cancer emboli must have passed in order to reach the periphery. This phenomenon of "paradoxical metastasis" required the assumption that the tumor emboli must be so small as to be able to pass through the capillaries of the lung, or that having lodged there, for some reason they failed to grow. By a series of injection experiments, Batson has shown that the vertebral venous system, a network of thin walled veins lying about the vertebrae and extending from the cranium to the pelvis, may serve as a shunt by means of which blood may flow around the pulmonary circulation. The vertebral veins are poor in valves and have numerous anastomoses with the systemic veins at different levels. Batson believes that the flow of blood through the vertebral veins is relatively slow, but is increased whenever pressure in the caval system rises because of coughing or straining. This route of spread, he thinks, is relatively common in cancer of the breast and prostate, and is also that frequently observed in the metastasis of infectious processes.

**The Co-Existence of Brucella Infection and Hodgkin's Disease.** In the 1938 YEAR BOOK it was reported that Parsons and Poston of the Duke University School of Medicine had isolated the organism of Malta fever, *Brucella melitensis*, from the lymph nodes of patients suffering from Hodgkin's Disease. It was pointed out that these studies opened an interesting new field of investigation into the etiology of this disease, the cause of which is as yet undetermined. In December, Wise and Poston reported (*Jour. Am. Med. Assn.* 115:1976, 1940) the results of a continuation of the study previously mentioned. They stated that in 14 consecutive cases of Hodgkin's Disease they had been able to demonstrate the co-existence of *Brucella* infection as evidenced by the isolation of *Brucella melitensis* from blood or lymph node cultures. At the same time, *Brucella* had been isolated but once from blood or lymph node cultures from a much larger group of patients in the same com-

munity suffering from diseases involving the lymph nodes, other than those with Hodgkin's Disease. The authors pointed out that although their observations suggested the possible etiologic importance of *Brucella* in the Hodgkin's Disease process, they had not as yet been able to produce Hodgkin's Disease in animals by the injection of blood or lymph node suspensions from patients with Hodgkin's Disease, and thus had not been able to fulfill the rigid postulates set down by Koch many years ago as essential in proving the etiologic significance of organisms in disease processes. They state, however, that "although the data in this study had not established an etiologic relationship of *Brucella* to Hodgkin's Disease, it is suggested that the clinical course of Hodgkin's Disease may be significantly influenced by *Brucella* infection."

**Tobacco and Coronary Disease.** An interesting report of the past year was that of English, Willis and Berkson of the Mayo Clinic (*Jour. Am. Med. Assn.* 115:1327, 1940) on the relation of tobacco to coronary disease. This subject is of special importance because of the apparently increasing number of deaths from coronary artery disease in this country, and because of the increasing consumption of tobacco products. In contrasting the records of 1000 male patients over 40 years of age who had coronary disease with 1000 without coronary disease, they found that among the first group 69.8 per cent were smokers, while in the latter group 66.3 per cent were persons who smoked. This represented an increase of only  $3.5 \pm 2.1$  per cent smokers among patients who had coronary disease. However, when the incidence of smokers in the various age groups was compared, it was found that of 187 patients with coronary disease between the ages of 40 to 49, 149 were smokers (79.7 per cent), while among 302 patients without coronary disease only 187 were smokers (61.9 per cent) a difference of  $17.8 \pm 4$  per cent, which is statistically significant.

In another instance when the records of a group of smokers between the ages of 40 and 49 were compared with those of a group of non-smokers, the incidence of coronary disease was found to be 4.8 per cent among the former and 1.8 per cent among the latter. Between the ages of 50 and 59, the relative figures were 6.2 per cent among the smokers and 2.6 per cent among non-smokers. Beyond the age of 60 no noteworthy differences were observed.

Finally, in a group of males between 40 and 49 the incidence of coronary disease among those who were non-smokers, those who smoked moderately, and those who smoked excessively was compared, and it was found that among the non-smokers 1 per cent had coronary disease; among the moderate smokers 4.6 per cent had coronary disease, and among the heavy smokers 5.9 per cent had coronary disease. The authors conclude "from the material comprising this study, it appears that a greater incidence of coronary disease occurs among smokers than among non-smokers in the younger age group—that is, less than the age of 50 years, and perhaps also among those in the age group of 50 to 59. This, however, is not true in the older age groups. Furthermore, the incidence of coronary disease among patients less than 50 years of age was greatest among excessive smokers, was least among non-smokers, and occupied an intermediate position among moderate smokers.

"It is, therefore, probably that the smoking of tobacco has a more profound effect on younger

individuals, owing to the existence of a relatively normal cardiovascular system, influencing perhaps the early development of coronary disease. In the older age groups in which arterial changes are prominent, regardless of extraneous influences such as smoking, the possible harmful effects of tobacco smoke are less evident than the other factors concerned in the production of arteriosclerosis."

The difficulties of interpreting any statistical study are, of course, well recognized, and although the figures presented seem to indicate that coronary disease occurs more frequently among smokers, we are not yet justified in stating that smoking is the cause of coronary disease. Other factors such as heredity, temperament, etc., probably are also important, but the results of the Mayo group at least should give us food for thought.

See **BENEFACTIONS**; **BIOLOGICAL CHEMISTRY**; **CHILDREN'S BUREAU**; **LIVING COSTS AND STANDARDS**; **PSYCHIATRY**; **PUBLIC HEALTH SERVICE**; **ROCKEFELLER FOUNDATION**; **VETERINARY MEDICINE**; **VITAL STATISTICS**.

H. WALTON COCHRAN.

**MELLON INSTITUTE.** The aim of Mellon Institute is the creation of new knowledge by scientific investigation, in accordance with the institution's definite fellowship system. According to this procedure the researches are restricted to major problems of the pure and applied sciences and particularly chemistry—problems that require protracted periods of time for solution by specialists. The Institute was founded by Andrew W. Mellon and Richard B. Mellon in 1913 and is located at 4400 Fifth Avenue, Pittsburgh, Pa.

The industrial research of the Institute is organized on a contract basis, the problem being set by a person, firm, or association interested in its solution, the scientific worker being found and engaged by the Institute, and an industrial fellowship being assigned for a period of at least a year. Each holder of an industrial fellowship is given broad facilities for accomplishing the research entrusted to him and all results belong exclusively to the donor of the fellowship. Only one investigation is conducted on a specific subject at any one time and hence there is no duplication of the research activities of the fellowships in operation. At present there are ninety of these industrial fellowships, which employ 280 scientists and engineers. The projects range from steel and concrete to synthetic organic chemicals, new plastics and textiles, and improvements in foods and other essential commodities.

The Institute is primarily an industrial experiment station, but the nature of its investigational procedure enables broad training of young scientists in research methods and in special subjects of technology. It also recognizes the need of fundamental scientific research as a background and sustains scopeful studies not suggested by industry but planned within the Institute and directed toward the solution of more basic problems than those usually investigated for technologic purposes.

The Institute's department of research in pure chemistry is conducting on a broad scale investigations of cinchona alkaloids and their derivatives in relation to the chemotherapy of pneumonia. During the fiscal year 1939-40 the Institute expended \$1,181,639 in carrying on pure and applied research.

The Institute's board of trustees is constituted of John G. Bowman, President; Edward R. Weid-

lein, Vice-President; Henry A. Phillips, Treasurer; Paul Mellon; Richard K. Mellon; and Alan M. Scaife. Edward R. Weidlein is Director.

**MEMEL.** A German territory on the east coast of the Baltic, created an autonomous district under Lithuanian sovereignty by the Memel Statute of May 8, 1924, and ceded by Lithuania to Germany on Mar. 23, 1939 (see **YEAR BOOK**, 1939, pp. 473-474). Area, 1099 square miles; population on Jan. 1, 1940, 153,793. See **GERMANY**; **LITHUANIA**.

**MENCHIANG GOVERNMENT.** See the article **MONGOLIA** under *Inner Mongolia*.

**MENNONITES.** A religious group founded in Switzerland in 1525 in protest against ecclesiastical rule and rigid liturgy. In the United States the Mennonites first settled at Germantown, Pa., in 1683, ultimately dividing into 17 bodies. For statistics, see **RELIGIOUS ORGANIZATIONS**.

**MENTAL DISEASES AND MENTAL HYGIENE.** See **CHILDREN'S BUREAU**; **PSYCHIATRY**; **PSYCHOLOGY**.

**MERCHANT MARINE.** See **EUROPEAN WAR**; **SHIPBUILDING**; **SHIPPING**.

**MERCURY.** Despite the high demand for this metal in the manufacture of munitions, the United States mines rose to the emergency and produced a quantity ample for current needs. According to the Bureau of Mines domestic production averaged about 3000 flasks (76 lb. each) per month. In October the production of 3600 flasks was double that of January, which is an indication of the rapid response of the industry to meet the emergency, created by the almost total lack of imports from Spain and Italy. Production for the year was in excess of 36,000 flasks. The price rose from \$142 per flask in January to \$200 in June, and tapered off to \$165 in December. The average for the year was \$176.865 compared with \$103.94 for 1939. Exports continued a downward trend in the latter part of the year, and stocks in the hands of producers, consumers, and dealers rose slightly. No imports were recorded after April. See **CHEMISTRY**, **INDUSTRIAL**; **OREGON**.

H. C. PARMELEE.

**MERIT SYSTEM.** See **CIVIL SERVICE COMMISSION**; **MICHIGAN** under *State Civil Service*; **SOCIAL SECURITY BOARD**.

**MESOPOTAMIA.** See **ARCHAEOLOGY**.

**METALS AND METALLURGY.** See the topics listed under **MINERALS AND METALS**.

**METALS RESERVE COMPANY.** See **RECONSTRUCTION FINANCE CORPORATION**; also **COPPER**.

**METEOROLOGY.** Callendar has published an important paper on the variations of the amount of carbon dioxide in different air currents. The changes in the amount of carbon dioxide in the air which are often observed during quiet weather are of local origin and are caused by organic or human activities; the variations in the great wind currents have a more fundamental basis which is connected with differences of carbon dioxide in the surface waters of the oceans. Theoretical considerations suggest that this gas should be more abundant in the air of equatorial regions than elsewhere because the carbon dioxide pressure in water varies directly with the temperature so that warming water gives up gas to the air, and owing to organic action carbon dioxide tends to accumulate in deep water which rises to the surface in equatorial regions returning the excess gas to the air. These



theoretical considerations are supported both by observations in the water and in the air. In the upper air there has been little change in the proportion of carbon dioxide observed. Callendar has reviewed all the measurements of carbon dioxide which have been made since 1866. By examining past weather maps in connection with carbon dioxide measurements made during the last century by different authorities, it was found that the carbon dioxide content varied from 290 parts per million in marine air masses to 301 in sub-tropical air masses. Callendar points out that the close agreement obtained by different observers in the latter part of the last century was doubtless the cause of the scarcity of carbon dioxide measurements during the present century. There were almost no measurements made from 1901 until 1932.

The most significant of Callendar's findings is that there has been a secular increase in the amount of carbon dioxide in the air over the past seventy years. The modern measurements taken from 1932 to 1935 show an increase over the measurements made during the last century of about 30 parts per million. Callendar points out that if this increase has occurred throughout the whole atmosphere then the additional mass of carbon dioxide in the air would be 200,000 million tons. In the period between 1900 and 1935 the amount of coal and oil consumed has been very nearly 50,000 million tons, equal to the direct addition of 150,000 million tons of carbon dioxide to the atmosphere. As by far the larger part of this has been produced in the North Temperate zone (where all the observations were made) Callendar believes that the greater increase found in the air might be due to incomplete mixing of the whole atmosphere. For the period from 1866 to 1900 the amount of carbon dioxide produced by the combustion of coal and oil was quite small and the observations do not record a change in the air.

Because of the importance of sea water in regulating the amount of carbon dioxide in the air a considerable part of the gas produced from coal and oil might be expected to have been absorbed by the sea, but the observations indicate that all this extra carbon dioxide has remained in the air. The most probable reason for the failure of the sea to absorb the excess can be traced to the very slow vertical circulation in the oceans; it is only the shallow contact surface which quickly reaches equilibrium with the atmospheric gases and the period required for the whole volume of water in the oceans to pass through the narrow surface zone has been estimated at several thousand years. Moreover the excess carbon dioxide pressure has only reached about 0.00002 atmospheres at present and this is not large enough to force much of the gas into the surface zone. Hence, although the total capacity of the sea to absorb carbon dioxide is very great, it is slow in action and will doubtless take many centuries to stabilize the great eruption of this gas, now about 300 million cu. meters per hour, which has resulted from human activities. There is of course no danger that the amount of carbon dioxide in the air will come to be uncomfortably large, because as soon as the excess pressure in the air becomes appreciable the sea will be able to absorb this gas as fast as it is likely to be produced.

During the past year there were great strides in practical or applied meteorology. This progress was almost entirely due to the increased attention being given to civil and military aviation. In the U.S. Weather Bureau there was greater develop-

ment in many branches of its activities during the past year than in any previous year. The airways weather service was amplified by the addition of observations in blind spots in the network and by increase in upper-air soundings which are essential for general weather forecasting as well as for air transport. Two new districts were established for the administration of this service, bringing the total number of Airways districts to thirteen. Also, wherever possible the airways weather service districts have been made to coincide with the general weather forecast districts. The general forecast and warning service was improved by providing for four weather maps per day in parts of the country where only two maps had been provided previously and by organizing two new forecast districts which can give greater attention to local weather advices. The establishment of these new districts was carrying out the policy of decentralizing the weather forecast and warning services. The two new forecast districts were the Kansas City district, comprising Kansas, Missouri, and Oklahoma, and the Albuquerque district, comprising Arizona, New Mexico, and western Texas. A third district at Boston for the New England States will be fully established early in 1941. Besides the above increases in the two main services the agricultural weather service and the climatological service received modest increases, the latter also benefiting greatly from the enlarged hydrologic program which has been organized through co-operation of the flood control agencies of the Army Corps of Engineers and the Department of Agriculture and which gives much needed reports and planning statistics on rainfall in important river basins.

To meet the growing needs of practical meteorology the Central Office of the Weather Bureau was reorganized. Prior to June, 1940, the administrative headquarters had functioned through divisions based upon projects or types of service, which as distinct meteorological services were to some extent complete and self-sufficient units. As now organized the administration of the Weather Bureau operates under three broad headings: (1) the technical service group, including the divisions of station operations, synoptic reports and forecasts, climatology, and instruments; (2) the scientific services, including research and in-service training; and (3) the staff services group, which comprises budget, supply, personnel management, and business administration.

Not only was the Weather Bureau reorganized internally but the entire Bureau was transferred from the Department of Agriculture, where it had functioned for nearly fifty years, to the Department of Commerce. This transfer was carried out under the provisions of the President's Reorganization Plan No. IV. The purpose of this plan is to bring the Weather Bureau into closer co-ordination with the Civil Aeronautics Administration and with the aeronautical interests of the country which find meteorological service indispensable.

The service in Alaska was improved by the establishment of a first-order station at Anchorage, with pilot balloon observations and first-order stations at Bethel, Ketchikan, and Point Barrow. Forecast centers were established at Fairbanks and Juneau. Sixteen new second-order stations were established in the Territory.

Ship reports from the Atlantic Ocean west of the 35th Meridian were increased from two to four times a day from each ship; the number of reporting ships was increased. Since February, 1940,



two Coast Guard Cutters have been stationed between New York and the Azores for the purpose of making daily weather observations. See COAST GUARD, U.S.

Weather forecast by automatic telephone was put in operation on Nov. 17, 1940, at Boston. Service of this type is now in effect in Baltimore, Boston, Chicago, Detroit, Newark, New York, and Washington. The automatic weather forecast service was inaugurated on Apr. 8, 1939, at New York City; by the end of 1939 this service was begun in Chicago and Newark. This service was begun at the other four cities during 1940. The automatic telephone apparatus giving out the weather forecasts provides for 100,000 calls daily. In New York City on July 30, 1940, there were actually 78,861 calls made by the public for the weather forecast on the automatic telephone.

Five-day forecasts were begun during the year from sixteen districts. These forecasts are based on pressure maps of the Northern Hemisphere, and are the outcome of recent research.

The National Bureau of Standards in co-operation with the Weather Bureau has developed a new ceiling light projector for use in the daytime. Heretofore ceilings (cloud heights) have been determined by a light beam at night time and by means of small balloons of known ascensional rate during the daytime. On account of drifting with the wind the balloon method can seldom be used when the ceiling is over 2000 feet and the observers must estimate the ceiling when above this altitude during the day. The new ceiling projector modulates the beam of light, that is, breaks it up into short evenly spaced pulses of light; this modulated beam of light is reflected by the clouds and is then detected with a photoelectric tube and amplifier, designed to respond only to that component of the total light received from the clouds which has the characteristic pulses introduced into the projected beam. Thus the projected signal light, after reflection, is sorted out from the background light from the cloud. In use, the photoelectric detector scans the base of the cloud until the meter on the amplifier indicates that the modulated beam is being received; the angular setting of the detector then corresponds to the angular elevation of the spot on the cloud. During the daytime with overcast conditions, cloud ceilings as high as 9000 feet have been detected; ceilings up to 4000 feet have been detected with broken clouds.

See EARTHQUAKES; FLOODS; HURRICANES.

**Bibliography.** W. J. Humphreys, *Physics of the Air*, 3d ed. (New York); Jerome Namias, *Introduction to the Study of Air Mass and Isentropic Analysis*, 5th ed. (Milton, Mass.); Sverre Petterssen, *Weather Analysis and Forecasting* (New York).

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**METEORS AND METEORITES.** See ASTRONOMY.

**METHODIST CHURCH.** The year of unification, 1939, was the year when the three united Churches began to know each other; 1940 saw the united church beginning to work together, the year of the first General Conference, the Jurisdictional Conferences, and the organization of the various Boards and Committees for work.

The General Conference, with 776 Delegates, 67 of whom were from overseas, met at Atlantic City on April 24. This was purely a legislative body. The General Conference was followed by six Jurisdictional Conferences, meeting from May 22 to July 9, for the election of Bishops, the appoint-

ment of Committees, and planning the work in their respective territories. Only two Jurisdictions elected Bishops: The Central on June 20 elected the Rev. W. A. C. Hughes, of the Board of Home Missions and Church Extension, and the Rev. L. H. King, Pastor of St. Marks Methodist Church, New York City, the Cathedral of Negro Methodism; and the Western in July elected the Rev. Bruce R. Baxter, President of Willamette University at Salem, Ore. Bishop Hughes, the first Bishop elected in the new Methodist Church, did not perform any Episcopal functions, as he died on July 12, 1940. Bishop Jashwant Rao Chitambar, the first native Bishop of India, died on September 4. At the Jurisdictional Conferences Bishops Edwin Holt Hughes, John L. Nuelsen, Edgar Blake, and Charles L. Mead were retired with honors from the work of the episcopacy.

On December 28, the Central Conference of Southern Asia elected the Rev. Clement D. Rockey, the son of pioneer missionaries and himself a missionary since 1912, and the Rev. Shot K. Mondol, a native of India and Superintendent of the Asansol District and Pastor of the English Church in Asansol, as Central Conference Bishops. The Central Conference of Germany, which in 1936 elected the Rev. F. H. Otto Melle for a term of four years, elected him for a life term in 1940.

The Board of Publication elected Mr. B. A. Whitmore of Nashville and the Rev. F. D. Stone of Chicago as Publishing Agents, and, carrying out the instructions of the General Conference, consolidated the Christian Advocates, elected the Rev. Roy L. Smith of First Methodist Church, Los Angeles, as Editor in Chief with headquarters in Chicago. Assistant Editors and special writers were also elected. The Rev. Ralph Stooddy, 150 Fifth Avenue, New York, was elected Director of "Methodist Information Service."

The Rev. Ralph E. Diffendorfer, with Associate Secretaries and Treasurers in the various departments, was elected Executive Secretary of the Board of Missions and Church Extension with headquarters at 150 Fifth Avenue, New York. This Board was formed by the merging of the Boards of the three Churches and the Woman's Work. This merger probably makes 150 Fifth Avenue the Home Base of more home and foreign missionaries than any other one place.

The Rev. H. W. McPherson, Nashville, Tenn., is Executive Secretary of the Board of Education, and Mr. E. H. Cherrington, 100 Maryland Ave., N.E., Washington, D.C., of the Board of Temperance and Public Morals. The Rev. N. B. Harmon, Jr., 150 Fifth Ave., New York, is the Book Editor and the Rev. W. K. Anderson, Nashville, Tenn., has charge of the Conference Course of Study in the new Church.

The latest complete figures show that there are 59 effective and retired Bishops, 28,500 effective and retired ministers, 850 District Superintendents, 25,000 Pastoral charges with 48,000 preaching places, 45,000 churches, 23,000 parsonages, 2900 schools ranging from Primary school to University, 177 hospitals, and 133 old people's and children's homes. Six million were enrolled in the Sunday Schools and 8,000,000 members were reported.

**METROPOLITAN MUSEUM OF ART.** See ART.

**METROPOLITAN OPERA COMPANY.** See the separate articles on **BENEFACTIONS** and **MUSIC**.

**MEXICO.** A Federal republic of North America, comprising 28 States, 2 Territories, and the Federal District (City of Mexico and 11 surrounding villages). Capital, Mexico, D. F.

**Area and Population.** Area, 760,290 square miles; population, 19,848,322 (estimated) on June 30, 1940 (16,552,722 at 1930 census). The racial division of the population (1930 census) was: Indians, 4,630,880; whites, 2,444,466; mixed race, 9,040,590. The population of the city of Mexico in 1940 was estimated at 1,754,355 (1,234,000 in 1930). Populations of other towns (1930): Guadalajara, 175,539; Monterrey, 132,577; Puebla, 114,793; Mérida, 95,015; San Luis Potosí, 74,003; León, 69,238; Tampico, 68,126; Veracruz, 67,494; Torreón, 66,001; Aguascalientes, 62,244. U.S. citizens resident in Mexico on Jan. 1, 1940, numbered 13,262. Germans were estimated at 6000-7000; Italians at 4000-5000.

**Defense.** Military service in the active army or National Guard is compulsory. As of Nov. 1, 1940, there were about 62,500 in the active army, 700 in the air force (with about 70 planes), and 63,680 trained reserves. In addition there was a private militia of workers and peasants, estimated to number about 30,000, with some arms and military training. The navy consisted of 6 escort and 10 coastguard patrol vessels. See *History*.

**Education and Religion.** In his message to Congress of Sept. 1, 1940, President Cárdenas said illiteracy had declined from 70 to 45 per cent in the preceding 30 years, and that primary school attendance had increased in the preceding five years from 1,400,000 to 1,800,000. Free secondary education was provided for the first time under the law of Dec. 30, 1939 (see *History*). The Federal appropriation for education in the 1940 budget was 73,800,000 pesos.

Roman Catholicism is professed by over 90 per cent of the population. The 1917 Constitution established State control of all churches. All foreign priests were expelled in 1926. In 1936 all buildings used for religious purposes were nationalized and the number of native priests permitted to officiate was reduced to about 350. In subsequent years a number of State governments permitted many churches to reopen.

**Production.** Agriculture, mining, stock raising, and manufacturing are the chief occupations. The principal crops are (in metric tons, except as noted): Corn, 1,692,666 in 1938; cotton, about 243,000 bales in 1939; wheat, 402,000 in 1938-39; sugar cane, 4,132,260 in 1938; bananas, 546,936 in 1938; henequen, 133,117 in 1938; coffee, 39,023 in 1939; beans, 105,499 in 1938; alfalfa, 1,540,324 in 1938; tomatoes, 80,117 in 1938-39.

Excluding coal and petroleum, the value of mineral production in 1939 was 598,626,000 pesos (557,180,000 in 1938). Oil production in 1939 was 43,200,000 bbl. (37,900,000 in 1938); coal, 628,200 metric tons. Output of other minerals in 1939 was (in metric tons): Silver, 2360; gold, 26,178 kilos (of 2.2 lb.); lead, 219,501; zinc, 134,165; copper, 44,389; antimony, 7872; iron, 141,336; cadmium, 817; molybdenum, 870. The 1935 industrial census showed 7050 manufacturing establishments with an output of at least 10,000 pesos each annually and 204,755 employees. Tourist automobiles entering Mexico from the United States through Nuevo Laredo in 1939 numbered 28,126 (22,614 in 1938). Tourist expenditures in Mexico were estimated at \$2,500,000 monthly early in 1940.

**Foreign Trade.** Imports in 1939 were valued

at 629,708,225 pesos (494,118,125 in 1938); exports, 914,389,882 (838,127,957 in 1938). The increase in 1939 was due partly to depreciation of the peso in terms of the dollar (see under *Finance*). Of the 1939 imports, the United States supplied 66 per cent by value (57.7 in 1938); Germany, 12.7 (18.9); United Kingdom, 2.6 (4.1). Of the exports, the United States purchased 74.2 per cent (67.4 in 1938); United Kingdom, 5.8 (9.4); Germany, 5.6 (7.7). Value of the chief 1939 imports were (in pesos): Passenger automobiles, 45,134,000; trucks, 25,546,000; rayon, yarn, and waste, 14,630,000; copra, 11,952,000; iron machinery parts, 11,874,000. Leading exports were (in pesos): Silver, 177,673,000; gold, 172,513,000; lead, 117,189,000; zinc, 73,080,000; copper, 52,665,000; crude petroleum, 45,220,000; coffee, 33,667,000; henequen, 22,564,000. See *TRADE, FOREIGN*.

**Finance.** Budgeted expenditures for 1941 were 492,000,000 pesos as compared with actual expenditures of 540,172,000 pesos in 1940. During the six-year period ended in December, 1940, governmental expenditures totaled 2,742,646,000 pesos, including 220,000,000 for highways. The debt service for the six-year period consumed 353,400,000 pesos, education 343,800,000; the accumulated deficit, totaling 169,800,000 pesos, was met by borrowing from the Bank of Mexico. The funded debt on July 1, 1937, was 1,133,994,612 pesos. Average exchange rate of the peso, \$0.2212 in 1938, \$0.1931 in 1939. Also see *History*.

**Transportation.** Mexico had 14,252 miles of railway line in 1936. A new line 158 miles long from Mexicali, Lower California, to Punto Penasco, Sonora, was completed in May, 1940. The principal system is that of the National Railways of Mexico, nationalized in 1937 and turned over to the railway workers' union for operation in 1938 (see *History*). Freight carried by the National Railways in 1939 was about 9,254,000 metric tons. Highways extended 56,923 miles in 1939 (see *ROADS AND STREETS*). There were 23 air lines operating over 15,343 miles of route (12,751 miles local and 2592 miles international). A total of 12,275 vessels entered and cleared Mexico's 22 ocean ports in 1937.

**Government.** The Constitution of 1917, as amended in 1929 and 1933, vests executive power in a President elected by direct popular vote for six years and ineligible for re-election. Legislative power rests with an elective Congress of two houses—a Chamber of Deputies of 171 members chosen for three years and a Senate of 58 members renewed every six years. President at the beginning of 1940, Gen. Lázaro Cárdenas, who assumed office Nov. 30, 1934. Predominant political power had been exercised since 1928 by the National Revolutionary party, organized by President Plutarco Elías Calles, and its successor, the Party of the Mexican Revolution (PRM), formed at the direction of President Cárdenas in 1938. For developments in 1940, see *History*.

#### HISTORY

**Avila Camacho Becomes President.** Gen. Manuel Avila Camacho was inaugurated as President on Dec. 1, 1940, bringing to an apparently peaceful conclusion months of bitter and violent political controversy that repeatedly threatened to plunge Mexico into civil war.

The new Chief Executive immediately launched the country upon a more conservative course than that charted by President Cárdenas during the pre-

ceding six eventful and troubled years. Before the end of 1940, Avila Camacho had reversed his predecessor's agrarian policy by vesting title to their land in individual members of the *ejidos*, or agricultural communities, instead of in the *ejidos*. The President explained that one of his reasons for this change was to free agricultural workers from those "who have used the collective system to promote exotic doctrines (i.e. communism) and exercise undue influence over the farmer."

At Avila Camacho's instigation, Congress passed other measures indicating a trend away from the radicalism of the preceding years. The railroads were returned from labor union to government control. Supreme Court judges were made elective for life, apparently to free them from political influence. Nationalized properties of the Roman Catholic and other churches were placed under the jurisdiction of the courts rather than the government, thus offering the Church legal recourse against expropriation. These measures won the approval of many elements previously hostile to the government and abated the danger of civil war.

Still another reversal of the Cárdenas policies was the adoption by the Avila Camacho Government of what promised to be close and friendly collaboration with the United States in the Roosevelt-Hull program of inter-American peace, friendship, and solidarity against overseas military and ideological threats. This new spirit of amity was reflected in the cordial reception given Henry A. Wallace, Vice-President-Elect of the United States, who attended the inaugural ceremonies in Mexico City as President Roosevelt's official representative.

**The Elections.** The chief opponent of General Avila Camacho, candidate of the PRM (government party), was Gen. Juan Andreu Almazán, who had strong conservative support (see *YEAR BOOK*, 1939, p. 481 for background data). The electoral campaign was marked by several attempts to assassinate General Almazán, by sporadic armed clashes between adherents of the rival candidates, and by minor revolutionary outbreaks in some States where anti-government sentiment was strong. Spokesmen for Avila Camacho accused Almazán of fomenting these revolutionary activities. He, in turn, repeatedly warned that he would lead a revolt if the government machine "thwarted the will of the people" at the polls.

Almazán's campaign was aided by a marked conservative trend in public sentiment, evidenced among important groups of workers as well as among business, professional, and other upper class groups. General Avila Camacho, who was more moderate in his views than President Cárdenas or other radical leaders of his party, took a middle-of-the-road position on most of the issues agitating the country.

The voting on July 7 was accompanied by serious disorders, particularly in Mexico City. About 50 persons were killed and more than 400 wounded. Both sides claimed an overwhelming victory, while accusing each other of fraud and irregularities. A significant aspect of the election was that of some 6,500,000 eligible to vote, about 2,500,000 actually went to the polls—a much higher proportion than usual—under the guarantee of a free election given by President Cárdenas.

Few seemed satisfied that the results announced bore any approximate relation to the preferences of the voters. The electoral law provided that the

party representatives first at the polling booths had the right to open and control the polls and guard the ballots until the official count. This led to fights for the control of the different booths and generally to the exclusion of voters opposing the party that gained control. The PRM and the Almazán supporters counted their own ballots and each faction proclaimed the election of its Presidential and Congressional candidates by overwhelming majorities.

**Rump Government Proclaimed.** While tension continued at a high pitch, efforts were made to patch the widening political breach. But Avila Camacho's supporters rejected the Almazanistas' demand for a new, unmanipulated election. Both the Cárdenas Government and the retiring Congress accepted as official the election results announced by Avila Camacho's backers. Then on August 8 Cárdenas officials, declaring the election settled, banned all further political meetings or agitation in the Federal District. This drove the Almazanistas underground. About the same time the Permanent Commission of Congress charged that Almazán was plotting to assassinate Cárdenas and Avila Camacho and overthrow the government.

On August 15 the electoral college of PRM Senators and Deputies, declared elected by the retiring Congress, met in the capital and validated their own election. To prevent an armed coup by Almazán supporters, hundreds of armed peasants loyal to the Cárdenas regime were moved to the capital by motor truck. The Chambers of Congress were heavily guarded by troops and police. The Almazán candidates for Congress met separately in secret session and approved of their own election credentials. A few days later the government began to arrest leading Almazán supporters and there was an immediate exodus from Mexico of his more prominent associates. Almazán himself had previously left on a "vacation" that took him to Cuba, Panama, and the United States.

While he was in the United States, rival congresses were installed in the Mexican capital on September 1. President Cárdenas delivered his annual message to the Avila Camacho Congress, giving it official recognition. The Almazán Deputies and Senators met secretly and three days later proclaimed Almazán as President-elect. On adjourning, they named a permanent commission of six members with full legislative powers during the recess.

On September 2 Almazán announced in New York that he would return to claim the Mexican Presidency "at the proper time." The next day his Congress issued an inflammatory manifesto violently denouncing Cárdenas and his government and urging the Mexican people to sweep them away. Roberto Morales, vice-president of Almazán's permanent Congressional commission, announced in San Antonio, Texas, on September 10 that President Cárdenas had been "impeached and deposed" and that Hector F. López would serve as provisional President until December 1. The PRM Congress in Mexico City on September 12 certified Avila Camacho as President-elect. The election results announced by this Congress were: Avila Camacho, 2,476,641; Almazán, 151,101; Gen. Rafael Sanchez Tapia, 9840.

In a declaration of policy made September 19 Avila Camacho further undermined Almazán's position. He said he would insist upon adequate protection and encouragement of both Mexican and

foreign investors. Describing himself as a good Catholic, he said his government would not be influenced by the Communists or the radical wing of the labor movement under Vicente Lombardo Toledano. An Almazán plot to seize control of the industrial center of Monterrey as a revolutionary base was frustrated on October 1. This was followed on November 12 by United States recognition of Avila Camacho as the legally elected President of Mexico.

These developments ended hope of a successful revolt. A number of prominent Almazán supporters announced their acceptance of the Avila Camacho regime. Bands of rebels active in various isolated parts of the country capitulated to the government or were broken up. General Almazán then returned to Mexico on November 26 and renounced "the honorable position of President, to which the people were good enough to elect me on July 7." His statement removed the last obstacle to Avila Camacho's inauguration on December 1.

**Struggle over Education Law.** Besides the threat of an Almazanista revolt, the Cárdenas Government had faced growing opposition or unrest among the Roman Catholic clergy, labor unions, Communists, Nazis, Fascists, and other groups. The five-year truce between Church and State was partially broken by the decree of Dec. 30, 1939, designed to enforce provisions of the Mexican Constitution pertaining to education.

The decree provided for free education in government schools, based on socialistic principles, with compulsory attendance to the age of 15 years. Private schools were required to have government permits and adhere strictly to government standards. They were forbidden to impart religious instruction or to have any relationship with any religious cult. The private schools were given six months to comply with the new "organic education law." The decree also reorganized and extended the State educational system, providing for pre-school education of children from four to six years of age, six years of primary and three years of secondary schooling, and for further instruction in vocational, normal, technical, professional, and special schools.

General Almazán on February 25 vigorously denounced the provision for socialistic education and demanded repeal of clauses in the 1917 Constitution under which it was issued. General Avila Camacho reluctantly approved the new law but declared during the campaign that he would not allow socialistic education to be rigidly enforced. Nevertheless the clergy played an active role in enlisting support for Almazán's campaign.

**Disputes with Unions.** President Cárdenas found himself involved in serious controversy with the powerful railway and oil workers' unions as a result of the failure of those nationalized industries to pay their way. The National Railways, turned over to the Union of Mexican Railway Workers in 1938, had incurred heavy deficits, while efficiency and discipline declined and accidents increased. On Apr. 9, 1940, President Cárdenas returned control of the National Railways to the Department of Communications and Public Works with instructions to reorganize their administration and to pay 5.64 per cent of the gross earnings to the Federal Government as required by law.

The reorganization plan, calling for reduction of salaries, abolition of unnecessary positions, etc.,

aroused such strenuous objections from the union that President Cárdenas was obliged to intervene. He ordered the union to accept the reorganization plan within 10 days. The union flatly refused and called a national convention to consider the government's ultimatum. However the issue was postponed until after the inauguration of Avila Camacho. He then carried out Cárdenas's reorganization plan.

**Oil Industry's Difficulties.** Very similar was the situation in the oil industry, expropriated from American and other foreign oil companies in 1938 and turned over to the Mexican Oil Monopoly for operation, with the workers exercising a voice in the management. Production in the first quarter of 1940 was lower than when the oil fields were under foreign control, while costs had increased about 50 per cent. The basic pay of the workers had been increased but the limitation of overtime and higher social benefit payments made their actual earnings smaller than before. The European War and the boycott of the ousted oil companies had eliminated the chief markets for Mexican oil abroad and the Monopoly was forced to export it during 1939 at one-half the world market price.

The management of the Monopoly charged that the inefficiency and lack of discipline and co-operation of the oil workers was responsible for rising production costs and the resulting heavy deficit. The workers accused the management of inefficiency and bungling of negotiations for the sale of oil abroad. On February 28 President Cárdenas proposed a 14-point plan for reorganization of the industry, including a reduction of personnel, wage cuts, and elimination of over-time pay. Several hundred workers were dismissed in March, but the union by threatening to strike held up the reorganization program until the elimination of the Italian market in June and an ultimatum from the President forced it on August 7 to accept further economies. The workers then agreed to the dismissal of about 3000 more workers, pay and salary reductions in the higher brackets, etc.

**Friction in CTM.** This friction between the unions and the government was reflected in the mounting opposition within the Mexican Confederation of Labor (CTM) to the leadership of Vicente Lombardo Toledano, CTM secretary-general, who was closely identified with the Cárdenas policies. Many of the railway and oil workers supported Almazán. The Mine Workers' Syndicate resigned from the CTM July 23 and called for the formation of a more conservative labor front. Lombardo Toledano's policies, which closely followed the orthodox Communist party line, also drew the fire of the conservative faction within the government party, headed by ex-President Emilio Portes Gil.

**Communist and Nazi Activities.** The schismatic trend among political and labor groups was evidenced also in the Mexican Communist party. Early in the year the party undertook a thorough purge of elements who "questioned Joseph Stalin's action in waging war against Finland" or who hesitated to condemn Leon Trotsky's criticisms of Stalin. At an extraordinary congress of the party held March 20-24 General Secretary Hernan Laborde and two other leaders were expelled for lack of sufficient zeal by the committee they had named to conduct the purge. While supporting Avila Camacho's candidacy, the party censored President Cárdenas for his "passive" policy toward Almazán and other conservatives.

Leon Trotsky, Stalin's mortal enemy, was assassinated at his Coyoacan refuge late in August. Another attempt had been made on his life and one of his bodyguards had been murdered on May 24. The police accused the Mexican Communist party and Stalin's agents in Mexico of complicity in both of these attacks (see COMMUNISM; NECROLOGY under *Trotsky, Leon*).

In April the Mexican secret police were reported to have uncovered evidence that Communist and Nazi agents were co-operating in seeking to foment disturbances in Mexico that would prevent the United States from intervening in the European conflict. This was followed in May by the expulsion of several North American Communist agitators by the Cárdenas Government and a curb on native Communist agitation. The following month the Cárdenas Government curbed the Nazi propaganda that had been flooding Mexican publications during previous months. The press attaché of the German Legation was declared *persona non grata*, several Nazi magazines were suppressed, and the Mexican press was warned to emphasize Mexico's friendship for the United States and the other democracies. At the same time Lombardo Toledano, reversing his pro-Axis attitude, urged Latin American workers to fight the Rome-Berlin Axis in every possible way.

**Fascists and Falangists.** On July 4 the CTM newspaper *Popular* published a four-page exposé of Italian activities in Mexico. It charged that Italian Fascists were organized for political and military action under orders from Rome, that Italian diplomatic representatives meddled in politics, that pro-Fascist propaganda was being circulated both officially and by secret Fascist organizations, and that Italians and other foreign Fascist groups were working with "Almazanist reactionaries" for the overthrow of the legal government.

Similar charges were made against the Spanish Fascist movement (*Falange Española*), which though officially outlawed was said to be operating underground in Mexico. On the other hand, conservative and anti-Communist elements protested the activities of some Spanish Republican emigres who were charged with spreading Communist ideas or with training to serve as officers of the workers militia. Although many Spanish refugees in Mexico were reported to be dissatisfied and eager to migrate to the United States or elsewhere, the Cárdenas Government offered asylum to some 250,000 more refugees who had been in France since the Franco victory in Spain. An agreement whereby Mexico undertook to accept all these Spaniards without regard to creed or political beliefs and to pay their transportation expenses and upkeep pending their departure from France was signed by the Mexican and French (Vichy) governments late in August. This action was bitterly criticized by conservative Mexicans and even by some radical labor unions.

**Economic Difficulties.** The rapid decline of the peso from 3.60 per dollar previous to the oil expropriation decree of March, 1938, to approximately 6 per dollar in February, 1940, gave added impetus to the welter of conflicting political forces. This depreciation was due to reduced exports and the flight of capital following seizure of the oil properties, increasing imports from the United States after the outbreak of the European war, and talk of a further reduction in silver prices by the United States Government. In mid-February the Bank of Mexico took action to peg

the peso at the 6 per dollar level. The financial position of the government continued difficult, but unfavorable economic factors were offset by improving prices and demand for Mexican minerals, sisal and other raw materials, and by heavy expenditures by United States tourists. A marked business up-turn occurred after Avila Camacho's inauguration.

**Conscription Introduced.** The Cabinet on June 18 approved a bill, later passed by Congress, establishing a more comprehensive system of compulsory military service for males between the ages of 19 and 45. Youths were to serve one year at the age of 19, serve in the first reserve with periodic training for the next 10 years, serve in the second reserve for another 10 years, and finally belong to the National Guard for six years. The private workers' militia was expected to be absorbed into the conscript army. Despite the government's financial straits, arrangements were made for the purchase of arms, munitions, and airplanes in the United States.

**The Oil Controversy.** There were important developments in the dispute between the government and the foreign oil companies whose properties were expropriated in 1938 (see 1938 and 1939 YEAR BOOKS). Legal proceedings to fix the compensation to be paid the companies were carried to completion over their opposition and protests. On January 31 President Cárdenas announced that since the companies refused to co-operate in the appraisal of their properties, the Mexican courts would determine the valuation without appeal as to the amount of compensation.

While two experts appointed by the courts were engaged in appraising the oil properties, the government broke the united front maintained by the United States oil companies in the expropriation controversy. Early in May the Sinclair interests, controlling an estimated 10 to 40 per cent of the American oil holdings in Mexico, agreed to accept \$8,500,000 in settlement of their claims. Of this sum, \$3,000,000 was paid in 1940 and the remainder was due in installments ending in 1942. It was understood that the Sinclair interests also agreed to buy a substantial amount of Mexican oil over a period of years.

On August 20 the two appraisers appointed by the courts, one representing the government and the other the oil companies (without their consent), submitted their reports. The government expert estimated the compensation due all the foreign companies except the Sinclair interests at 170,737,000 pesos (about \$34,546,000 at the current exchange rate). The estimate of the other expert was 181,202,000 pesos (about \$36,258,000). These estimates, which excluded the oil underground, contrasted with the companies' estimate that their losses approximated \$400,000,000, including oil underground. A third expert named by the courts fixed the final valuation at 177,624,000 pesos (about \$35,525,000) on August 29. Of this amount, \$28,432,000 was allotted to the British and Netherlands interests controlling the Aguila holdings, \$5,117,000 to the Standard Oil Company of New Jersey, and the rest to five other American concerns. The court approved this award and signed the deed transferring the properties to the Mexican Government when the companies concerned refused to sign.

Government spokesmen declared the legal controversy closed, since the expropriation law barred any appeal from the court's decision. The govern-

ment also deducted from the sum of the award claims totaling \$23,400,000 advanced against the companies by oil workers for severance pay and other items. This reduced the net amount owing the companies by the government to \$12,125,000. On September 18 the Standard Oil subsidiaries in Mexico filed a petition for an injunction against the award.

**Negotiations with Washington.** On April 3 the United States Government formally intervened in the oil controversy with a note requesting arbitration of all the issues between the Mexican Government and the American companies involved. Secretary Hull's note declared that Mexico's treatment of Americans in many fields was "wholly unjustifiable under any principle of equity or international law." It asserted that these differences "must of necessity be adjusted if the relations between our two countries are to be conducted on a mutually co-operative basis of respect and helpfulness." Mr. Hull requested that an umpire be appointed to fix the amount of unadjusted general American claims against Mexico or that a lump sum payment be negotiated for distribution among claimants by the United States. Once these proposals were accepted, he suggested, other outstanding problems should be discussed, such as Mexican defaults on the foreign and railway debts.

This note produced a violent reaction in Mexico. Virtually all sections of opinion denounced it as a manifestation of "Yankee imperialism." Protest parades were held in many Mexican cities on April 11. This indignation soon subsided, but on May 1 the Mexican Government firmly rejected Secretary Hull's arbitration proposal on the ground that the oil dispute was a domestic one which was nearing solution. His request for settlement of general claims by an umpire was likewise turned down but the note expressed Mexico's willingness to negotiate a "global settlement" of these non-adjudicated claims.

Meanwhile the Mexican Government proceeded with the expropriation of American and other foreign-owned agricultural properties. A decree of March 26 expropriated 1,500,000 acres of land in the State of Chiapas held by three American corporations. The decree held that since the companies' title was not valid they were debarred from compensation. On June 29 the Mexican Government made another \$1,000,000 payment on American-owned lands confiscated since Aug. 30, 1927.

See FASCISM; INDUSTRIAL CHEMISTRY; PAN AMERICANISM.

**MICHIGAN.** Area, 57,980 square miles; includes water (but not the State's part of the Great Lakes), 500 square miles. Population (U. S. Census), April, 1940, 5,256,106 (3,454,867 urban and 1,801,239 rural); 1930, 4,842,325. Detroit (1940), 1,623,452; Grand Rapids, 164,292; Flint, 151,543; Lansing (the capital), 78,753.

**Agriculture.** Michigan harvested, in 1940, about 7,707,000 acres of the principal crops. Corn, leading all in importance, occupied 1,558,000 acres, made 49,856,000 bu., and by estimate returned the producers \$32,406,000. Tame hay, on 2,694,000 acres, gave 4,064,000 tons (about \$25,603,000); potatoes, on 240,000 acres, 20,640,000 bu. (\$12,797,000); oats, 1,287,000 acres, 60,489,000 bu. (\$18,752,000); wheat, 761,000 acres, 17,812,000 bu. (\$13,359,000); dry beans, 567,000 acres, 4,309,000 100-lb. bags (\$12,021,000); sugar beets, 114,000 acres, 1,004,000 tons (estimate for slightly greater crop of 1939,

\$5,774,000). Apples for market gave 5,967,000 bu. (\$5,072,000); cherries, 38,870 tons (about \$2,400,000). Farms (1940): 187,589; their size averaged 96.2 acres.

**Manufacturing.** Yearly production of manufactured goods in Michigan totaled \$4,341,413,139 for 1939; \$5,296,100,960 for 1937. Other totals for 1939 (each with that for 1937 subjoined): 6313 (5614) establishments employed 523,071 (660,676) persons for wages of \$790,740,567 (\$986,840,523), paid for material, etc., and contract work \$2,550,346,742 (\$3,204,437,649), and added to material, by manufacture, a value of \$1,791,066,397 (\$2,091,663,311).

**Mineral Production.** Michigan's yearly production of native minerals, as valued in 1940 by the U. S. Bureau of Mines, sank to \$81,380,602 for 1938, or less than seven-tenths of the total for 1937. Most of the loss resulted from lower shipments of iron ore, at lower prices. The iron-ore production recovered, to 9,159,222 gross tons for 1939, from 6,004,311 tons for 1938; mines' actual shipments of iron ore recovered more sharply, to 11,238,605 tons, from 4,092,902 tons; and shipments' value, to \$37,026,665, from \$13,139,823. In 1940 the corresponding totals rose to some 13,746,000 tons and \$40,769,000.

The yield of petroleum rose to approximately 22,799,000 bbl. for 1939, from 18,745,000 bbl. (value, \$19,300,000) for 1938. A system limiting the production of petroleum by prorating the allowable output of new fields went into effect June 1, 1939. Mines' production of copper, in ore, diminished somewhat to 43,985 short tons (1939) from 46,743 tons (value, \$9,161,628) for 1938. Of portland cement, producers' yearly shipments (fairly near yearly production) rose to 8,327,479 bbl (1939) from 7,192,511 (1938) and in value to \$10,891,978, from \$8,767,859. The yield of natural gas was reported as about 10 per cent higher for 1939 than for 1938; for 1938 the consumed output of natural gas totaled 10,165 million cubic feet, in value at points of consumption, \$6,387,000. Producers' sales of salt recovered to 2,408,872 short tons (1939) from 2,078,612 (1938); in value, to \$6,726,912, from \$6,151,154.

Industries using minerals wholly or partly from outside produced great totals not included in the State's yearly value of production of its own minerals. Of coke, 2,430,688 short tons were made in 1939, as against 1,742,787 in 1938; by value, \$12,408,881 as against \$10,135,722. Furnaces' shipments of pig iron doubled, to 1,138,964 gross tons (1939) from 558,782 tons (1938) and in value to \$18,872,150, from \$9,806,994.

**Education.** Michigan's inhabitants of school age (from 5 years to 19, inclusive) were reckoned, for May, 1939, at 1,389,347, or some 10,000 fewer than a year before. For the academic year 1938-39—the latest covered by data that follow—enrollments in the public schools numbered 967,852; this comprised 535,763 from kindergarten through eighth grade, 398,886 in high school, and 33,203 otherwise classified. The year's expenditure for public-school education totaled \$107,694,541. Teachers in public schools numbered 32,702; their pay averaged \$1599.14 for the year.

**History.** The industries of Michigan, as a whole, passed an unusually productive year, toward the end of which the leading manufacturers of automobiles started to branch out into the production of airplanes and aeronautical engines, in accordance with the effort of the Federal Govern-

ment to increase the Nation's armaments. The State's government, however, still felt the weight of the heavy deficit that the Murphy administration had bequeathed to its successor in 1939; Governor Dickinson resorted to severe (though unequal) retrenchment, to avoid summoning the Legislature in special session and asking it for more money to meet obligations. The dependents on public support became less numerous, and the State's sales tax brought in more revenue as industrial activity increased; but the difficulty of realizing on sums due the State in delinquent taxes on property remained, as the sales of land for taxes in February brought in many cases far less than assessed valuation.

Governor Dickinson was accused during the year of having carried economy to such excess as to risk wrecking the physical condition of some of the State's dependents. An epidemic of poliomyelitis had spread in the Upper Peninsula, and the Governor's accusers charged that the convalescent sufferers lacked the public care needful to restoring nerves and muscles paralysed by the disease. This consideration was said to have contributed to Dickinson's failure to win re-election: and H. E. Van de Walker, 14 years head of the Crippled Children's Commission, resigned in October, after controversy with Dickinson.

**Labor Situation.** The automobile-manufacturing industry, harried for several years by strikes and suspensions of work, complicated with rivalries among unions, enjoyed a year of relative freedom from these troubles. The question what union should prevail as the agent for the 136,000 employees of the General Motors Corporation was apparently settled by an election held on April 18 by the NLRB. While most of these employees were in Michigan, their total was scattered among 11 States. They gave about 90,000 votes for the C.I.O.'s fraction of the disrupted United Automobile Workers of America and about 30,000 for the A.F.L. affiliation, or for neither. The election determined, at least for a time, the agency to have control of the employees' concerns as to labor matters.

The Board of Appeals of the State's Unemployment Compensation Commission decided (April 23) in favor of the claims of some 35,000 employees of the Chrysler Corporation to receive \$1,892,700 in compensation for their idleness in the course of the interruption of work in the Chrysler establishments during the labor troubles in the autumn of 1939.

**Federal Activities in the State.** In April, armed with reports from the Federal Bureau of Investigation, F. John Rogge of the Federal Department of Justice prosecuted infractions of Federal laws on the part of State authorities and others, as he had successfully done in Louisiana. A Federal Grand Jury subsequently spent over six months on inquiries along this line; Frank D. McKay of Grand Rapids, veteran political boss, was indicted in December. Congress passed a bill to permit Michigan to build a bridge across the Straits of Mackinac. The U.S. Secretary of the Interior received from Michigan a deed to 133,405 acres intended to form part of Isle Royale National Park in Lake Superior.

**State Civil Service.** According to a report of the State's Civil Service Commission, published late in January, all employees in 24 of the State government's departments had been removed from the protected status of civil service subsequent to the so-called civil-service ripper act passed in 1939.

While this act was defended by its supporters as a counterthrust to the intrenchment of Democratic officeholders said to have been effected by the civil-service act itself, the revealed result helped renew the agitation for restoring the system. Petitions for the submission of an amendment to the voters at the election during November were circulated and the necessary number of signatures, about 161,000, was obtained. The prospect, later realized, that the popular vote would adopt the amendment, lent particular importance to the year's elections of Governor and legislators. The amendment required the enactment of the requisite civil-service law under penalty of the stoppage of all the State's pay checks on August 1; it made mandatory the creation of a new Civil Service Commission of two Republican and two Democratic members, to be appointed by the Governor, and of a Director of Personnel. It was expected that the commission when created would admit all the existing State employees, except for a few exempted groups, into the protection of the system.

**Detroit.** Under Mayor Jeffries, elected in November, 1939, Detroit underwent at least the opening stages of a purge of official misconduct. The previous Mayor, Richard W. Reading, was held for trial as a receiver of bribes from operators of games of policy and from takers of wagers on horse races; he was one of 137 charged with complicity in the protection of horse-race gambling. Sheriff T. C. Wilcox of Wayne County was removed from office by Governor Dickinson on charges of protecting operators of places of unlawful resort. Duncan C. McCrea, prosecutor of Wayne County, went out by the same exit. McCrea's removal took from his hands the duty of prosecuting the participants in the alleged corruption. The graft indictments as a whole portrayed many officers of the law, great and small, as having sold immunity to bands of bookmakers, lottery men, and traffickers in prostitution. The disclosures spread from a relatively small origin, the suicide of a woman employee of a policy shop in 1939, who was found to have left a memorandum of payments made to members of the police.

The lack of a satisfactory zoning ordinance for safeguarding the development of realty came into note during the year in two ways: it led to a demand that the city do something about areas that were deteriorating and thus losing in ability to pay taxes; in another direction, it stimulated demand for housing projects that might help rid the city of slums.

See AQUEDUCTS; WATER WORKS AND WATER PURIFICATION.

**Elections.** At the general election (November 5) the popular vote for President went to Willkie (Rep.) by 1,039,917, giving him a plurality of almost 7000 votes over Roosevelt (Dem.), who obtained 1,032,991. U.S. Senator A. H. Vandenberg (Rep.) was re-elected, by 1,053,104 to 939,740 for Frank Fitzgerald (Dem.). Governor Dickinson (Rep.), obtaining 945,774 votes, failed of re-election; his opponent, M. D. Van Wagoner (Dem.), running ahead of his party's ticket, with 1,077,065 votes. Majorities in both houses of the Legislature were none the less retained by the Republicans. Eleven Republicans and six Democrats were elected U.S. Representatives.

The voters adopted a thoroughgoing system of civil service for employees of the State, as provided in a proposed constitutional amendment. They rejected a proposal forbidding the Detroit Street



Railways to continue charging, between Detroit and suburban points, low fares that privately owned companies, being taxed as such, were said to be unable to meet.

**Officers.** Michigan's chief officers, serving in 1940, were: Governor, Luren D. Dickinson (Rep.); Lieutenant Governor, office vacant; Secretary of State, Harry F. Kelly; Attorney General, Thomas Read; Treasurer, Miller Duncel; Auditor, Vernon J. Brown; Superintendent of Public Instruction, Eugene B. Elliott.

**MICRO-FILM COPYING.** See **LIBRARY PROGRESS** under *Gifts*.

**MICROPHOTOGRAPHY.** See **PHOTOGRAPHY**.

**MIDDLE CONGO.** See **FRENCH EQUATORIAL AFRICA**.

**MIDWAY ISLANDS.** A group of islands in the North Pacific (28° 12' N.; 177° 22' W.), some 1200 miles to the northwest of Hawaii. Area, 28 square miles; population (1936), 118. The Naval Appropriations Bill of 1939 provided for the construction on the islands of a United States air and submarine base. Since 1935 the islands have been used as a station on Pan American Airways' transpacific route to Manila. They are administered by the U.S. Navy Department.

**MIGRANT WORKERS.** See **FARM SECURITY ADMINISTRATION**; **NEW JERSEY** under *Administrative Matters*.

**MILBANK MEMORIAL FUND.** See **BENEFUNCTIONS**.

**MILITARY PROGRESS.** The development of weapons, training of troops, tactics, and general military thought during the year, was influenced in virtually all of the world powers by the successes of the German Army. Profoundly impressed by the power displayed in the conquest and subjugation of Norway, Netherlands, Belgium, and France, military leaders in belligerent as well as neutral countries endeavored to apply to their own needs the weapons and principles which made this possible. As the year drew to a close, British troops in North Africa with smashing blows and lightning movement against the Italians, were demonstrating their acceptance and absorption of the German concept of war. On the surface, and to popular thought, "Blitzkrieg" was a war of modern weapons—airplanes and tanks. Studied military analysis revealed it to be a modern exposition of the old principles of surprise, mass, and exploitation, fundamentally based upon such perfect training and co-ordination of all arms that the way was cleared for the Infantry to clinch the decision and consolidate the gains. Stabilized trench warfare passed from the military mind in 1940, and in its place came a return to the war of movement. Adopting modern means to old, but sound military practice, the German Army in northern Europe blasted its way through the static fixed defenses, and in dynamic action sent its armored divisions through the gap to spread havoc and destruction to the command posts and communications in the rear. Where opposition was encountered, the way was made easier by the devastating attacks of supporting dive bombers. Behind the wave of armored elements came the motorized infantry and the motorized supply elements upon which both depended. Next followed the Infantry, to make the final decision and consolidate the gains. With the Infantry came horse-drawn artillery and horse-drawn supplies. Thus the modern weapons opened the way for the age-proven to conquer and hold, while the

ancient principle of perfect training and co-ordination made it possible.

As showing the German thought on the Blitzkrieg, Lieutenant Colonel Köhn wrote in the *Militär Wochenblatt* (Berlin) of Aug. 2, 1940:

"During the pursuit, the tanks, aviators, and fast troops develop the tactical success into a strategic one. Nevertheless, the Infantry also continues to take part in the pursuit, and it must accomplish great feats, as the present war has shown once more. It presses forward relentlessly and is not afraid to lose temporarily the previously close support of its neighbors in order to prevent the enemy from making a new stand. This necessitates bold and decisive action on the part of the subordinate commanders, who can usually count only upon their respective units and must wage the combat without relying on the assistance of their neighbors. It is perhaps in just this kind of combat that we have shown ourselves strongest during the present war.

"A consideration of the principles will show very plainly that troops had been adequately prepared and trained for combat. In accordance with the missions assigned them, all arms have supported the Infantry so fully that in many cases the ideal of enabling the Infantry to reach the enemy with its strength still unimpaired was almost completely attained. Only thus is it possible to explain the almost incredibly small losses as compared with those occurring during the World War. Nevertheless, it should be stated that the endurance and tenacity shown by the Infantry during the World War and again in the present war, was the decisive factor when it was opposed by an equally tenacious enemy. Therefore, when initial successes were swiftly developed by the command into strategic successes, there occurred through employment of all arms a pursuit of the enemy unparalleled in the history of the world, and the commanders of even the smallest units were glad to assume responsibility. It was this fact that was new to our foes. They call it 'Blitzkrieg' and talk of our secrets. To us this quick success was due to our training, but it cannot cause us to overlook the basic importance of general principles in combating a tenacious and obstinate foe. The great successes obtained by all arms group themselves about the victory of the Infantry, which, as the principal arm, overcame the enemy man to man, and thus triumphed over his technique."

Nevertheless, while the Infantry, through the co-ordination and training of other arms, continues to be the final and decisive factor, general recognition is given to the fact that its success in 1940 was due to the preparation made for it by the airplane and mechanized and motorized troops, and it was to these agencies and to methods of defense against them that military thought turned for development and exploitation.

**United States.** Throughout the year 1940 there was a growing determination by the people of the United States that a strong armed defense was necessary to their security. Public sentiment had been swinging in the preceding years from dependence upon diplomacy, and the still earlier arms limitation agreements, to dependence upon armed strength. Two factors led to this change: First, Europe's demonstration of the destructive power of the airplane and the certainty of the belief that further developments of its powers would greatly weaken the security formerly provided by the Atlantic and the Pacific Oceans; and second, the proof offered by events abroad that neither strict neutrality, non-aggression treaties, nor sedulous inoffensiveness deters nations bent on conquest. The intensity of this trend in the life of the United States mounted through the year. Submitting his recommendations in as large increments as the public mind would accept, President Roosevelt led the third session of the 76th Congress to vote for National Defense and enforcement of neutrality the unprecedented peace-time sum of \$9,114,345,921 in direct appropriations and an additional \$3,991,882,009 in contract authorizations making a total of \$13,106,227,930, not including \$4,586,000,000 (estimated cost) for long-range commitments for naval shipbuilding expansion program in excess of ex-



isting appropriations. Of this figure, \$8,792,145.-145 was for the military activities of the War Department, all of which was in the form of direct appropriations except \$2,979,136,397 in contract authorizations for the fiscal year 1941. The public determination to secure defense, reached even a higher peak in the fall when two far reaching pieces of legislation became laws: On August 27, legislative authority for the President to order into the active military service of the United States for a period of twelve consecutive months each, any, or all members and units of any or all reserve components of the Army of the United States and retired personnel of the Regular Army, with or without their consent; and, on September 16, a universal military service law under the title "Selective Training and Service Act of 1940," which required the registration for military training and service of male citizens between the ages of 21 and 35 years. See DRAFT.

This effort of the United States to build a formidable force from an Army that had stood for years as the seventeenth among the nations of the world, is of vital military importance throughout the world. Such progress as has been made during the short period the new funds have been available, has been due to the soundness of the planning of the War Department General Staff during the years since the World War, particularly in the development of the National Guard and Reserve Officer systems of civilian components. The year saw the number of soldiers on active duty increase from 220,000 to more than 600,000, with 1,400,000 scheduled by the spring of 1941. In January of 1940 there were only five newly organized Infantry Divisions and one inadequately strengthened Cavalry Division in active service in the United States. At the end of the year there were twenty-two divisions in active service.

**Organization and Administration.** The charted picture of the Army was altered considerably. A fundamental change was that separating the geographical Corps Area commands from the Army and Tactical Corps commands. Under the new organization, the commanders of the nine geographical corps areas constitute an organization quite similar to the Service of Supply set up by Gen. John J. Pershing in France. They are relieved of the responsibility for the training and combat efficiency of tactical units. Also constituted during the year was the nucleus of a General Headquarters Staff, with Maj. Gen. Leslie J. McNair as chief of staff. Thus the Chief of Staff of the Army, Gen. George C. Marshall, through his dual capacity as Commanding General of the Field Forces, exercises his direction and supervision of the training of the Field Forces (exclusive of overseas garrisons) through the General Headquarters Staff, to the Army commanders (tactical), Corps Commanders, and commanders of Divisions and troop units. On the other hand, the supply and general house-keeping duties at posts are administered by the War Department through the Corps Area commanders and thence to post commanders. Decision to separate post administration from tactical units is designed to free the latter from the duties of administering and maintaining their military townships and to make them tenants of a post from which they may depart on a moment's notice for operations in the field or as expeditionary forces without disruption either of the tactical units or of the post's administration. Likewise, the commands of the four field Armies, which former-

ly had been given to the senior corps area commander in each of the Army areas, were made separate commands and nine tactical Corps commands were set up. With nine Regular Army (triangular—three regiment, mobile) divisions and eighteen National Guard (square—two brigade, four regiment, heavy) divisions in existence, the typical corps would thus be composed of one triangular division and two square divisions. In practice only the Fourth and Eighth Corps were thus constituted, the others being variously composed, while two triangular divisions, the 5th and 6th, together with the contemplated 2d Cavalry Division became non-corps troops with the Second Army, and the 1st Cavalry Division non-corps troops with the Third Army.

The successful use by the German Army of its Panzer (mechanized) Divisions for surprise and shock, and the opening of a way for its Infantry troops, led the U.S. Army to intensify its development of mechanized warfare by the creation of an Armored Force embracing functions formerly apportioned to both the Cavalry and Infantry. Under the previous arrangement, provided by the National Defense Act, tanks were the responsibility of the Infantry, yet mechanization had been placed under the Cavalry because its missions of reconnaissance, shock, and exploitation were considered Cavalry functions. Under the latter arrangement tanks were assigned to the Cavalry under the nomenclature of combat cars. With the organization of the Armored Force, under Maj. Gen. Adna R. Chaffee, all Infantry and Cavalry activities relating to tanks and combat cars, and their accompanying artillery, were consolidated in a new component of the Army responsible directly to the Chief of Staff and without an intervening chief of branch. Originally one corps, composed of two divisions, was created, while two more divisions were authorized to be formed during the spring of 1941.

In line with the lessons of the war in Europe, increasing emphasis was given to the Air Component. Decision was reached on a program making provision for 60 combat groups for the General Headquarters Air Force. In addition the GHQ Air Force was removed from the jurisdiction of the Chief of the Air Corps, and designated as an element of the field forces to operate under the direct control of General Headquarters. The commanding general of the GHQ Air Force, Delos C. Emmons, was elevated to the rank of lieutenant general, thus making him a co-equal of the commanding generals of the four field armies, and his headquarters was ordered transferred from Langley Field, Va., to Bolling Field, D.C., where he will be close to the General Headquarters operating from the Army War College. This carrying forward of the development of aviation as an integral part of the Army, in the face of some agitation for a separate department of the air, was done with the support of President Roosevelt, who, in a radio speech on May 26, had stated that "the air forces should be a part of the Army and Navy." In that talk, the President said:

"Recent wars, including the current war in Europe, have demonstrated beyond doubt that fighting efficiency depends on unity of control. In sea operations the airplane is just as much an integral part of unity of operations as are the submarine, the destroyer, and the battleship, and in land warfare the airplane is just as much a part of military operations as are the tank corps, the engineers, the artillery, or the infantry itself."

Emerging from this reorganization was the basis of a mobile field Army under the General

Headquarters having directly under its command the I Armored Corps (Maj. Gen. Adna R. Chaffee, commanding), composed of the First and Second Armored Divisions; the GHQ Air Force; a GHQ Reserve composed of heavy artillery, heavy tank, and other elements; and four field Armies organized as follows:

*First Army* (Lieut. Gen. Hugh A. Drum, Commanding)—I Corps, 8th, 9th, and 30th Divisions; II Corps, 28th\*, 29th\*, and 44th Divisions; VI Corps, 1st and 26th\* Divisions; and the 1st, 2d, and 3d Coast Artillery Districts.

*Second Army* (Lieut. Gen. Ben Lear, Commanding)—VII Corps, 27th, 33d\*, and 35th Divisions; and the 5th and 6th Divisions and the 2d Cavalry Divisions.

*Third Army* (Lieut. Gen. Herbert J. Brees, Commanding)—IV Corps, 4th, 31st, and 43d\* Divisions; V Corps, 32d, 34th\*, 37th, and 38th\* Divisions; VIII Corps, 2d, 36th, and 45th Divisions; the 1st Cavalry Division; the 4th Coast Artillery District, and the Harbor Defenses of Galveston.

*Fourth Army* (Lieut. Gen. John L. DeWitt, Commanding)—III Corps, 7th and 40th\* Divisions; IX Corps, 3d and 41st Divisions; 9th Coast Artillery District; and Alaskan command.

The table on page 463 lists by corps areas the major army posts, camps, and stations in the United States with estimated population in round numbers as of June 15, 1941.

Vertical envelopment, through the landing behind the enemy's lines of Infantry troops dropped from airplanes by parachutes, having proved of value under favorable conditions in Europe, the formation of such units was undertaken in the U.S. Army, initially by the organization of the 501st Parachute Battalion at Ft. Benning, Ga. The U.S. Army had demonstrated some years ago the feasibility of landing rifle and machine-gun troops by parachutes, but had not pursued its own innovation.

Looking to the development of a system of protection against aerial invasion, the War Department set up early in the year an Air Defense Command under Maj. Gen. James E. Chaney, Jr. Embracing anti-aircraft units, interceptor-pursuit airplane groups, and an aircraft warning service of signal communications, the new command was established in the New England area to work out organization and methods which eventually will be duplicated in other geographic defensive areas.

Having in mind the experience in Finland and in Albania and in order that it might be prepared for operation under all weather conditions, the U.S. Army also entered upon a program of training troops in northern areas to travel and fight on skis and snow shoes.

Profiting from its experience in the World War, the War Department is basing its plans for expansion of the Army on the replacement center system rather than on the old system of recruit training within the combat unit, or as happened in the World War, the breaking up of existing units to provide personnel for replacement of losses in other units. Under the replacement system all recruits will be given three months basic training in their arm or service in a replacement center. Upon completion of this training they will be sent to operating organizations. Thus the tactical organizations will be freed from the problem of recruit training and enabled to devote their entire energies to training in units above that of the company.

Reviewing the progress of the year, Gen. George C. Marshall, Chief of Staff, of the Army, reported to a nation-wide radio audience on Jan. 7, 1941, as follows:

\* National Guard Division due for induction into Federal Service early in 1941.

"A little more than a year ago the Army had a small garrison in the Philippines, one of medium size in Panama, and a well-developed force in Hawaii. In Puerto Rico there were less than a thousand men, and in Alaska but a few hundred. Here, at home, there was no field army, only scattered regiments of the regular army, incomplete in numbers, in training, and in many vital items of equipment. Behind these troops was a wholly inadequate store of modern munitions, insufficient even for the expansion of the few existing units to full strength. Our reserves of uniforms had been exhausted by issues to the Civilian Conservation Corps. There was so little motor transportation that the larger units could not be given adequate field training, even if assembled.

"Today more than 600,000 men are in active training. Twenty-two divisions are in the field in this country, along with approximately 100 regiments of special troops, such as heavy guns, anti-aircraft artillery, and engineers. These units are organized into Army Corps, and the corps in turn are organized into four field armies.

"That important member of our military team, the Air Corps, has doubled in strength and will soon be trebled. Reinforcements have gone to Hawaii; the troop strength in Panama has more than doubled. Puerto Rico now has a garrison not of 1000 but of 12,000, and the lonely group in Alaska has swelled to 3000.

"Throughout the Caribbean region air fields are being improved and extended. Gasoline and servicing facilities are being installed to provide for any sudden movement of our planes in that area. Next week troops will sail from New York to Newfoundland to garrison our new air base there. Our engineers are on the ground surveying sites in Bermuda, Trinidad, and the other bases recently made available to us by the British government."

**Maneuvers and Field Training.** In contrast with recent years when two weeks in the field for one fourth of the mobile Army in the United States was the extent of the Army's maneuvers, 1940 was a year of continuous field training for most of the field forces. The opening of the year found most of the combat elements, including the new organized triangular divisions, under canvas training in southern areas. This divisional and corps training culminated in the spring in an Army exercise in Louisiana and Texas.

In January, the Third Division engaged in a Joint Exercise with Naval forces, involving its transportation by sea from Ft. Lewis, Wash., to a point near the Presidio of Monterey, Calif., where it effected a landing on the beach, with all its artillery, tanks, and heavy equipment under simulated war conditions and opposition. In the summer each of the Four Armies in the United States held field exercises in which the National Guard units in their areas participated. By fall the bill for the induction of the National Guard was a law and, as housing and health facilities became available, those units entered the Federal service for a continuous state of field training.

**Materiel.** Procurement of materiel and the construction of housing and facilities remained the greatest problems in connection with the expansion program of the Army. An Advisory Committee to the National Defense Council and later an Office of Production Management were created to speed up procurement. For contracts and deliveries to the end of the year, see NATIONAL DEFENSE ADVISORY COMMISSION. Nevertheless, with a large portion of new production as well as considerable amounts of Army materiel being sent to the British, it was difficult to forecast when the United States forces would be completely supplied with modern equipment.

See AERONAUTICS under *Military Aviation*; EUROPEAN WAR; PHOTOGRAPHY. Compare NAVAL PROGRESS. For military medicine and hospitals, see MEDICINE AND SURGERY.

LEROY WHITMAN.

## MAJOR ARMY POSTS, CAMPS, AND STATIONS IN THE CONTINENTAL UNITED STATES.

U. S. Army Information Service, New York City

Installations	Post Office	Population est for June 15, 1941	Installations	Post Office	Population est for June 15, 1941
<b>FIRST CORPS AREA</b>		80,000	Harbor Defenses, Pensacola		1,600
Fort Ethan Allen	Ft. Ethan Allen, Vt.	3,500	Ft. Barrancas	Ft. Barrancas, Fla.	
Bangor Air Base	Bangor, Maine	2,100	Ft. DeSoto	Pensacola, Fla.	
Fort Devens	Ft. Devens, Mass.	23,000	Ft. McRee	Pensacola, Fla.	
Camp Edwards	Falmouth, Mass.	28,800	Ft. Morgan	Ft. Morgan, Ala.	
Harbor Defenses, Boston	Boston, Mass.	4,400	Ft. Pickens	Ft. Barrancas, Fla.	
Harbor Defenses, L.I. Sound		3,200	Jackson Air Base	Jackson, Miss.	2,200
Ft. Michie	New London, Conn.		Fort Jackson	Fort Jackson, S. C.	43,100
Ft. Terry	New London, Conn.		Camp Livingston	Camp Livingston, La.	31,100
Ft. Wright	Fishers Island, N.Y.		MacDill Field	Tampa, Fla.	4,800
Harbor Defenses, Narragansett Bay		3,200	Maxwell Field	Maxwell Field, Ala.	2,900
Ft. Adams	Newport, R.I.		Fort McClellan	Ft. McClellan, Ala.	21,100
Ft. Getty	Jamestown, R.I.		Fort McPherson	Oakland City Station, Ga.	1,900
Ft. Greble	Jamestown, R.I.		Montgomery Air Base	Montgomery, Ala.	2,000
Ft. Wetherill	Jamestown, R.I.		New Orleans Air Base	New Orleans, La.	2,600
Harbor Defenses, New Bedford		1,000	Fort Oglethorpe	Ft. Oglethorpe, Ga.	2,700
Ft. Rodman	New Bedford, Mass.		Orlando Air Base	Orlando, Fla.	2,000
Harbor Defenses, Portland		3,200	Fort Screven	Ft. Screven, Ga.	1,300
Ft. Leveitt	Portland, Me.		Selma Air Base	Selma, Ala.	1,600
Ft. McKinley	Portland, Me.		Camp Shelby	Camp Shelby, Miss.	53,200
Ft. Preble	Portland, Me.		Camp Stewart	Hinesville, Ga.	17,100
Ft. Williams	Cape Cottage, Me.		Tallahassee Air Base	Tallahassee, Fla.	2,100
Harbor Defenses, Portsmouth		1,300	Tampa Air Base	Tampa, Fla.	300
Ft. Constitution	New Castle, N.H.		West Palm Beach Air Base	West Palm Beach, Fla.	3,000
Ft. Foster	Kittery, Maine		Camp Wheeler	Macon, Ga.	15,800
Ft. Stark	Portsmouth, N.H.				35,700
Hartford Air Base	Hartford, Conn.	1,700	<b>FIFTH CORPS AREA</b>		2,200
Manchester Air Base	Manchester, N.H.	2,000	Bowman Field	Louisville, Ky.	
Westover Field	Chicopee Falls, Mass.	2,600	Fort Benjamin Harrison	Fort Benjamin Harrison, Ind.	4,200
<b>SECOND CORPS AREA</b>		78,200	Fort Hayes	Ft. Hayes, Ohio	1,100
Fort Dix	Ft. Dix, N.J.	28,500	Fort Knox	Ft. Knox, Ky.	25,000
Harbor Defenses, Delaware		3,100	Fort Thomas	Ft. Thomas, Ky.	1,700
Ft. Delaware	Delaware City, Del.		Fort Wayne	Ft. Wayne, Ind.	1,500
Ft. DuPont	Delaware City, Del.				51,100
Ft. Mott	Salem, N.J.		<b>SIXTH CORPS AREA</b>		5,400
Ft. Saulsbury	Milford, Del.		Chanute Field	Rantoul, Ill.	
Harbor Defenses, Sandy Hook		5,800	Fort Custer	Battle Creek, Mich.	21,200
Ft. Hancock	Ft. Hancock, N.J.		Camp Grant	Rockford, Ill.	9,100
Ft. Tilden	Rockaway Park, L.I., N.Y.		Savanna Ordnance Depot	Proving Ground, Ill.	1,100
Harbor Defenses, Southern N.Y.		2,100	Scott Field	Belleville, Ill.	4,100
Ft. Hamilton	Brooklyn, N.Y.		Selfridge Field	Selfridge, Mich.	3,000
Ft. Wadsworth	Rosebank, S.I.		Fort Sheridan	Ft. Sheridan, Ill.	7,200
Fort Jay	Governors Island, N.Y.	3,600			93,700
Madison Barracks	Sackett Harbor, N.Y.	1,800	<b>SEVENTH CORPS AREA</b>		200
Mitchel Field	Hempstead, L.I.	4,100	Fort Des Moines	Ft. Des Moines, Iowa	
Fort Monmouth	Oceanport, N.J.	7,400	Jefferson Barracks	Jefferson Barracks, Mo.	1,100
Fort Niagara	Youngstown, N.Y.	900	Fort Leavenworth	Ft. Leavenworth, Kan.	1,600
Fort Ontario	Oswego, N.Y.	2,000	Fort Meade	Ft. Meade, S.D.	1,600
Pine Camp	Great Bend, N.Y.	13,400	Fort Riley	Ft. Riley, Kan.	17,000
Plattsburg Barracks	Plattsburg Barracks, N.Y.	1,300	Camp Joseph T. Robinson	North Little Rock, Ark.	25,000
Fort Totten	Ft. Totten, N.Y.	2,000	Fort Snelling	Ft. Snelling, Minn.	3,200
Camp Upton	Camp Upton, L.I.	2,200	Fort Francis E. Warren	Ft. F. E. Warren, Wyo.	9,300
<b>THIRD CORPS AREA</b>		130,800	Fort Leonard Wood	Rolla, Mo.	34,700
Aberdeen Proving Ground	Aberdeen Proving Ground, Md.	4,900	<b>EIGHTH CORPS AREA</b>		171,300
Arlington Cantonment	Ft. Myer, Va.	1,100	Albuquerque Air Base	Albuquerque, N. Mex.	1,900
Fort Belvoir	Ft. Belvoir, Va.	15,900	Fort Bliss	Ft. Bliss, Texas	27,100
Bolling Field	Anacostia, D.C.	1,400	Camp Bowie	Camp Bowie, Texas	29,800
Edgewood Arsenal	Edgewood Arsenal, Md.	3,000	Brooks Field	San Antonio, Texas	1,700
Fort Eustis	Ft. Eustis, Va.	14,200	Fort Brown	Brownsville, Texas	900
Harbor Defenses, Chesapeake Bay		9,900	Fort Clark	Ft. Clark, Texas	1,500
Ft. Monroe	Ft. Monroe, Va.		Ellington Field	Geos, Texas	3,900
Holabird QM Depot	Baltimore, Md.	1,800	Harbor Defenses, Galveston		10,900
Indiantown Gap Military Reservation	Annville, Pa.	21,100	Bollivar Lighthouse	Galveston, Texas	
Langley Field	Langley Field, Va.	7,400	Ft. Crockett	Galveston, Texas	
Camp Robert E. Lee	Petersburg, Va.	17,700	Ft. Jacinto	Galveston, Texas	
Fort George G. Meade	Ft. George G. Meade, Md.	27,200	Ft. Travis	Galveston, Texas	
Fort Myer	Ft. Myer, Va.	2,000	Fort Sam Houston	Ft. Sam Houston, Texas	21,600
New Cumberland Depot	New Cumberland, Pa.	1,100	Fort Huachuca	Ft. Huachuca, Ariz.	5,900
Camp Pendleton	Virginia Beach, Va.	2,100	Camp Hulen	Camp Hulen, Texas	12,500
<b>FOURTH CORPS AREA</b>		486,100	Kelly Field	Kelly Field, Texas	2,600
Augusta Air Base	Augusta, Ga.	1,900	Fort Logan	Ft. Logan, Colorado	4,100
Barksdale Field	Barksdale Field, La.	3,300	Lowry Field	Denver, Colorado	4,100
Baton Rouge Air Base	Baton Rouge, La.	1,500	Normoyle QM Depot	San Antonio, Texas	1,300
Camp Beauregard	Camp Beauregard, La.	15,300	Oklahoma City Air Base	Oklahoma City, Okla.	2,300
Camp Benning	Camp Benning, Ga.	44,300	Randolph Field	Randolph Field, Texas	3,500
Camp Blanding	Camp Blanding, Fla.	50,600	San Angelo Air Base	San Angelo, Texas	200
Fort Bragg, N.C.	Ft. Bragg, N.C.	60,900	Fort Sill	Ft. Sill, Okla.	19,300
Charlotte Air Base	Charlotte, N.C.	1,500	Tucson Army Airways Station	Tucson, Ariz.	2,300
Camp Claiborne	Camp Claiborne, La.	28,500	Camp Wolters	Mineral Wells, Texas	16,300
Camp Croft	Spartanburg, S.C.	15,200			190,200
Camp Davis	Hollyridge, N.C.	19,900	<b>NINTH CORPS AREA</b>		2,000
Eglin Field	Valparaiso, Fla.	1,400	Boise Barracks	Boise, Idaho	
Camp Forrest	Tullahoma, Tenn.	28,300	Fort Douglas	Ft. Douglas, Utah	700
Harbor Defenses, Charleston		1,100	Everett Air Base	Everett, Wash.	1,500
Ft. Moultrie	Moultrieville, S.C.		Fresno Air Base	Fresno, Cal.	2,000
Ft. Sumter	Moultrieville, S.C.		Camp Haan	Camp Haan, Cal.	15,400
			Hamilton Field	Hamilton Field, Cal.	3,400
			Harbor Defenses, Columbia		2,200
			Ft. Canby	Ilwaco, Wash.	
			Ft. Columbia	McGowan, Wash.	

Installations	Post Office	Population est for June 15, 1941
Ft. Stevens . . . . .	Astoria, Ore. . . . .	
Harbor Defenses, Los Angeles		2,600
Ft. MacArthur . . . . .	San Pedro, Cal . . . . .	
Harbor Defenses, Puget Sound		3,200
Ft. Worden . . . . .	Port Townsend, Wash . . . . .	
Harbor Defenses, San Diego		9,100
Ft. Rosecrans . . . . .	Point Loma, Cal . . . . .	
Harbor Defenses, San Francisco		5,100
Ft. Baker . . . . .	Ft. Baker, Cal . . . . .	
Ft. Barry . . . . .	Ft. Baker, Cal . . . . .	
Ft. Cronkite . . . . .	Ft. Baker, Cal . . . . .	
Ft. Funston . . . . .	Ft. Winfield Scott, Cal . . . . .	
Ft. Miley . . . . .	San Francisco, Cal . . . . .	
Ft. Winfield Scott . . . . .	Ft. Winfield Scott, Cal. . . . .	
Fort Lewis . . . . .	Ft. Lewis, Wash . . . . .	48,100
McChord Field . . . . .	McChord Field, Wash . . . . .	2,600
McClellan Field . . . . .	Sacramento, Cal . . . . .	400

Installations	Post Office	Population est for June 15, 1941
Camp McQuaide . . . . .	Watsonville, Cal . . . . .	2,100
Moffett Field . . . . .	Moffett Field, Cal. . . . .	1,700
Fort Ord . . . . .	Ft Ord, Cal . . . . .	32,000
Pendleton Air Base . . . . .	Pendleton, Ore. . . . .	2,000
Portland Air Base . . . . .	Portland, Ore . . . . .	1,800
Presidio of San Francisco	San Francisco, Cal . . . . .	4,500
Camp Roberts . . . . .	San Miguel, Cal . . . . .	19,300
Salt Lake Airdrome Lease	Salt Lake City, Utah . . . . .	1,800
Camp San Luis Obispo	San Luis Obispo, Cal . . . . .	20,500
Camp Sibert . . . . .	Boulder City, Nev. . . . .	1,000
Spokane, Washington		2,300
Sunset Field . . . . .	Spokane, Wash. . . . .	
Ft. George Wright . . . . .		
Stockton Field . . . . .	Stockton, Cal. . . . .	1,600
Vancouver Barracks . . . . .	Vancouver, Wash. . . . .	1,300
Grand Total . . . . .		1,317,100

**MILK.** See DAIRYING; SURPLUS MARKETING ADMINISTRATION.

**MINERALOGY.** Among the books dealing with minerals that have appeared during 1940, the most timely if not the most important is "Strategic Mineral Supplies," by G. A. Roush (McGraw Hill, New York and London). The author of this volume is an experienced metallurgist who has served on the Staff Specialist Reserve of the U.S. Army, and can write with authority regarding such matters as the uses, ores, output (both world wide and national), prices, and ore reserves of such materials as are vitally necessary to the defense armament. On the side of gem minerals the most important book of the past year is "Gemstones," by G. F. Herbert Smith (Methuen and Company, Ltd. London). This admirable text, the first edition of which appeared in 1912, has been a standard of popular reference since that year. Dr. Herbert Smith, however has produced in this, the ninth edition, what amounts to a new and very much up-to-date book. The scope of the rewritten text has been widened so that its appeal is no longer confined to that section of the public interested in a popular handbook on gems, but may also be used as an authoritative tool by professional English-speaking gemologists.

What impresses one chiefly is the masterly way in which the great mass of information about gems has been organized so that a given fact or group of facts may be readily found and correlated. The author has accomplished this without in any degree sacrificing the charming lucidity of diction which has characterized his book throughout its eight previous editions. Such terms as "igmerald," synthetic emerald produced by the I. G. Farbenindustrie, and "endoscope," the microscope accessory used to differentiate native from cultured pearls, are fully discussed, and serve to indicate to what an extent gemstones have been brought strictly up to date. The new edition adds about 120 pages over previous ones, but owing to the difference in format and typography, it contains upward of 200,000 words over any previous one. New half tone plates have been added and substituted, and many new and better line cuts explain the letter press.

**New Minerals.** A number of new mineral species have been announced or confirmed during the year 1940. The Kola peninsula, the rocks of which have furnished several new minerals in recent years, has yielded two species new to science: *Lovozersite* a hydrous silicate of zirconium, was

found in black or pink grains in the rocks of Lovozero and was named for the locality, and *Kalisaponite*, a zeolitic mineral related to saponite but with an excess of potash content, was found in the Khibine Tundras region.

*Falkmanite*, a sulphantimonite of lead occurring in needlelike monoclinic crystals, gray in color, is so named in honor of Oscar Carl August Falkner, director of the Boliden mines in Sweden. The Boliden mines were among the several localities where this new mineral was found.

A hydrous tantalate of aluminium and calcium from Tabba Tabba, Western Australia, occurs in small, transparent, colorless hexagonal crystals. It has been named *Simpsonite* in honor of the late Dr. Edward S. Simpson, Government Mineralogist of Western Australia.

*Stiepelmannite*, a basic phosphate of yttrium, ytterbium, and aluminium was found in the mine at Klein Spitzkopje, Southwest Africa. It occurs in small rhombohedral crystals, colorless to pale wine-yellow.

From Madagascar, the home of rare minerals, comes a new tungstate and molybdate of calcium, which has been named *Seyrigite* in honor of the manager Mr. Seyrig of the mine in which it was found. Seyrigite occurs in tetragonal crystals that are translucent and golden yellow in color.

*Salesite*, a copper iodate, from Chuquicamata, Chile, has been found in only one specimen. This piece shows the very rare mineral in bluish-green orthorhombic crystals. It was named in honor of Reno H. Sales, chief geologist of the Anaconda Copper Mining Company. Another copper iodate, this one a hydrated iodate of copper also occurs at Chuquicamata, Chile. *Bellingerite*, named after H. C. Bellinger, Vice-President of the Chile Exploration Co., occurs in green triclinic crystals. *Gratonite*, named in honor of Prof. Louis C. Graton of Harvard University, is a sulpharsenite of lead, occurring in dark lead gray rhombohedral crystals at Cerro de Pasco, Peru.

Two new phosphates from the Fairfield, Utah locality have been added to the long list of rare mineral species from this place: *Montgomeryite* is a hydrous phosphate of calcium and aluminium, occurring as green to colorless monoclinic crystals in varusite nodules, and was named after Arthur Montgomery of New York. Another hydrous phosphate of calcium and aluminium, differing slightly from montgomeryite in composition bears the name of *Overite* in honor of Edward Over of Colorado Springs, Colorado. Overite occurs in

pale green to colorless orthorhombic crystals.

A natural bicarbonate of sodium from Sarles Lake, California has been named *Nahcolite* from its chemical formula ( $\text{NaHCO}_3$ ). It occurs in abundant monoclinic crystals. Although nahcolite has long been known as a mineral occurring under semi-artificial conditions, this is the first instance of an absolutely native sodium bicarbonate.

A new calcium phosphate occurring in clear colorless, rhombohedral crystals was found in a granite pegmatite near North Groton, New Hampshire. It has been named *whitlockite* after the author of this review.

HERBERT P. WHITLOCK.

**MINERALS AND METALS.** For production, see BUSINESS REVIEW and the UNITED STATES, the States, and the countries under *Mineral Production*; also, the separate articles on the following: ALUMINUM, ANTIMONY, ASBESTOS, CADMIUM, CHROMIUM, COAL AND COKE, COPPER, GOLD, IRON AND STEEL, IRON ORE, LEAD, MAGNESIUM, MANGANESE, MERCURY, MOLYBDENUM, NICKEL, PETROLEUM, PLATINUM, POTASH, SILVER, SULPHUR, TIN, TUNGSTEN, ZINC. See CHEMISTRY, INDUSTRIAL; CUSTOMS, BUREAU OF; GEOLOGICAL SURVEY; GEOLOGY; MINERALOGY; MINES, BUREAU OF. For a list and discussion of "strategic metals" see GEOLOGY and RECONSTRUCTION FINANCE CORPORATION.

**MINES, Bureau of.** This Bureau of the U. S. Department of the Interior, was organized in 1910 to conserve the mineral resources of the Nation, to promote safety in the mineral industries, and to conduct investigations leading to the more efficient and more economical mining, preparation, and utilization of minerals.

The Bureau of Mines' technological research and its economic-and-statistical studies, relating to coals, metals, non-metals, petroleum and natural gas, and other resources, have contributed materially during the past 30 years to the orderly economic development of the mineral industries. (The technical investigations are conducted largely at the Bureau's 14 experiment stations located in the more important mineral districts, the efforts at each station being devoted primarily to the solution of mineral problems of the surrounding region.)

As in the emergency of 1917-18, the Bureau of Mines during the past year gave a great deal of attention to the preparations for national defense. Among the Bureau's outstanding achievements in this respect during the fiscal year 1940 were the following:

The exploration of various ore deposits in the United States to determine available sources of such strategic materials as antimony, mercury, chromium, manganese, nickel, tungsten, and tin. Results indicated significant quantities of strategic minerals in three of the deposits and the possibility that in an emergency the country could be self-sufficient as regards antimony and mercury.

The development of methods for the production of high-purity electrolytic chromium from domestic chrome ores.

The development of methods for the recovery of nickel, copper, and platinum metals from complex domestic nickel ores; and for the electrolytic recovery of antimony from antimonial gold ores.

The further improvement of methods developed by the Bureau for the production of high-purity electrolytic manganese; and the study of several series of manganese alloys, made with manganese produced by the Bureau method, which have unique properties.

Laboratory testing of an electrothermal process for producing magnesium metal from magnesite.

The acquisition of special economic and statistical data on minerals of importance to the national defense pro-

gram, also special surveys of secondary metals and aviation gasoline.

The supplying of valuable data to the Advisory Commission to the Council of National Defense, to assist that defense agency in its task of maintaining an available supply of raw materials for industry.

The supplying of valuable data to the Army and Navy Munitions Board to assist in the Government's stock-piling program.

The compilation of data for defense agencies on industrial diamonds, asbestos, graphite, quartz crystals, mica, iodine, and other non-metallic commodities essential to a military program.

The conduction of special surveys on the mineral resources, production and trade of various South American countries to determine new sources of supply for certain minerals which the United States now imports from across the oceans.

The conducting of tests of American coals to find their value as a source of motor fuel and lubricants, and the production, as by-products of the coking of coal, of benzol, toluol, and xylol, essential constituents of explosives.

The expansion of information on demolition explosives.

The application of the newer ore-dressing methods to domestic non-metallic minerals in order that satisfactory grades of such materials, including ceramic clays, graphite, talc, and fluorspar, which are usually imported, may be produced in this country, and the United States therefore may be rendered less dependent on foreign sources.

The production at the Bureau's plant, at Amarillo, Tex., of nearly 9,500,000 cubic feet of salable helium, bringing the total production completed of this lightweight non-inflammable gas to more than 100,000,000 cubic feet during the first 11 years of plant operation. The present plant capacity is about 24,000,000 cubic feet annually. Approximately 85 per cent of the current output is used by the Government.

The promotion of the health and safety of the workers in the mines and allied industries was, as always, a prime function of the Bureau in 1940. Engineers of the Bureau trained members of industries in first-aid and mine-rescue, responded to emergency calls for assistance after mine fires and explosions, and, among other things, inspected mines at the request of mine operators or State officials. During the fiscal year, these engineers trained 93,878 persons in mine rescue and first-aid, bringing the total number of courses completed since the establishment of the Bureau to 1,361,465. They also investigated 18 mine explosions in 12 States, and 28 mine fires in 11 States, during the year assisting in rescue and recovery work in virtually all of them where life was involved.

The Bureau continued its efforts to improve hygienic conditions in the mineral industries in order to maintain health and increase efficiency and morale. Studies pertinent to the safe use of Diesel locomotives underground were undertaken; respirators and gas masks were tested and approved; and, among other health activities, reports were prepared on the use of helium-oxygen mixtures to prevent "ear-block" and on the administration of oxygen during decompression to prevent compressed-air illness.

The Bureau tested many pieces of electrical equipment, submitted by their manufacturers during the year, to determine through investigations and "explosion tests" whether they were safe for use in gassy coal mines. A total of 38 such machines were classified as "permissible" by the Bureau if properly installed and maintained in accordance with standards promulgated by the Bureau. Experts of the Bureau also investigated electrical equipment for the Navy Department, in co-operation with Navy engineers. They also undertook comparative tests of the explosive properties of aviation gasolines and "dope" solvents and thinners with petroleum ether.

Petroleum engineers of the Bureau studied energy relationships to find how the greatest amount

of petroleum can be produced with the least waste of natural energy, oil, and gas. Subsurface and surface samples of oil and gas mixtures were collected from flow systems of wells and analyzed.

During the 1941 fiscal year, the Bureau proposes to continue to devote its major efforts toward the preparations for national defense by furthering its technical research and investigations and its economic studies of matters having a bearing on the country's needs in an emergency. At the same time, because of the continuing need for improvement in safe working conditions and in view of the fact that many new workers will be needed in producing supplies essential to the defense program, the Bureau will devote special attention also to making working conditions safe and hygienic. Training in accident prevention will be stressed by the Bureau so that the mineral industries may retain the improvement they have shown in the past 30 years.

A number of publications of importance to the mineral industries has been published by the Bureau of Mines in the past year, among which is the 1940 annual *Minerals Year Book*, widely recognized as the outstanding publication of its type in the world.

R. R. SAYERS.

**MINES AND MINE SWEEPING.** See NAVAL PROGRESS.

**MINIMUM WAGE.** See under WAGES.

**MINNESOTA.** Area, 84,692 square miles; includes water, 3824 square miles (but not the State's part of Lake Superior). Population (U.S. Census), April, 1940, 2,792,300 (1,390,098 urban and 1,402,202 rural); 1930, 2,563,953. Minneapolis (1940), 492,370; St. Paul (the capital), 287,736; Duluth, 101,065.

**Agriculture.** Farmers in Minnesota harvested, in 1940, 19,114,000 acres of the principal crops. A feature of the year was the further-expanded cultivation of flaxseed, to more than twice the average acreage of the years 1929-38, putting the State much in the lead over other members of the Union as to this crop. Corn, considered the most valuable crop, occupied 4,366,000 acres, made 172,457,000 bu., and gave the producers a return estimated at \$96,576,000. Oats, on 4,524,000 acres, grew 180,795,000 bu. (\$41,583,000); tame hay, on 3,096,000 acres, 4,702,000 tons (\$23,510,000); wheat, 1,622,000 acres, 32,069,000 bu. (\$22,448,000); flaxseed, 1,590,000 acres, 16,695,000 bu. (\$22,037,000); barley, 1,944,000 acres, 57,348,000 bu. (\$20,645,000); potatoes, 250,000 acres, 23,750,000 bu. (\$9,738,000); rye, 331,000 acres, 5,958,000 bu. (\$2,085,000). In 1940 there were 197,351 farms; average size, 165.2 acres.

**Mineral Production.** As stated in 1940 by the U.S. Bureau of Mines, Minnesota's yearly production of native minerals amounted, for 1938, to \$51,425,289. This hardly exceeded one-third of the State's total for the year before: iron ore, in good years, furnishes all but \$10,000,000 or so of Minnesota's mineral production; the mining of iron ore is most sensitive to the ups and downs of industry; and the great industrial slump that started in 1937 took effect on the iron mines mainly in 1938. The mines' production of iron ore recovered, to an annual total of 31,547,701 gross tons for 1939, from 14,449,304 for 1938. The mines' yearly shipments of ore mounted more sharply, to 32,370,241 gross tons (1939) from 14,535,744 (1938); by value, to \$97,113,591, from \$44,361,534. Further advance

made shipments about 47,949,000 tons (value around \$121,758,000) for 1940. Minnesota provided about 64 per cent of the Union's output of iron ore in 1940. The reserves of unmined iron ore were reckoned at 1,208,047,717 gross tons, for May 1, 1939; up to the end of 1939, 1,166,434,188 tons, had been mined in the State. Apart from iron ore above an ore of iron containing also various percentages of manganese was produced in 1939: one grade of this ore attained shipments to the quantity of 469,703 long tons and the value of \$1,213,924.

**Education.** For the academic year 1938-39 (the latest covered by these statistics) Minnesota reported 537,200 enrollments of pupils in public schools; this comprised 382,207 from kindergarten through 8th grade, 144,393 in high school, 7839 special students, and 2761 in junior colleges. The year's expenditure for public-school education included \$45,246,711 for maintenance, \$7,120,201 capital outlay, and \$5,920,882 for service of debt. Teachers numbered 22,166.

**History.** Increased demand for iron, making Minnesota's great mines more active in 1940, rather than improvement in other lines of industry, helped the State's economic situation. The number of dependents on poor-aid and other kinds of public support diminished; likewise, the following of some of the more thoroughgoing liberal leaders. The old Farmer-Labor party, which had committed Minnesota to various liberal proposals long before the era of the New Deal, lost ground, whether on account of social reaction or of the party's having been supplanted by the Federal policies. It suffered a conspicuous setback when Henrik Shipstead after having served for eighteen years as U.S. Senator under the designation of the Farmer-Labor party sought re-election by way of nomination at the September primaries as a Republican candidate. In doing so he abandoned the Farmer-Labor party, a step for which he incurred much antagonism. Despite this he won the Republican nomination from several Republican aspirants of older affiliation with their party.

The State became involved in a dispute of a sort still somewhat novel when the municipal radio station WNYC of New York City sought in May the permission of the Federal Communications Commission to extend the duration of its daily program. This threatened to interfere with the reception of the program sent out in the same frequency by the National Broadcasting Company from station WCCO at Minneapolis. On this account the State intervened in the proceedings over the New York station's application in order to protect its conceived rights with regard to the time that had been accorded to the station in Minneapolis.

In Minneapolis a grand jury that had been summoned late in 1939 issued on Jan. 27, 1940, a report that started efforts to break up the alleged co-operation of the police with certain sorts of unlawful enterprises. Indictments were brought about the same time against members of the police and persons engaged in commercialized gambling, illicit liquor dealing, and prostitution.

**Elections.** At the general election (November 5) the State's popular vote for President gave 644,196 for Roosevelt (Dem.), affording him a margin of 13 to 12 over the vote of 596,274 for Willkie (Rep.). Harold E. Stassen (Rep.), 654,686 votes, was re-elected Governor, defeating Edward Murphy (Dem.), 140,021, and Hjalmar Peterson (Farmer-Labor), 459,609. Henrik Shipstead (Rep.; see above) was re-elected U.S. Senator by

641,049 votes, defeating John E. Regan (Dem.), 248,658, and Elmer A. Benson (Farmer-Labor), 310,875.

**Officers.** Minnesota's chief officers, serving in 1940, were: Governor, Harold E. Stassen (Rep.); Lieutenant Governor, C. Elmer Anderson; Secretary of State, Mike Holm; Treasurer, Julius A. Schmahl; Auditor, Stafford King; Attorney General, J. A. A. Burnquist; Commissioner of Education, John G. Rockwell.

**MINORITIES.** See ARGENTINA, BELGIUM, BRAZIL, BULGARIA, BURMA, CANADA, CZECHOSLOVAKIA, DENMARK, HUNGARY, LUXEMBURG, POLAND, RUMANIA, SLOVAKIA, SOUTH AFRICA, UNION OF SOVIET SOCIALIST REPUBLICS, and YUGOSLAVIA; FASCISM; JEWS; REFUGEES.

**MIQUELON ISLANDS.** See ST. PIERRE AND MIQUELON.

**MISSIONS, Foreign.** See the articles on the CHURCHES

**MISSISSIPPI.** Area, 56,865 square miles; included water, 503 square miles. Population (U.S. Census), April, 1940, 2,183,796 (urban, 432,882; rural, 1,750,914); 1930, 2,009,821. Jackson, the capital, had (1940) 62,107 inhabitants.

**Agriculture.** Mississippi harvested, in 1940, 7,167,000 acres of principal crops. Cotton, though it fell somewhat short of the normal quantity and value, remained by far the leading crop and the chief source of cash for the farmers. On 2,545,000 acres, cotton produced 1,280,000 bales, estimated as worth \$62,080,000 to the growers. Corn, on 2,896,000 acres, gave 40,544,000 bu. (about \$28,381,000); tame hay, on 959,000 acres, 1,223,000 tons (\$12,108,000); sweet potatoes, 69,000 acres, 4,485,000 bu. (\$4,261,000); potatoes, 20,000 acres, 1,240,000 bu. (\$992,000); oats, 118,000 acres, 3,776,000 bu. (\$1,548,000).

**Mineral Production.** The yearly total value of Mississippi's production of its native minerals, as stated in 1940 by the U.S. Bureau of Mines, was \$5,209,457 for 1938. Natural gas contributed over three-fifths of this sum. The quantity of natural gas produced in the State and delivered to consumers rose to 15,233 million cu. ft. for 1939, from 13,656 millions (value, \$3,210,000 at points of consumption), for 1938. The yield of 1939 exceeded that of any earlier year; yet the general view of the production of natural gas in the State was pessimistic. A single remaining field, the Jackson, was producing all the gas; two-thirds of this field's wells had given out in two years, and remaining gas was issuing at a great rate from a few wells, because salt water at depth was driving it out. Mineral interest found another subject to engage it—the possibility of developing a substantial production of petroleum. This prospect had dawned when drillers struck oil in Yazoo County in September, 1939. By the end of that year 107,000 bbl. of petroleum had been taken from Yazoo County's Tinsley field, and nine wells were producing. Production continued in 1940 and was above 15,000 bbl. a day in December.

**History.** The State was little disturbed by political questions in 1940. It cast its usual almost-totally Democratic vote on November 5: Roosevelt (Dem.) for President, 168,267; Willkie (Rep.), 7364. U.S. Senator Theodore G. Bilbo (Dem.) and the seven incumbent Democratic U.S. Representatives, were all re-elected unopposed. There was no election for Governor or other State officers. The primary election (August 27), as usual, predetermined the November result. In the primary Bilbo

won a renomination against former Governor Hugh White by a vote in the approximate ratio of three to two.

Two attempts at lynching Negroes were foiled by the authorities early in January, in unrelated cases. The outgoing Governor, White, sent out a party of the National Guard to check the lynchers in one instance; in the other the intended victim was secretly removed from a jail at Columbia. A dance hall took fire at Natchez on the night of April 23 and 198 Negroes, trapped within, lost their lives; accessible windows had all been nailed up with boards to keep out unwanted guests.

The claims of Mississippi's Choctaw Indians, about 2000 in number, were urged on the Federal Government by Senator Bilbo, and he presented a bill on their behalf. The Choctaws wanted fulfillment of the asserted promise, of 640 acres for each family, in a treaty said to have been made at Dancing Rabbit Creek in 1830.

See LABOR LEGISLATION.

**Officers.** Mississippi's chief officers, serving in 1940, were: Governor, Paul B. Johnson (Dem.); Lieutenant Governor, Dennis Murphree; Secretary of State, Walker Wood; Attorney General, Greek L. Rice; Treasurer, Lewis S. May; Auditor, James M. Causey; Superintendent of Education, J. S. Vandiver.

**MISSOURI.** Area, 69,420 square miles; includes water, 693 square miles. Population (U.S. Census), April, 1940, 3,784,664; 1930, 3,629,367. St. Louis (1940), 816,048; Kansas City, 399,178; Jefferson City (the capital), 24,268. Of the State's population (1940), 1,960,696 were urban, and 1,823,968 were rural.

**Agriculture.** Missouri harvested, in 1940, 12,192,000 acres of the principal crops. Corn, hay, oats, and wheat took up about seven-eighths of this area. Corn, on 3,976,000 acres, produced 119,280,000 bu., estimated as worth \$70,375,000 to the growers. Tame hay, on 3,266,000 acres, made 3,524,000 tons (value, about \$22,906,000); wheat, on 1,714,000 acres, 31,707,000 bu. (\$21,561,000); cotton, 405,000 acres, 380,000 bales (\$18,240,000); oats, 1,800,000 acres, 48,600,000 bu. (\$14,580,000); potatoes, 54,000 acres, 5,616,000 bu. (\$3,426,000); grain sorghums, 240,000 acres, 4,320,000 bu. (\$2,678,000). Farms numbered 256,100 in 1940 and averaged 135.6 acres.

**Manufacturing.** Yearly production of manufactured goods in Missouri totaled \$1,338,056,267 for 1939; \$1,505,383,002 for 1937. Other aggregates for 1939 (each with that for 1937 subjoined): 4796 (4291) establishments employed 178,534 (186,831) persons for wages of \$190,735,831 (\$202,585,847), paid for material, etc., and contract work \$800,094,538 (\$944,894,934), and added to material, by manufacture, a value of \$587,961,729 (\$560,398,068).

**Mineral Production.** Missouri's yearly production of its native minerals, as stated in 1940 by the U.S. Bureau of Mines, attained a total value of \$39,560,739 for 1938; this hardly passed three-fourths of the figure for the year before. Lead furnished over one-fourth of the total of 1938; coal and cement, each one-fourth. The mines' production of lead, in ore, rallied to 156,281 short tons for 1939, from 122,027 for 1938; by value, to \$14,700,000 (for the smelted content), from \$11,226,484. The 1940 output of lead was approximately 171,600 tons; as usual, Missouri mined more lead than any other State of the Union. Zinc, all mined in Missouri's southwestern area, recovered



to a production, in ore, of 15,096 short tons (1939), from 10,226 tons (1938); by value of zinc to be recovered from this ore, to \$1,569,984, from \$981,696. The production of coal attained 3,436,118 short tons for 1938 (value, \$6,814,000). Makers' shipments of portland cement (fairly close to yearly production) increased to 4,702,259 bbl. (1939) from 4,570,389 (1938); by value, to \$7,420,013, from \$6,871,120. The clay products (except pottery and refractories) attained for 1938 \$1,910,630.

**Education.** Missouri's inhabitants of school age (from 6 years to 20) were reckoned, for the academic year 1939-40, at 847,713. The year's enrollments of pupils in public schools numbered 705,037. This comprised 506,173 elementary and 198,864 high-school pupils. The year's expenditure for public-school education totaled \$56,620,150; the main part of this went to pay 26,369 teachers, whose salaries for the year averaged \$1357.

**History.** Missouri enjoyed increasing industrial prosperity during the year, mainly through business created by the war abroad and by the Federal program of defense. In St. Louis appeared a conspicuous instance: the establishment of the Curtiss-Wright Corporation at Lambert Field in that city started in the autumn on building additions intended to multiply its output sixfold before the summer of 1941. A site in Lake City was chosen for another firm's \$15,000,000 factory for small-arm ammunition.

Economic improvement reduced the burden of poor-aid in the State. For April the State's Social Security Commission allotted to this purpose \$315,000, covering 26,410 cases; thereafter the scale diminished.

The Federal work of straightening the more conspicuous bends in the Missouri River progressed; a new channel cutting off the Big Blue Bend, between Clay and Jackson counties, was dug through; Clay County kept the land that the new channel put on the south side of the river, thus becoming the only county in the State to straddle the Missouri. The Army Engineers recommended another cutoff at Liberty Bend, near Courtney. In southeastern Missouri the Farm Security Administration made arrangements to settle in \$500 cottages, at Federal expense, some hundreds of families of homeless "share-croppers" who had drawn attention to their distress when camping by roadsides in January, 1939. Under an apparently eccentric interpretation of its law on unemployment compensation the State paid, in the winter of 1939-40, weekly checks to idle professional baseball players, though some of them, members of the St. Louis and Kansas City teams, earned \$2000 or more by the year. The State opened a cancer hospital at Columbia for the treatment of indigent cases.

The U.S. Social Security Board, holding back grants for a time in October, made Missouri put its social security workers under adequate civil service.

Governor Stark, who had won much approval in 1939 for his part in the overthrow of his one-time political supporter Thomas J. Pendergast, Democratic boss of Kansas City, met with misfortune in an attempt to progress from his expiring term in the Governorship to a seat in the U.S. Senate. As candidate for the Democratic Senatorial nomination, he encountered the opposition not only of the remnants of the Pendergast organization but also of the followers of Senator Clark. Shortly before the enactment of the second Hatch Act, the Sen-

ate's committee on campaign expenditures reported that agents had been collecting contributions for Stark's campaign from employees of the State Government. Stark was beaten in the primary election, and Senator Truman won a Democratic re-nomination.

In St. Louis, a series of sharp condemnations of decisions rendered by State Circuit Judge Thomas J. Rowe, published in the St. Louis *Post-Dispatch*, stirred Rowe to impose fines and imprisonment on this journal's chief editorial writer and its cartoonist. The case became a test of the Constitutional freedom of the press when opposed to the asserted rights of the judiciary. It was appealed until it eventually reached the U.S. Supreme Court, which refused to set aside the sentences.

**Reform in Kansas City.** Bent on doing away immediately with what remained to the Pendergast organization out of the ruin that had followed the exposure and imprisonment of its leader in 1939, the reformists brought about a special popular election for the indirect recall of the eight members of the City Council. They had been elected in 1938; a proposed amendment to the city's charter shortened their four-year terms to two years. The voters adopted it (February 13) by about 95,855 to 17,235; they rejected five proposed amendments from the City Council itself, notably one to put the firemen immediately under the protection of civil service. There followed (April 2) a municipal election that gave the city a reformist mayor, John Gage, and a Council of the same persuasion. It thus became possible for the reform wave to sweep away as many as it would of some 5000 persons in public employ. The new City Council chose a new City Manager, L. P. Cookingham, taking him from a like post in Saginaw; he took office on June 10.

More of the former aides of Pendergast were convicted: Matthew S. Murray, ex-Administrator of the WPA in the State, found guilty of evading Federal income taxes, was condemned to Federal imprisonment for two years; E. Mont Reily, former Governor of Puerto Rico, a Republican adherent of Pendergast, found guilty on a State charge related to speculation in the street-cleaning department, got a sentence of six months in the county jail, which he appealed.

**Elections.** On November 5 the popular vote for President gave Roosevelt (Dem.) 958,476, constituting a plurality of 11 to 10 over Willkie (Rep.), who received 871,009. Harry S. Truman (Dem.) was re-elected U.S. Senator, defeating Manvel H. Davis (Rep.), and ten Democrats and three Republicans were elected U.S. Representatives. The Governorship went to Forrest C. Donnell (Rep.) by a very small plurality over L. E. McDaniel (Dem.), which appeared on the counting of the absentee ballots.

**Officers.** Missouri's chief officers, serving in 1940, were: Governor, Lloyd C. Stark (Dem.); Lieutenant Governor, Frank G. Harris; Secretary of State, Dwight H. Brown; Auditor, Forrest Smith; Treasurer, R. W. Winn; Attorney General, Roy McKittrick; Superintendent of Public Schools, Lloyd W. King.

**MOLDAVIAN SOVIET SOCIALIST REPUBLIC.** See UNION OF SOVIET SOCIALIST REPUBLICS, under *Area and Population and History*.

**MOLLUSKS.** See ZOOLOGY.

**MOLOTOV'S BREADBASKET.** See EUROPEAN WAR under *Finnish Campaign*.

**MOLUCCA ISLANDS.** See NETHERLANDS INDIES under *Area and Population*.



**MOLYBDENUM.** As in the preceding year the United States was the primary world producer of molybdenum in 1940, and Climax Molybdenum Co., Climax, Colo., was by far the leading domestic source. The porphyry copper mines at Bingham, Utah; Chino, N.M., and Miami, Ariz., were substantial producers of molybdenum concentrates as a by-product of copper production. World trade in this important war mineral was seriously disrupted, primarily by the moral embargo on exports imposed by the United States in December, 1939. This proved particularly embarrassing to the by-product producers, although it was a serious handicap to the Climax company. Germany probably obtained molybdenum from Norway.

According to the Bureau of Foreign and Domestic Commerce, exports for 1940 amounted to 12,667,794 lb. of concentrates containing 6,584,714 lb. of molybdenum, valued at \$4,904,000. The bulk of this export was for the United Kingdom. The price of 90 per cent molybdenum concentrates was 45 cents per lb. of  $\text{MoS}_2$ , f.o.b. mine. The principal use was in alloying steel. See COLORADO under *Mineral Production*.

H. C. PARMELEE.

**MONACO.** A Mediterranean principality surrounded on its land sides by the French department of Alpes-Maritimes Area, 370 acres; population (1939), 23,973. Chief towns: Monaco (the capital), La Condamine, Monte Carlo. The tourist traffic and the gambling concession at Monte Carlo were the chief sources of revenue. There is no cultivation as all of the land has been built over. The budget for 1939 showed estimated expenditure of 38,892,921 (franc averaged \$0.0251 for 1939). A ministry assisted by a council of state administers the country under the authority of the Prince. Legislative power rests with the Prince and the national council of 12 members elected by universal suffrage for a four-year term. Ruler, Prince Louis II (succeeded June 26, 1922).

**MONETARY UNITS.** See INTERNATIONAL BANKING AND FINANCE; the countries under *Finance*.

**MONEY, United States Stock of.** The table on page 470 from the 1940 annual report of the Secretary of the U.S. Treasury shows the distribution of the stock of money in the United States on June 30, 1940, with comparisons for previous years.

**MONGOLIA.** An extensive, vaguely defined region of east-central Asia, bordered by the Soviet Union and Tannu Tuva (q.v.) on the north, Manchoukuo on the east, China proper on the south, and Sinkiang (Chinese Turkestan) on the west. It is divided by an irregular east-west line through the Gobi desert into Outer Mongolia, on the north, and Inner Mongolia, on the south.

**Inner Mongolia.** Geographically Inner Mongolia includes the three Chinese provinces of Suiyuan, Ningsia and Chahar, and Jehol and part of Hsining Province in Manchoukuo. Politically the term is now generally used to include only Suiyuan, Ningsia and Chahar. According to 1937 estimates of the Chinese Ministry of Interior, their combined area is 339,068 square miles and the population 7,142,793, all Chinese except for about 1,500,000 Mongols. Agriculture and stock raising are the principal occupations and rye, potatoes, buckwheat, and wheat are the chief crops. Trade is mainly with the Japanese-controlled areas in North China.

Japanese troops during 1937-38 occupied the eastern sector of Inner Mongolia to a point west of Paotow, terminus of the railway from Peiping. In 1938 a semi-autonomous Mongol regime headed by Prince Teh Wang was organized under Japanese auspices, with its capital first at Kweiwha and then at Kalgan. This so-called Menchiang regime controlled an area estimated at roughly 117,500 square miles, with a population of over 2,000,000. The Japanese advisers of the Menchiang Government during 1938-40 elaborated a program for the joint economic development of North China and Inner Mongolia. A separate Japanese-controlled currency and banking systems were established. By Sept. 30, 1940, the Menchiang Bank had issued paper currency to the amount of 83,236,000 Menchiang yuan, compared with 42,593,000 yuan and 30,254,000 yuan on the same dates in 1939 and 1938, respectively.

The Menchiang Government tentatively budgeted ordinary expenditures of 57,000,000 yuan and extraordinary expenditures of 120,000,000 yuan for 1941. However the heavy excess of imports over exports in the first half of 1940 was reported to have seriously impaired the economy and finances of the government, the banks, and the entire region. To remedy this situation, a more severe exchange-control law was put into effect Sept. 1, 1940. Government control of all imports and exports was drastically extended, and trade was restricted almost entirely to official agencies. Direct telephone service between Kalgan and Japan was opened June 1, 1940, and lines were strung to other towns under the Menchiang regime's control.

**Outer Mongolia.** The same Chinese estimate cited above placed the area of Outer Mongolia at 625,946 square miles and the population at 2,077,669. A British estimate gives the population as 540,000, a Japanese estimate as 840,000. Ninety per cent of the inhabitants are Mongols, chiefly nomads, and the rest Russians and Chinese. The capital, Ulan Bator Khoto (Urga), has about 70,000 population; Altanblak, 20,000.

Outer Mongolia is a soviet republic, the independence of which is guaranteed by the Soviet Union under a mutual assistance pact signed Mar. 12, 1936. However the Soviet Union in 1924 recognized the suzerainty of the Chinese Republic over the region. The political and economic system have been reorganized on the soviet model. Ownership of lands, forests, mineral resources, and factories has been collectivized. The foreign and domestic trade is a monopoly of People's Central Co-operative; foreign trade is carried on exclusively with or through the Soviet Union. Soviet instructors are said to have trained and equipped with modern arms a Mongol army of 250,000 men. The government is in the hands of the Mongolian People's Revolutionary Party. The only political party permitted, it had about 12,000 members in 1939 and was controlled by the Comintern. Supreme authority rests in an elective assembly (Great Huruldan), which meets at least once annually and while in recess delegates executive powers to a Little Huruldan of 30 members, which in turn appoints a Premier and executive committee.

Stock-raising, game hunting, agriculture, manufacturing, and mining, in the order named, are the chief occupations. Livestock estimates for 1934 were 1,638,200 horses, 2,068,000 cattle, 12,984,800 sheep, 3,884,000 goats, and 531,900 camels. Meat, milk products, hides and skins, wool, furs, wheat,

**STOCK OF MONEY, MONEY IN THE TREASURY, IN THE FEDERAL RESERVE BANKS, AND IN CIRCULATION, BY KINDS, JUNE 30, 1940**

Money held in the Treasury			Money outside of the Treasury				Population of continental United States (estimated)			
Kind of money	Stock of money	Total	Amount held as security against gold and silver certificates and Treasury notes of 1890	Reserve against United States notes (and Treasury notes of 1890)	Held for Federal Reserve Banks and agents	All other money	Total	Held by Federal Reserve Banks and agents	In circulation <sup>1</sup>	Per capita
Gold certificates.....	\$19,963,090,869	\$19,963,090,869	\$17,821,132,871	\$156,039,431	..	\$1,985,918,567	\$2,892,237,929	\$2,815,444,500	866,793,429	80.51
Gold certificates.....	(17,821,132,871) <sup>a</sup>	(14,938,894,942) <sup>a</sup>	..	..	..	21,355,709	48,950,301	2,930,200	46,020,101	.35
Standard silver dollars.....	547,078,223	498,127,922	476,772,213	..	..	..	..	..	..	..
Silver bullion.....	1,353,161,688	1,353,161,688	1,353,161,688	..	..	..	..	..	..	..
Silver certificates.....	(1,828,771,179) <sup>a</sup>	..	..	..	..	..	1,828,771,179	247,109,133	1,581,662,046	12.02
Treasury notes of 1890.....	(1,162,722) <sup>b</sup>	..	..	..	..	..	..	..	1,162,722	.01
Subsidiary silver.....	402,261,461	3,643,806	..	..	..	3,643,806	398,617,655	14,430,200	384,187,455	2.92
Minor coin.....	173,909,149	1,795,068	..	..	..	1,795,068	172,114,081	3,137,180	168,976,901	1.28
United States notes.....	346,681,016	2,042,995	..	..	..	2,042,995	344,638,021	96,750,834	247,887,187	1.88
Federal Reserve notes.....	5,481,778,345	14,333,300	..	..	..	14,333,300	5,467,445,045	304,161,410	5,163,283,635	39.22
Federal Reserve Bank notes.....	22,808,746	221,154	..	..	..	221,154	22,587,592	214,600	22,372,992	.17
National bank notes.....	167,190,377	518,721	..	..	..	518,721	166,671,656	1,516,800	165,154,856	1.25
Total, June 30, 1940....	28,457,959,874	21,836,935,523	19,651,066,772	156,039,431	(14,938,894,942) <sup>a</sup>	2,029,829,320	11,333,196,181 <sup>1</sup>	3,485,694,857	7,847,501,324	59.61
Comparative totals:										
May 31, 1940.....	27,565,916,563	21,077,328,490	18,879,236,942	156,039,431	14,179,051,392	2,042,052,117	11,188,773,623	3,478,743,186	7,710,030,437	58.60
June 30, 1939.....	23,754,736,441	17,862,671,169	15,299,262,384	156,039,431	10,708,117,514	2,407,369,354	10,483,210,142	3,436,467,318	7,046,742,824	53.72
Oct. 31, 1920.....	8,479,620,824	2,436,864,530	718,674,378	152,979,026	1,212,360,791	352,850,336	6,761,430,672	1,063,216,060	5,698,214,612	53.21
Mar. 31, 1917.....	5,396,596,677	2,952,020,313	2,681,691,072	152,979,026	..	117,350,216	5,126,267,436	953,321,522	4,172,945,914	40.23
June 30, 1914.....	3,797,825,099	1,845,569,804	1,507,178,379	100,000,000	..	188,390,925	3,459,434,174	..	3,459,434,174	34.93
Jan. 1, 1879.....	1,007,084,483	212,420,402	21,602,640	100,000,000	..	90,817,762	816,266,721	..	816,266,721	16.92
131,640,000										
131,563,000										
131,173,000										
107,096,000										
71,616,000										
99,027,000										
48,231,000										

<sup>1</sup> The money in circulation includes any paper currency held outside the continental limits of the United States.

<sup>2</sup> Does not include gold other than that held by the Treasury.

<sup>a</sup> Includes \$1,800,000,000 exchange stabilization fund and \$142,778,972 balance of increment resulting from reduction in weight of the gold dollar.

<sup>4</sup> These amounts are not included in the total, since the gold or silver held as security against gold and silver certificates and Treasury notes of 1890

tion, respectively.

This total includes credits with the Treasurer of the United States payable in gold

the redemption fund for Federal Reserve notes in the amount of \$10,862,551.

\* Includes \$9,300,000 lawful money deposited as a reserve for postal savings deposits.  
† The amount of gold and silver certificates and Treasury notes of 1890 should be deducted from this amount before combining with total money held in the Treasury to arrive at the total amount of money in the United States.

NOTE.—A part of the gold and silver included in the stock of money is held as a reserve against other kinds of money, as follows: (1) As a reserve for United States notes and Treasury notes of 1890—gold bullion varying in amount from \$150,000,000 to \$156,039,431 during the years included in the table; (2) as security for Treasury notes of 1890—an equal dollar amount in standard silver dollars (these notes are being can-

rye, millet, and coal are the main products. Extensive mineral resources remain undeveloped. State factories, all erected since 1924, produce machinery, washed wool, wool textiles, felt, leather, sheepskin coats, shoes, and electric power.

The first railways in Outer Mongolia—connecting Ulan Bator Khoto with the Nalaiha coal mine 22 miles distant and linking Kiakhta with the Trans-Siberian Railroad at Ulan Ude—were reported to have been completed in 1939. The capital is connected with Ulan Ude by truck road and airline. Steamers ply the Selenga and Orkhon Rivers. However caravans still handle the bulk of internal transport. There is a state banking and monetary system, the unit of currency being the tukrik containing 17 grams of pure silver.

See CHINA under *History* for the trans-Mongolia Chinese supply route, and MANCHOUKUO under *History* for the settlement of the Manchoukuoan-Mongolian boundary dispute.

**MONOPOLIES.** See AMERICAN FEDERATION OF LABOR; JAPAN; MANCHOUKUO; MARKETING; MEDICINE AND SURGERY; RADIO; UNITED STATES under *Investigations and Prosecutions*.

**MONTANA.** Area, 146,997 square miles; includes water, 866 square miles. Population (U.S. Census), April, 1940, 559,456 (urban, 211,535; rural, 347,921); 1930, 537,606. Helena, the capital had (1940) 15,056 inhabitants; Butte, 37,081.

**Agriculture.** Montana's harvest of 1940 included 6,675,000 acres of principal crops. Wheat, on 3,932,000 acres, made 56,070,000 bu. (\$33,081,000, estimated value to the growers). Tame hay, on 1,239,000 acres, produced 1,836,000 tons (\$9,364,000); sugar beets, 85,000 acres, 1,156,000 tons (value of crop of 1939, \$4,309,000); oats, 317,000 acres, 9,034,000 bu. (\$2,530,000); barley, 204,000 acres, 4,692,000 bu. (\$1,736,000); potatoes, 17,000 acres, 2,040,000 bu. (\$1,224,000); corn, 159,000 acres, 2,544,000 bu. (\$1,323,000).

**Mineral Production.** The yearly production of Montana's native minerals, as stated in 1940 by the U.S. Bureau of Mines, totaled \$48,602,547 for 1938. Copper, gold, silver, lead, and zinc made up most of this sum. The rest, some \$20,000,000, represented chiefly natural gas, petroleum, and coal. The output of petroleum rose to 5,951,000 bbl. for 1939, from 4,946,000 bbl. (value, \$5,190,000) for 1938. Natural gas, variously used for fuel, as by metallurgical works and sugar refineries, and saved for the consuming market, was restricted in 1938 to 21,216 million cu. ft. (value at points of consumption, \$6,132,000) delivered to consumers; in 1939 the market for natural gas rallied considerably from these low figures. Coal production increased to some 2,810,000 net tons (1939), from 2,732,050 tons (value, \$4,106,000) for 1938. Aggregate value of copper, gold, silver, zinc, and lead in the material mined yearly rose to \$40,937,870 for 1939 and approximately to \$55,970,800 for 1940. Respective metals' totals for 1940, approximated (each with definite total for 1939 subjoined), follow: copper, 253,200,000 (195,654,000) lb., \$28,611,600 (\$20,348,016); gold, 275,700 (264,173) oz., \$9,649,500 (\$9,246,055); silver, 12,357,000 (9,087,571) oz., \$8,787,200 (\$6,168,533); zinc, 103,500,000 (69,598,000) lb., \$6,727,500 (\$3,619,096); lead, 43,900,000 (33,110,000) lb., \$2,195,000 (\$1,556,170).

**History.** The State's Board of Education held further hearings in January on the disagreement between President Simmons and members of the faculty of the University of Montana, which had become a public issue in 1939. In February it with-

drew its demand, made in 1939, that the professors opposed to Simmons resign and, at the same time, it voted a resolution of confidence in Simmons and warned the faculty that courses disloyal or prejudicial to the University would not be allowed.

One of the several Federal prosecutions of officers of divers States occurred in Montana: Atty. Gen. Harrison J. Freebourn was prosecuted on a charge of evading the Federal tax on his income of 1937 by failing to report the receipt of \$11,000 allegedly received from a firm interested in machines for gaming. This allegation had been aired in the legislative session of 1939, where an effort to impeach Freebourn had failed by two votes.

The State offered bonds in August for the cost of building a projected \$250,000 armory. An effort on the part of the American Association of Composers, Authors, and Publishers, to collect royalties in Montana on the copyrighted products of its members, was opposed in Missoula; the county attorney brought charges of attempted extortion against the officers of the association and sought, without effect, the extradition of Gene Buck, its President, from Arizona. Buck alleged that the Association had not collected a royalty for use of music in Montana in three years. (See INSURANCE.)

**Elections.** On November 5 the popular vote for President gave 145,698 for Roosevelt (Dem.), and 99,579 for Willkie (Rep.). Burton K. Wheeler (Dem.) was re-elected U.S. Senator, defeating E. K. Cheadle (Rep.). Samuel C. Ford (Rep.), for Governor, received 124,435 votes and won from the incumbent, Roy E. Ayers (Dem.), who got 119,453.

**Officers.** Montana's chief officers, serving in 1940, were: Governor, Roy E. Ayers (Dem.); Lieutenant Governor, Hugh R. Adair; Attorney General, Harrison J. Freebourn; Secretary of State, Sam W. Mitchell; Treasurer, Ray N. Shannon; Auditor, John J. Holmes; Superintendent of Public Instruction, Ruth Reardon.

**MONTE CARLO.** See MONACO

**MONTSERRAT.** See LEEWARD ISLANDS.

**MONUMENTS, National.** See NATIONAL PARK SERVICE.

**MORAVIA.** See BOHEMIA AND MORAVIA; CZECHO-SLOVAKIA.

**MORMON CRICKET.** See ENTOMOLOGY, ECONOMIC.

**MORMONS.** See LATTER-DAY SAINTS.

**MOROCCO.** A region of northwestern Africa, divided politically into (1) the French Zone (area, 162,162 sq. miles; population, estimated at 6,500,000 on Dec. 31, 1938), comprising about 85 per cent of the total area and population; (2) the Spanish Zone (area, 8108 sq. miles; population, estimated at 750,000 on Dec. 31, 1938, including about 44,300 Europeans and 12,900 Jews); and (3) Tangier (q.v.), which on Nov. 23, 1940, was incorporated in Spanish Morocco. The 1936 census returns of the French Zone showed 5,875,000 Moslems, 206,500 Europeans and other foreigners, and 161,300 Jews. Populations of the chief cities of the French Zone in 1936 were: Casablanca, 259,000; Marrakech, 191,000; Fez, 144,000; Rahat (capital), 84,000; Meknes, 75,000; Oudjda, 35,000. Estimated populations of the principal towns in the Spanish Zone in 1936 were: Melilla, 64,328; Tetuan (capital), 49,535; Ceuta, 38,945; Alcazar, 30,762; Larache, 29,477. French and Spanish are used as the official and business languages in the French and Spanish Zones, respectively, but the natives speak mainly Moorish-Arabic and the various Ber-

ber dialects. Unless otherwise specified, the following statistics refer to the French Zone only.

**Production.** Agriculture and stock raising are the main occupations. Yields of the chief crops in 1939 were (in metric tons): Wheat, 1,055,000; barley, 2,128,000; oats, 76,000; corn, 217,400 in 1938; olive oil, 8000 in 1938. The wool clip in 1938 was 20,300 metric tons. Livestock in the same year included 10,152,000 sheep, 1,910,000 cattle, 191,000 horses, 775,000 mules and asses, 147,000 camels, and 5,800,000 goats. Output of the chief minerals in 1938 (metal content, in case of ores) was in metric tons: Coal, 123,000; natural phosphates, 1,447,000; manganese ore, 39,000; iron ore, 140,000; lead ore, 17,100; zinc ore, 2,500. Yield of sea fisheries, 1938, 30,300 metric tons, valued at 33,300,000 francs. Industries include flour mills, breweries, cement factories, soap works, sardine and tuna canning plants, Moorish handicraft.

The Spanish Zone raises much the same crops as the French Zone, but in limited quantities. Iron ore (805,000 metric tons in 1938), lead and some antimony are exported. Stock raising and tunny fishing are other occupations.

**Foreign Trade.** For the first six months of 1939, merchandise imports were 1,142,400,000 francs and exports 891,500,000 francs, as compared with imports of 2,184,900,000 francs and exports of 1,512,400,000 francs for the full year 1938. Imports from France in 1938 were 733,000,000 francs, exports to France 676,000,000. Imports into the Spanish Zone in 1938 were equivalent to about 3,300,000 old U.S. gold dollars; exports, \$1,000,000.

**Finance.** The 1939 budget estimates for the French Zone were Receipts, 1,185,054,070 francs; expenditures, 1,184,958,430. The Moroccan franc was unpegged from the French franc after June, 1940, and fluctuated widely in accordance with supply and demand. The 1938 budget for Spanish Morocco balanced at 111,785,245 pesetas.

**Transportation.** French Morocco in 1939 had about 1150 miles of railway line, 3690 miles of highways and roads, and air lines connecting Casablanca with Algiers, Oran, Tunis, Toulouse (France), and Dakar (French West Africa). These air services were interrupted by the military collapse in France in June, 1940, but were resumed on August 20. Casablanca, chief port of French Morocco, was the only port in French North Africa open to ocean traffic as of July 26, 1940. In 1938, 3352 vessels of 5,640,397 tons entered French Moroccan ports. In the Spanish Zone there were about 72 miles of railway and 1400 miles of roads.

**Government.** The Sultan of Morocco, who resides in the French Zone, usually at Rabat, exercises nominal executive authority in both the French and Spanish Zones. But in the French Zone his acts are subject to the approval of the French Resident-General. In the Spanish Zone the Sultan delegates his authority to a Khalifa, named by him from a list of two candidates submitted by the Spanish Government. Actual authority is exercised by the Spanish High Commissioner residing at Tetuan. Sultan in 1940, Sidi Mohammed, proclaimed Nov. 18, 1927. Resident-General and commander-in-chief of the French Zone, Gen. Auguste Nogues. Spanish High Commissioner, Gen. Carlos Asensio.

**History.** French Morocco was shaken and divided even more than the other French North African colonies by the military defeat and capitulation of France to Hitler in June, 1940. The repercussions throughout French North Africa are

described in the article ALGERIA under *History*. In Morocco the agitation to align the colony with Gen. Charles de Gaulle's "Free French" forces was particularly strong. It was repressed after numerous arrests. Many of the de Gaulle partisans in the French air units in Morocco flew their planes to Gibraltar to join the Allies.

This conflict among the French encouraged both the native independence movement and Spain's undisguised ambition to replace France as ruler of all Morocco. General Nogues reorganized his administration and created a territorial guard to maintain order in the interior, while other preparations were made to meet a possible Spanish invasion from Spanish Morocco. See EUROPEAN WAR under *Effects of the Fall of France*; FRANCE under *History*.

**MORTGAGES.** See AGRICULTURE; FEDERAL HOUSING ADMINISTRATION; FINANCIAL REVIEW; HOME OWNERS LOAN CORPORATION.

**MOSLEMS.** See AFGHANISTAN, ALBANIA, ALGERIA, ARABIA, EGYPT, INDIA, IRAN, IRAQ, MOROCCO, NETHERLANDS INDIES, PALESTINE, TUNISIA, TURKEY.

**MOTION PICTURES.** Although it was a period of arduous readjustment, 1940 found the screen exceedingly vital. Both in the power and diversity of its offerings, Hollywood demonstrated that it could rise brilliantly to an emergency. Instead of turning entirely to escapist films, as one might have anticipated after the complete drying up of European markets, it tackled significant contemporary material and even experimented with new techniques. In most instances, courage was rewarded at the box office. There was ample proof, meanwhile, that the domestic market could support even high budget productions, if they met with popular approval.

The outstanding films of the year ranged from the starkly realistic adaptation of John Steinbeck's novel, *The Grapes of Wrath*, to the immensely successful screen version of Philip Barry's comedy of manners, *The Philadelphia Story*. Charlie Chaplin's long-awaited satire on the Nazi scheme of things, *The Great Dictator*, and Walt Disney's brave attempt to accompany classical music with animated cartoon program notes were two of the cinematic events of 1940, although both enterprises proved somewhat disappointing. From an artistic standpoint *The Long Voyage Home*, a contemporary re-working of Eugene O'Neill's short sea plays, stood head and shoulders above other offerings.

The same fine craftsmen who made *The Informer* were responsible for the last-named picture. Dudley Nichols contributed a spare and eloquent adaptation of the original dramas and John Ford turned in one of his greatest achievements as a director. Dealing with the sea, in real terms of the sea, *The Long Voyage Home* had striking film artistry, as well as emotional compulsion, as it traced the voyage of a freighter from the Caribbean to this country to pick up a cargo of munitions and through the blockade to embattled England. It had no single hero, but all the members of the freighter's crew were drawn in vivid portraiture. There were no stars in the company, but Thomas Mitchell, Barry Fitzgerald, Mildred Natwick, and the other players were all superb.

*The Grapes of Wrath* was another John Ford masterpiece. Armed with a brilliant script by Nunnally Johnson, the director hewed close to the original story, making a splendid social document as



*Courtesy, United Artists*

**A SCENE FROM "THE LONG VOYAGE HOME"**

Men cooped up on a trampship get suspicious of one of their number as they plow through the war zone with a cargo of TNT  
Written by Eugene O'Neill, produced by John Ford



*Courtesy, Twentieth Century-Fox*

**A SCENE FROM "THE GRAPES OF WRATH"**

Starring Henry Fonda and Jane Darwell, with John Carradine, Charley Grapewin, Dorris Bowden, Russell Simpson, O. Z. Whitehead, John Qualen, and Eddie Quillan. Written by John Steinbeck, produced by Darryl F. Zanuck



*Courtesy, Metro-Goldwyn-Mayer*

**A SCENE FROM "THE PHILADELPHIA STORY"**

The slightly inebriated, impoverished, but thoroughly honorable young writer (James Stewart) and the thoroughly spoiled heiress (Katharine Hepburn) return from a midnight swim to face her indignant fiancé (John Howard, extreme left) and her understanding, devoted, but cast-off husband (Cary Grant). Play by Philip Barry, screen play by Donald Ogden Stewart



© United Artists

**A SCENE FROM "THE GREAT DICTATOR"**

Adenoid Hynkel (Charles Chaplin). Dictator of Tomania. and Benzini Napaloni (Jack Oakie). Dictator of Racteria as they

well as a notable film. A starkly realistic treatment gave this account of "Okies," wandering from the dust bowl to California only to find themselves unwanted there, tremendous visual and dramatic impact. At the opposite pole from *The Grapes of Wrath* was *The Philadelphia Story*, a handsome and vastly entertaining translation of the Barry play. With Katharine Hepburn surpassing her stage portrayal of a spoiled heiress on the screen, the film proved actually better than its theatrical prototype.

Curiously enough, the flood of purely escapist films which had been threatened failed to materialize. Partly because intelligent directors and producers had a bigger hand in screen offerings than ever before, partly because audiences showed increasing discrimination, there was a laudable attempt to handle new themes in new ways. Even though it was not entirely satisfying, Walt Disney's experiment with pictorial program notes to great music, in *Fantasia*, represented a courageous and stimulating thrust into the cinematic unknown. *The Great Dictator* may not have come off as an epic burlesque of totalitarian power politics, but it, too, was a product of immense courage in an unsettled period.

Although painstakingly produced and a virtual lexicon of the great actor's comic artistry, *The Great Dictator* lost much of its satirical emphasis due to the swift progression of world events. Two years earlier, when it was first conceived, it would have had far more power. With the Nazis astride the European continent in a successful war of conquest, Chaplin's fun at the expense of the dictatorships was rather forced. In any case, he offered several of his most amusing slap-stick conceits and he had no trouble at all with dialogue, whether straight speech or mocking double-talk.

Other propagandist films which dealt frankly with anti-Nazi themes fared badly for the most part. The best of them was *Pastor Hall*, which dramatized the Nazi persecution of the Reverend Niemöller and had a tragically restrained performance by Wilfrid Lawson. Even when they were bolstered by a melodramatic plot and popular stars, as in the case of *Escape*, most of them were wanting in artistic and entertainment values and had a cold reception from the public.

When the struggle of democracy against totalitarian aggression was employed merely as a vivid background for diverting narratives, the screen was on surer ground. *Foreign Correspondent*, directed in Hollywood by the talented English melodrama-maker, Alfred Hitchcock, was an exciting show, with fugitive over-tones of the new world war. *Arise My Love* traced the romance of a pair of foreign correspondents through to the capitulation of France, with the accent on comedy. The English melodrama, *Night Train*, celebrated the new espionage which preceded the outbreak of actual hostilities in Europe in striking and effective fashion.

In the field of social drama there should be mention of *Primrose Path*, which found the screen studying the effect of poverty on moral degeneration with extraordinary honesty and power. In Gregory La Cava's brilliant direction and the down to earth portrayals of Ginger Rogers and the supporting company, this film was a significant indication that there were those in Hollywood who were anxious to bring the medium into closer relation with the realities of existence. *Dr. Ehrlich's Magic Bullet* dealt sincerely and dramatically with

the struggle of medical science to find a specific for syphilis. A straight documentary or fact-film was Pare Lorentz's brilliant study of the perils of childbirth for the under-privileged, in *The Fight for Life*.

The continued sensational success of *Gone With the Wind* tempted many producers to translate best-sellers. The most successful of these enterprises were *Rebecca*, a vivid but disjointed version of the Daphne du Maurier novel, staged by Hitchcock, and the screen adaptation of *All This and Heaven Too*, with Bette Davis and Charles Boyer in leading roles. Fiction offered far more material to the screen than did the theater. Most of the play translations which turned out well were patterned on rather old stage works, such as *The Letter*, *Waterloo Bridge*, or *They Knew What They Wanted*. Virtually no screen musicals were worthy of chronicling, although such spectacles as *Lillian Russell* showed that Hollywood had not abandoned the form.

Among the films not already listed which contributed to the high standard of the year's offerings were *Of Mice and Men*, a grim version of the Steinbeck book about a pair of bindlestiffs; Disney's second full-length cartoon, *Pinocchio*; a faithful and touching translation of *Our Town* the gay comedy staged by Ernst Lubitsch, *The Shop Around the Corner*; Preston Sturges' bright satire of political corruption, *The Great McGinty*, and the two screen biographies of Edison—*Young Tom Edison*, starring Mickey Rooney, and *Edison, the Man*, starring Spencer Tracy.

One of the biggest money-makers of the year was a reconstruction of wildcat oil operations, *Boom Town*. *Northwest Passage* and *Drums Along the Mohawk* were the best of the historical films, and *The Westerner* was a moderately entertaining horse opera. The small-town family cycles were continued, but showed signs of wearing thin in such a fabricated film as *Andy Hardy Meets Debutante*.

It was a propitious period for directors. They had a rare degree of independence, often combining the functions of producer with their staging activities, and they made the most of it. John Ford, with two masterpieces to his credit, towered above his colleagues, but nearly every notable production of the year had a veteran and knowing director in charge. Among the outstanding players were Katharine Hepburn, Charlie Chaplin, Ginger Rogers, William C. Fields, Bette Davis, James Stewart, Claudette Colbert, Henry Fonda, Thomas Mitchell, Spencer Tracey, Vivien Leigh, Deanna Durbin, and Bing Crosby.

Color was used in a number of offerings, but it had no widespread popularity and its absence rarely militated against the success of a film. It was best when employed unobtrusively in neutral shades. The total number of screen productions for 1940 remained approximately 500.

**France.** The outstanding French importation of the year and one of the finest films exhibited was *The Baker's Wife*. Produced and directed by Marcel Pagnol, it was a splendid account of the economic dislocation which occurred in a Provençal town when the wife of the bread maker eloped with a shepherd. Raimu's performance of the baker was exceptional, although a whole village was brought to life in a series of portrayals. *Hotel du Nord* was another fine French importation.

**Germany.** A number of Nazi-made films came to this country and were distributed in German-



speaking districts. Without exception they were singularly devoid of artistic merit.

Great Britain. In the stunning melodrama, *Night Train*, the British studios continued the great tradition of thrillers started by Alfred Hitchcock. Meanwhile *Pastor Hall* was made in an English studio, although financed by Hollywood.

U.S.S.R. The once great Russian cinema languished for the most part under dictatorial control. Such fine directors as Eisenstein and Pudovkin were conspicuous for their absence.

Awards. The New York Film Critics selected *The Grapes of Wrath* as the outstanding film of the year, and *The Baker's Wife* as the best foreign-language motion picture. Charlie Chaplin's performance in *The Great Dictator* and Katharine Hepburn's portrayal in *The Philadelphia Story* were adjudged the finest jobs of acting. John Ford was adjudged the best director, for *The Grapes of Wrath*, and there was a special award to Walt Disney and Leopold Stokowski for *Fantasia*.

See ART under *Other Developments*; BUSINESS REVIEW; PHOTOGRAPHY; also, MUSIC.

HOWARD BARNES.

**MOTORBOATING.** *Hotsy Totsy III* won the Gold Cup in motorboating, and nothing could be done about it. A saucy little upstart upon whose obtuse wooden hide not scorn nor sneer could cause the least concern, she puffed and fumed and blocked the way until at last she crossed the line in victory. It mattered not to *Totsy* that her victory was questionable, to say the least, for somewhere in the race officials tried to flag her off the course, to make room for speedier craft behind, but *Totsy* could see nothing except victory ahead. And so she won the race.

The occasion was the annual Gold Cup tournament off the shore of Northport, L.I., in August, 1940. The quality of motorboating were all on hand. A spectator fleet of 1200 yachts were strung around like pearls in glistening sun. Some of the finest boats afloat were entered in the race, boats with background, family tree, ancestral glory; and *Hotsy Totsy*, a rude ungainly ne'er-do-well carried off the prize.

One of the flabbergasted losers of the race was *Notre Dame*, the apple of the eyes of Herbert Morrison. Nothing daunted, *Notre Dame* sought to regain her prestige a week later in a race off Red Bank, N.J., but snapped her propeller shaft and was easily outdistanced by 63-year-old Jack Cooper of Kansas City, Mo., who drove a 225-cubic-inch hydroplane called *Tops III*. Nevertheless *Notre Dame* was winner of the three-heat contest in the President's Cup race at Washington, although she lost the one-mile trial on the Potomac to Bill Cantrell's *Why Worry?*

Back home on the Detroit River, however, in more familiar circles, *Notre Dame* electrified the sporting and scientific world by shooting through the water at an average speed of 100.987 miles an hour. It represented an all-time high for the international 12-liter class, in which the *Notre Dame* belonged; and clearly established *Notre Dame* as the greatest boat of the year, notwithstanding *Hotsy Totsy III*.

**MOTOR CARRIERS, MOTOR TRANSPORTATION, MOTOR VEHICLES.** See ACCIDENTS; AUTOMOBILES; INTERSTATE COMMERCE COMMISSION; RAILWAYS; ROADS AND STREETS. For motor fuel, see PETROLEUM.

**MOTORS.** See AUTOMOBILES; ELECTRICAL INDUSTRIES.

**MOUNTAIN CLIMBING.** See EXPLORATION.

**MOYNE COMMISSION.** See BRITISH WEST INDIES.

**MOZAMBIQUE (PORTUGUESE EAST AFRICA).** A colony in East Africa, consisting of two separate administrative divisions: (1) Province of Mozambique (245,773 sq. mi.), comprising seven districts; (2) Manica and Sofala (51,881 sq. mi.), two districts administered by the Mozambique Company under a charter expiring in 1941. Total area, 297,654 square miles; total population (1936), 4,995,750. Chief towns: Lourenço Marques (capital of the Province), 47,390 inhabitants; Beira (capital of Manica and Sofala).

**Production and Trade.** Chief products: sugar, groundnuts, maize, cotton, copra, sisal, and gold. Livestock (1937): 553,531 cattle, 270,833 goats, 85,549 sheep, 72,254 swine. Trade (1939): imports, 402,480,000 escudos; exports, 134,520,000 escudos (escudo averaged \$0.0404 for 1939). The foregoing trade figures are for the whole country. Communications (1938): 13,175 miles of roads, 1043 miles of railways. During the fiscal year ended Mar. 31, 1940, shipping aggregating 3,858,265 gross tons entered the port of Beira. In 1937, 2613 ships aggregating 12,284,691 tons entered the ports of the colony.

**Government.** Budget (1939): revenue and expenditure balanced at 589,383,545 escudos. The Province of Mozambique (the districts of Cape Delgado, Inhambane, Lourenço Marques, Mozambique, Nyasa, Quelimane, and Tete) is administered by a governor general who is represented in each of the seven districts by a governor. Governor General, Dr. J. N. Nunes de Oliveira; Governor of Manica and Sofala, Rear Admiral Luis A. de M. Correia.

**History.** The colony's defense forces received reinforcements of about 1000 troops from Portugal in August as a result of the growing danger of a redistribution of colonial territories among the European belligerents. Financial stringency led to the imposition of a 2 per cent ad valorem export tax on May 8, 1940. A new railway line connecting the Tete district with the Trans-Zambezia Railway and providing an outlet at the port of Beira for mineral products was nearly completed at the end of 1940.

See PORTUGAL and SOUTH AFRICA, UNION OF, under *History*.

**MULTIPLE BIRTHS.** See ZOOLOGY under *Twinning*.

**MUNICIPAL GOVERNMENT.** Rejections and adoptions of the council-manager plan were about equal in number during 1940, but in size of municipalities rejections dominated. By far the worst defeats were in New Jersey where Newark, Bayonne, and Atlantic City gave decisive noes. The State is a stronghold for the straight commission-plan of government, with a few men possessing both legislative and administrative powers and allotting the latter among themselves. Trenton and Cape May went back to the commission plan after having had managers, leaving only five—Asbury Park, Bendix, Clifton, Hackensack, and Teaneck—with city managers. In Massachusetts, Cambridge adopted the manager plan by a large majority after a minor defeat in 1938; but Chicopee and Quincy voted it down for the second time and it was defeated in North Adams, also. In these



four places not only a city or town manager was included in the plan but also election of the council by proportional representation (Plan E). A manager plan without P.R. (Plan D) was adopted by a small majority at Haverhill. A half-dozen plans of city government have been provided by the Massachusetts legislature, so a city or town, instead of framing a charter by a special commission, chooses one of the ready-made plans, thus avoiding 57 varieties of municipal government. Results of other council-manager elections during 1940 were: Adoptions: Bridgton, Jay (rescinded later), Hodgdon, Linneus, and Norridgewock, Me.; Hartford, Randolph, and Vergennes, Vt.; Bloomfield, Conn.; Traverse City, Mich. To retain: Schenectady, N.Y., and Cleveland, Ohio. Defeats: Onondaga County (includes Syracuse), N.Y.; Martinsburg, W.Va.; Raleigh, N.C.; Pontiac and St. Louis Park, Ill.; Mankato, Minn.; Hot Springs, S.D.; Durant, Okla.; Arcadia and Hermosa Beach, Calif.; Lakeview and Silverton, Ore. Abandoned: Hardwick, Vt.; Huron, S.D. (For further details of all the charter elections see monthly issues of *National Municipal Review*.) Votes scheduled for December 7 at Abilene, Texas. At the close of 1940 there were over 500 cities under the council-manager plan.

Attempted abandonment of proportional representation by an amendment to the charter of New York City was defeated on November 5 by a vote of 783,000 to 566,000.

The permissive Civil Service Act of New Jersey was adopted by Atlantic County on November 5 by a vote of 23,028 to 2236, while Sussex County defeated adoption by 4159 to 3953. The act was adopted by six cities or towns, including Asbury Park and Bloomfield, and defeated in three small places. Data supplied by the New Jersey Civil Service Commission show that since the passage of the act in 1910 it has been adopted by 12 of the 21 counties of the State, and 38 cities, boroughs, towns, townships, and villages, and the Newark School District. The city adoptions include Newark, Jersey City, Trenton, Paterson, and Elizabeth.

See WATER WORKS AND WATER PURIFICATION.

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**MUNICIPAL OWNERSHIP.** Transfer to New York City in June of two great local passenger transportation systems consummated negotiations that have been in progress for years. On June 1 the city took over subways, elevated, street car, and bus lines of the Brooklyn-Manhattan Transit Co. (BMT). On June 12 it acquired the subway and elevated lines not already acquired of the Interborough Rapid Transit Co. (IRT). Integration of these properties with the Independent Subway System or Eighth Avenue Subway, re-

cently built by the city, and the operation of all by the Board of Transportation unifies the local transit lines of New York City which comprise the largest example of municipal ownership and operation of local transportation facilities in the world. Some of the privately-operated subways were built by the city and leased to the companies. Some of the elevated railway lines have been torn down and removal of most of what remain is imminent.

The Tennessee Valley Authority (TVA) was selling electric power to 106 municipal authorities and co-operative associations at the close of 1940. The largest city to contract with TVA during 1940 was Huntsville, Ala. (See 1939 YEAR BOOK for data on the larger TVA city-customers; also various TVA reports.)

Municipally-owned electric light and power plants in the United States increased from 2100 to 2632 as of Jan. 1, 1938 and Nov. 1, 1940, according to statistics compiled by the Burns & McDonnell Engineering Co., Kansas City, Mo. The Federal Power Commission listed 2035 publicly- and 1314 privately-owned electric utilities in 1940, but excluded places of less than 250 population.

**Bibliography.** Federal Power Commission, *Directory of Electric Utilities* (Washington).

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**MUNITIONS.** See DEFENSIVE PREPARATIONS; MILITARY PROGRESS; NAVAL PROGRESS Compare the topics listed under DEFENSE, NATIONAL.

**MURALS.** See PAINTING.

**MUSEUMS.** See ART under *Museums*; SOCIETIES under MUSEUMS, AMERICAN ASSOCIATION OF.

**MUSIC.** *General News:* What with the extension of the war in Europe, the United States figured more and more prominently as a world center of musical activities in 1940. An increasing number of prominent musicians visited the Latin-American republics, and the general trend toward closer cultural relations also had its musical effects. The first North American orchestra to visit South America was the National Broadcasting Company's symphony orchestra (known as the N.B.C. Symphony) under Arturo Toscanini's direction, which gave sixteen highly successful concerts in Brazil, Uruguay, and Argentina between June 12 and July 10. This was followed in August by the All American Youth Orchestra, organized in the spring by Leopold Stokowski with a roster mainly of musicians of both sexes ranging in age from 14 to 24. These were chosen in preliminary auditions held throughout the country by the National Youth Administration (q.v.), which also maintained orchestras of its own in the principal centers, and final auditions held by Mr. Stokowski. They gave five concerts in Brazil, ten in Argentina, three in Uruguay, and one in the Dominican Republic. In a week of concerts in eastern cities before its departure, the orchestra was much praised by the critics, and some hoped that it might be made permanent, but it was disbanded after giving some further home concerts in September. Plans were announced for the organization of a second orchestra of this kind in 1941.

Government support of music through the Work Projects Administration (q.v.) continued throughout the year upon the relatively decentralized basis which had been inaugurated by legislation stipulating that, after Jan. 1, 1940, one fourth of the costs of the various music and other cultural projects must be met locally. It was estimated that, under the new conditions, 10,072 musicians were em-

played in these activities at the beginning of the year, as compared with the former Federal Music Project's peak figure of 15,700.

In New York, the city co-operated with the WPA in providing popular-priced orchestral concerts in large auditoriums under various guest conductors and with prominent soloists. Here the programs were relatively conservative, but WPA orchestras in certain other large cities, especially the Illinois Symphony Orchestra of Chicago under Izler Solomon and others, gave more attention to American and other modern music.

An anticipation of the possibilities of seeing as well as hearing opera by television was provided in New York, March 10, when the first large-scale demonstration of this kind took place in the National Broadcasting Company's studios, where a cast of Metropolitan Opera singers gave Act I of *Pagliacci* in condensed form. The Rockefeller Foundation made a grant of \$20,000 to the New School for Social Research for a two year study of the use of music in motion pictures. Perhaps the most ambitious example thus far of such use was the film *Fantasia*, made by Walt Disney with the collaboration of Leopold Stokowski and the Philadelphia Orchestra and first publicly shown on November 13. (See MOTION PICTURES.)

In an attempt to popularize operatic music in the United States, the National Committee for Music Appreciation placed on sale in September the first of twelve sets of records of familiar works at \$1.75 a set. Twenty-two thousand sets of records of *Carmen* were sold during the first week.

One of the country's most prominent musical societies, the Beethoven Association, voted to dissolve in May after a career of 22 years during which it had given away nearly \$100,000 to educational and musical institutions. The funds had been raised by concerts for which the members, including most of the well-known musicians who lived or appeared in New York, contributed their services.

There were several changes during 1940 in the university field. Daniel Gregory Mason, who continued as MacDowell Professor of Music, resigned as head of the music department of Columbia University, and was succeeded by Douglas Moore. David Stanley Smith retired as dean of the Yale University School of Music at the end of the 1939-40 academic year, after 22 years' service. A separate department of music was formed in Yale College with Bruce Simonds as chairman. In the field of musical journalism, a noteworthy appointment was that of Virgil Thomson, well known as a composer, as music critic of the *New York Herald Tribune*, succeeding the late Lawrence Gilman. An instance of an increasing esteem for music in the American cultural world was the naming of Stephen C. Foster for commemoration in New York University's Hall of Fame. He was the first American musician to be thus honored.

Under the five-year agreement which expired December 31, radio stations paid the American Society of Composers, Authors and Publishers (see under SOCIETIES AND ASSOCIATIONS) \$4,142,200 in 1939 for the use of music which the Society controlled, including much of the popular music which was broadcast. In March, the A.S.C.A.P. offered a new contract which, according to an estimate, would virtually double the annual payment. Most of the radio stations, represented by the National Association of Broadcasters, rejected this, and both sides prepared for battle. The broadcast-

ers organized a new firm, Broadcast Music, Inc., which, it was hoped, would provide new music and arrangements, buy out existing publishers, and provide radio with a source of music of its own, or at least with an instrument for bargaining. In November, the large chains began to drop music controlled by the A.S.C.A.P. from the air, and it was dropped by all except some independent stations by Jan. 1, 1941.

**Artists and Composers.** Hitherto the American Federation of Musicians had not attempted to enlist instrumental concert virtuosi in its ranks, or opposed their enrollment by the American Guild of Musical Artists, which was also an affiliate of the American Federation of Labor. Early in August, however, the new president of the American Federation of Musicians, James C. Petrillo, announced that instrumental artists must join the Federation by Labor Day, or cease to take part in any activities in which Federation members were concerned. This meant that those who did not comply would be barred from appearing in concerts with Federation musicians, including those of all but one of the major orchestras; from making records or musical films, and also from broadcasting.

Conferences between Mr. Petrillo and the president of the Guild, Lawrence Tibbett, noted barytone, failed to reach a compromise, and legal warfare began. On August 29 Justice Ferdinand Pecora, of the New York Supreme Court, granted an application for a temporary injunction restraining Mr. Petrillo from enforcing his demands. Application for a final injunction was made before Justice Aron Steuer, of the Supreme Court, who denied the motion on November 20. The Guild carried the matter up to the Appellate Division, which dismissed the application on Jan. 24, 1941, holding that members of a labor union had the right to refuse to work with non-members in the same field of endeavor. The Guild planned to take the case, which it regarded as involving the freedom of musical culture in America, to the Court of Appeals in Albany. In February, 1941, Mr. Petrillo announced that instrumentalists must join the Federation by Mar. 1, 1941.

Many noted European musicians had come to the United States within the last few years, owing to political conditions in Europe. The intensification of the war brought many more, including Darius Milhaud, who arrived in July and, after conducting the first performance of his *Cortège Funèbre*, for the Columbia Broadcasting System, went to California to join the music faculty of Mills College. Among other well-known European composers now in America, Paul Hindemith devoted most of the year to teaching, becoming a visiting lecturer for the Yale University School of Music in May; Igor Stravinsky, who took out his first citizenship papers, appeared as guest conductor with most of the principal orchestras.

Among the concert artists who made American debuts in 1940 were Marcelle Denya, French soprano; Suzanne Sten, German mezzo-soprano; Magda Tagliafero, French-Brazilian pianist; Antonio Brosa, Spanish violinist, and Edward Kilenyi, Hungarian-American pianist. The youngest artist to make a notable impression in a New York debut was the 9-year-old Andre Mathieu from Montreal, who, on February 3, showed a remarkable talent as a pianist and as a composer. Ignace Jan Paderewski returned from Europe on his 80th birthday, November 6, to live in America, at least during

the period of the war. Owing to his age and health, he planned to make no concert appearances.

**Chamber Music.** The year's most intensive presentation of recently composed American chamber music was held September 9 and 10 on the Yaddo estate at Saratoga Springs, N.Y., where works by 36 composers were heard in four programs. In general, this cross-section of contemporary activity, as compared with its predecessors in this series, showed a trend away from experimentalism, if not from up-to-date idioms.

As before, the most extensive urban series of chamber music was that offered in New York by the New Friends of Music, who devoted their 1939-40 programs to works of Bach, Beethoven, and Brahms. For 1940-41, the list was expanded to include music by modern composers such as Arnold Schönberg, Mark Brunswick, Ernest Bloch, and Bela Bartok, whose sonata for two pianos and percussion instruments had its first American performance November 3. Within the scope of this review, it would be impossible to list all the new works presented in the United States during 1940. Bach's *Musical Offering* had its first New York performance in full in the Bach Circle's concert of January 20, in Hans T. David's arrangement. Haydn's *The Seven Last Words of Christ* was introduced to America by the Primrose Quartet in a New York concert on February 18.

**Choral Music.** Mozart's last Mass, in C minor (K. 427), had its first American concert performance in the concert of the Schola Cantorum of New York (January 9) under the direction of Hugh Ross, who used Alois Schmitt's edition. In its second concert (April 17), this enterprising chorus sang a *Sinfonia Biblica* by Juan José Castro, of Buenos Aires, for the first time in the United States, and a *Pater Noster* by Burle Marx, of Brazil, for the first time anywhere. The New York Oratorio Society, under Albert Stoessel, remained faithful to Bach's Mass in B minor and Handel's *Messiah*, which was sung by innumerable choral groups of all sizes during the Christmas season. A touring group new here, the General Platoff Don Cossack Chorus, completed its first American tour in February.

**Festivals.** The ninth festival of the Elizabeth Sprague Coolidge Foundation in the Library of Congress was held in Washington, April 12 to 14. Works performed for the first time were Ildebrando Pizzetti's *Epithalamium*, for soloists, chorus, and chamber orchestra; Jerzy Fitelberg's sonata for two violins and two pianos; Nicolai Berezowsky's string sextet, Malipiero's *Quattro Vecchi Canzoni* for voice and seven instruments, Roy Harris's quintet for strings, Marcel Grandjany's fantasy-chorale on *Pange Lingua* for harp and organ, David Stanley Smith's eighth quartet, and Frank Bridge's *Divertimento* for wind instruments. The Pizzetti, Fitelberg, and Berezowsky works had been commissioned by Mrs. Coolidge. Joseph Szigeti and Bela Bartok played a program of the latter's music for violin and piano.

The Eastman School of Music held its tenth American Music Festival, April 22 to 26, in Rochester, N.Y., under the general direction of Howard Hanson, who introduced an 18th century work, a sinfonia by Johann Friedrich Peter, in his opening program. Modern works performed for the first time were Edmund Haines's *Symphony in Miniature*, Burrill Phillips's *Concert Piece* for bassoon and strings, Frederick Woltmann's *Incantation*, and, in part, Roy Harris's *Folk-Song Symphony*.

Walter Piston's *The Incredible Flutist* was a novelty in the closing ballet program.

Ifor Jones completed his second season as conductor of the Bach Choir of Bethlehem, Pa., with its 33d Bach Festival, May 17 and 18. Seven cantatas were sung on the first day and, according to custom, the second day was devoted to the Mass in B minor. Other Bach festivals were held at Berea, O., in June, and Carmel, Calif., in July.

The Philadelphia Orchestra again took part with the University of Michigan Choral Union in the 47th festival at Ann Arbor, Mich., May 8 to 11. Eugene Ormandy and Thor Johnson shared the conductorship. Among the principal works presented were Charles Vardell's cantata, *The Inimitable Lovers*, Harl McDonald's Santa Fe Trail symphony, conducted by the composer, and Saint-Saens's opera, *Samson et Delila*, presented in concert form in the closing program.

The eighth annual Berkshire Symphonic Festival, consisting of nine concerts, three more than in the last four summers, was held from August 1 to 17. This was the fifth festival to be given with the participation of the Boston Symphony Orchestra under Serge Koussevitzky's direction and the third in the semi-outdoor auditorium built for this purpose on the Tanglewood Estate in Lenox, Mass. For the first time, an entire program was devoted to a major choral work, Bach's Mass in B minor, with a chorus which had been trained in the allied Berkshire Music Center. Three concerts were devoted to Beethoven and Tchaikovsky (in honor of his birth centenary). The other five programs consisted largely of standard works, but included a few modern compositions, such as Roy Harris's third symphony and Paul Hindemith's *Mathis der Maler* symphony.

The Music Center, with Dr. Koussevitzky as director, opened its first session at Tanglewood early in July. This was in two divisions, one providing advanced training in various fields, while the other gave opportunities to less advanced students and to amateurs to increase their acquaintance with music and its interpretation. In the fall Mrs. Mary Louise Curtis Bok, of Philadelphia, gave the Center \$10,000 to build an opera theater seating 1200 for its opera department.

Two stage performances of opera, Gluck's *Orestes* and Offenbach's *Tales of Hoffmann* were given under Albert Stoessel's direction in the 61st festival at Worcester, Mass., September 30 to October 5. Both were sung in English. Mabel Daniels's *The Song of Jael*, for soprano, chorus, and orchestra, had its first performance, October 3, and the Ninth Symphony was heard in a Beethoven program.

In the South, festivals were held in April at Columbia and Spartanburg, S.C., in August, when *Così fan tutte* was included in a Mozart repertoire, at Asheville, N.C., and in Birmingham, Ala., in October. Handel's *Belshazzar* had what was believed to be its first complete performance in the United States in the May Festival at Pasadena, Calif., under Richard Lert's direction. The International Society for Contemporary Music planned to hold its annual festival in New York in December, but, owing to difficulties of preparation, especially in the matter of obtaining foreign scores, this was postponed until May, 1941.

In Canada, a feature of the fifth annual Montreal Festival was a performance of Debussy's *Pelléas et Mélisande*, June 14, under Wilfred Pelletier's direction, with Raoul Jobin and Marcelle

Denya in the title roles, Mack Harrell as Golaud, and Leon Rother as Arkel.

**Opera.** When the owners of the Metropolitan Opera House in New York, represented by the Metropolitan Opera and Real Estate Company, decided that they could not continue to maintain the property under the existing arrangement, the Metropolitan Opera Association, which produces the operas, offered to buy it for \$1,500,000, subject to a first mortgage of \$470,000, and thus avoid the possibility of having the theater sold for non-operatic purposes.

This proposal was accepted by the Real Estate Company on January 12. A campaign to raise \$1,000,000 for the cash payment of \$500,000 and for various changes and improvements was launched January 27, and passed its goal on May 9. About \$240,000 of this sum was contributed by out of town listeners to the Saturday afternoon opera broadcasts. On May 21, the Association's directors voted to go ahead with the purchase and improvement program, and the title was formally transferred June 28. Thus the theater came to be owned by its producing organization for the first time since 1892. One of the principal changes was the substitution of rows of seats for the former grand tier boxes, and, for the first time in the Metropolitan's history, the parterre boxes, formerly the property of the owners of the house, were placed on public sale.

The Metropolitan's 55th regular season and its fifth under Edward Johnson's general management began Nov. 27, 1939, and continued for the usual 16 weeks, followed by four post-season performances. During the longest spring tour in many years, the company appeared in Baltimore, Boston, Cleveland, Rochester, Houston, New Orleans, and Atlanta. Performances during the regular season in Philadelphia, Newark, and Hartford made an out of town total of 48 performances in a grand total of 171, not counting 14 Sunday night concerts.

Of the 33 operas presented in New York, four less than in 1938-39, 15 were sung in Italian, 11 in German, and 7 in French. In the representation of composers Wagner again had a long lead, with 45 performances of ten works. Verdi and Puccini held second and third places. There were no novelties, but seven operas not heard in the previous season returned to the repertoire. The most distinguished revival was that of Mozart's *Le Nozze di Figaro*, last sung at the Metropolitan in 1918. This was produced February 20 with Ezio Pinza as Figaro and Elisabeth Rethberg, Bidu Sayao, Risé Stevens, and John Brownlee in other leading roles. Ettore Panizza conducted; Herbert Graf had charge of the stage direction, and the sets were designed by Jonel Jorgulesco.

Debussy's *Pelléas et Mélisande*, revived March 7 after six years, made a more mixed impression; the *Pelléas* of Georges Cathelat, who had come from France to sing this role, was praised, but Helen Jepson's *Mélisande* was considered dramatically inadequate. The return of Montemezzi's *L'Amore dei Tre Re*, on December 27, after a lapse of four seasons, was undistinguished, despite Ezio Pinza's laudable Archibaldo. Miss Jepson, Armand Tokatyan, and Richard Bonelli were the other principals with Gennaro Papi conducting. None of the other works restored, Wagner's *Der Fliegende Holländer* with Kirsten Flagstad as Senta and Friedrich Schorr as the Dutchman; Gounod's *Faust*, Puccini's *Madama Butterfly*, and

Ponchielli's *La Gioconda*, had been out of the active list for more than two seasons.

Of the 92 artists who sang solo roles during 1939-40, 16 appeared for the first time in a regular Metropolitan season. Two former members of the organization returned to it: Helen Traubel, American soprano, in two Wagnerian roles, and the veteran Italian barytone, Giuseppe De Luca, who, although 63 years old, proved still to be a master of vocal style.

Eight of the newcomers were Americans. The three new artists who proved most valuable were Jarmila Novotna, whose ability as a singing actress was best illustrated as Violetta and Cherubino; Alexander Kipnis, a basso of Russian origin, who was at his best as Gurnemanz, Hagen, and Marke in the Wagner list and as Baron Ochs in *Der Rosenkavalier*, and Licia Albanese, Italian soprano, who made her debut in the title role of *Madama Butterfly*. Another Italian soprano, Hilde Reggiani, showed moderate vocal attainments as Gilda and Rosina. Walter Olitzki, German barytone, showed ability of a routine sort. Eyvind Laholm, American tenor, sang Siegmund and Tannhäuser early in the season. Single appearances in leading roles were made by Harriet Henders and Jean Dickenson, American sopranos, and Raoul Jobin, French-Canadian tenor. He played a more important part in the following season. Newcomers heard in minor assignments were Annamary Dickey, soprano, and Mack Harrell, barytone, the winners in the 1939 radio auditions; Lodovico Oliviero, tenor, who had sung in the 1937 spring season, and two young Americans, Jean Merrill and Winifred Heidt, who sang only in the Sunday concerts. The death of the company's senior conductor, Artur Bodanzky, on Nov. 23, 1939, threw the whole burden of the Wagner repertoire upon the 28-year-old Erich Leinsdorf, who also conducted *Pelléas et Mélisande*. The other regular conductors were Messrs. Panizza, Papi, and Wilfred Pelletier. George A. Sloan, who had been chairman of the fund-raising committee, was elected president of the Metropolitan Opera Association September 11, succeeding the late Paul D. Cravath.

The season of 1940-41, also 16 weeks long, began with a new production of Verdi's *Un Ballo in Maschera*, last heard in this house in 1916. The action was transferred from Boston to Sweden, the locale of the Scribe play on which the libretto is based, but the names were not correspondingly changed. Jussi Bjoerling, Zinka Milanov, Alexander Sved, Kerstin Thorborg, and Stella Andrevs sang the leading roles, with Mr. Panizza conducting. Saint-Saëns's *Samson et Delila* was reinstated in the repertoire December 6, with René Maison and Risé Stevens as the principals, and Verdi's *Il Trovatore* received a new production December 12, with settings by Harry Horner. Here Ferruccio Calusio, a conductor of the Teatro Colon in Buenos Aires, made his North American debut. The next revivals were of two comic operas by Donizetti, *Don Pasquale*, whose title role provided for the company's admirable new Italian basso buffo, Salvatore Baccaloni, and *La Fille du Régiment*, sung in French with Lily Pons as Marie.

Five American singers made their Metropolitan debuts before the close of the year: Eleanor Steber and Norina Greco, sopranos; Emery Darcy, tenor, and Francesco Valentino and Arthur Kent, barytones. The others, besides Mr. Baccaloni, who made their first appearances in December were Maria Husa, Viennese soprano; Alexander Sved,

Hungarian barytone, and John Dudley, Australian tenor.

The National Orchestral Association of New York added opera to its training program, giving *Pagliacci* December 9 as the first of a series of experimental performances with young American singers.

The Chicago City Opera Company, renamed simply the Chicago Opera Company, was completely reorganized, with Chauncey D. McCormick as chairman of the board, Walter D. Kirk as president, and Henry Weber as artistic director. William Wymetel was made regisseur. The organization of a new chorus of young singers began in the spring and the Ballet Theater, which had made a notable impression in New York in its first season, was engaged for the fall series, in which it offered some all-ballet programs in addition to appearances in the operas. The seven weeks' season opening November 2 with *Aida*. Counting two extra Christmas holiday performances, there were forty presentations of 21 operas—seven operas less than in 1939, but quite enough for this relatively short period.

The revivals were Verdi's *Falstaff*, with John Charles Thomas in the title role; Mozart's *Don Giovanni*, with Ezio Pinza; Strauss's *Salome*, first heard in a special performance with Rose Pauly as its protagonist and Artur Rodzinski conducting, and later under Carl Alwin with Marjorie Lawrence as the Salome; Strauss's *Der Rosenkavalier* and Montemezzi's *L'Amore dei Tre Re*, in which Grace Moore sang Fiora for the first time, with the composer conducting. *Falstaff*, *Martha*, and *Hansel and Gretel* were sung in English. Wagner was represented by one performance of *Tristan und Isolde*, with Kirsten Flagstad, and two of *Die Walkure*. Twenty-two singers were heard with the company for the first time, and two conductors, Maurice Abravanel and Paul Breisch, joined the regular staff, which included Mr. Weber, Angelo Canarutto, Leo Kopp, Carl Alwin, Kurt Adler, Dr. Rodzinski, Mr. Montemezzi, Fritz Reiner, and Edwin McArthur. According to Edward Barry, music critic of the *Chicago Tribune*, the 1940 season was the most stimulating in recent years and marked the beginning of a new operatic era for Chicago.

Ten operas were produced by the San Francisco Opera Association between October 12 and November 3: *Le Nozze di Figaro*, *La Bohème*, *Don Giovanni*, *Un Ballo in Maschera*, *Rigoletto*, and *Aida* in Italian; *Lakmé*, *Carmen*, and *Manon* in French, and *Der Rosenkavalier* in German. Debuts were made by Margit Bokor, Mari Monte, and Verna Osborne, sopranos; Suzanne Sten and Elsa Zebranska, contraltos; Jussi Bojerling, George Stinson, and Francisco Naya, tenors, and John Brownlee and Walter Olitzki, barytones. Gaetano Merola, the general manager, shared the conductorship with Gennaro Papi and Erich Leinsdorf.

In addition to the visiting Metropolitan, Philadelphia was served by two resident organizations, the Philadelphia Opera Company, composed mainly of young singers living in the city or its neighborhood, and the Philadelphia-La Scala Opera Company, with visiting artists. For its 1940-41 season, the former company adopted a policy of performances in English, except for *La Bohème*, and presented Tchaikovsky's *Eugene Onegin* and Smetana's *The Bartered Bride* in the fall, with translated texts.

The St. Louis Opera Association presented Ma-

non, *Rigoletto*, and *Carmen* in April with casts mainly of Metropolitan artists, but canceled its projected fall series. In Los Angeles, the Southern California Opera Association made its debut May 7 with *Faust* under the conductorship of Albert Coates. The principal summer season, as before, was that of the Zoo Opera Company of Cincinnati, which presented 15 works between June 30 and August 10. Fortune Gallo's San Carlo Opera Company again toured extensively.

South America's principal opera season, at the Teatro Colon in Buenos Aires, began May 25 and continued into the latter part of October. Among the works revived or restaged were *La Bohème*, *L'Elisir d'Amore*, and *Alceste*, while Cimarosa's *Le Astuzie femminili* had its local première in August. As usual, the first part of the season was devoted to works in Italian and French, and the later weeks to German opera.

**Orchestras.** For its fiftieth season, the Chicago Symphony Orchestra had commissioned prominent composers of several countries to write for it, and also held a competition for a short work by an American. The unusually large list of works played for the first time during the first twelve weeks of 1940-41 included symphonies by Darius Milhaud (October 17), John Alden Carpenter (October 24), and Igor Stravinsky (November 7); Roy Harris's *American Creed* (October 31), Eric Delamarter's *Fable of the Hapless Folk-Tune* (December 5), Remé Gassman's *Symphonic Overture in G* (December 12), and Nicolai Miaskovsky's *Symphonic Fantasia* (December 26). Messrs. Milhaud and Stravinsky conducted their own works; the others were directed by Frederick A. Stock, now in his 36th year of consecutive service as conductor. One of the novelties of the 49th season, 1939-40, was a symphony by a Russian, Van Muradeli, which was introduced February 15 and repeated in a later pair of concerts. In both seasons, several concerts were led by the associate conductor, Hans Lange.

The Philharmonic-Symphony Society of New York, which exchanged a pair of subscription dates with the Chicago Symphony during its November tour, continued under the regular conductorship of John Barbirolli, whose contract was renewed in February for the next two seasons. Igor Stravinsky was a guest conductor for a week in January and another in April, and Albert Stoessel, conductor of the Oratorio Society, which joined with the orchestra in Bach's *Passion According to St. Matthew*, directed three concerts in March. Dimitri Mitropoulos, the Minneapolis Symphony Orchestra's Greek conductor, began a four weeks' guest engagement December 19.

The year's most extensive novelty was *Moby Dick*, by Bernard Herrmann, a young New York composer, a dramatic cantata for men's chorus, soloists, and orchestra with a text by W. Clark Harrington based on Melville's novel. This was often effective, but sometimes derivative and over-scored.

Other works which had first performances or American premières were John Powell's *A Set of Three* (first time in full, February 18), Leo Weiner's *Divertimento No. 2*, Op. 24 (February 8), Benjamin Britten's violin concerto (March 28) with Antonio Brosa as soloist, Anis Fuleihan's *Symphonic Concertante* for string quartet and orchestra (April 23), Jaromir Weinberger's *Song of the High Seas* (November 9), Alexander Zemlinsky's *Sinfonietta*, and Casella's suite from his

*La Donna Serpente* (December 29). Homer Keller's first symphony, which had won the Henry Hadley Foundation's American composer's prize, was introduced in a special concert November 2.

Under Leon Barzin, the training orchestra of the National Orchestral Association added to the list of novelties in New York Boris Koutzen's *Valley Forge* (February 19) and Walter Piston's violin concerto (March 18, with Ruth Posselt as soloist), both played for the first time, and Henriette Bosmans's *Concertstück* for violin and orchestra (March 18), played for the first time in America. For its 1940-41 series in Carnegie Hall under Fritz Stiedry's direction, the orchestra of the New Friends of Music added modern works to its repertoire, and played Schönberg's *Kammer-symphonie No. 2* for the first time December 15.

Arturo Toscanini continued as conductor of the N.B.C. Symphony Orchestra in its Saturday night radio series, and also took it out of New York for a few concerts in the winter and to Carnegie Hall for performances of Verdi's *Manzoni Requiem* and Beethoven's *Missa Solemnis* in November and December. Other conductors in the radio series were Bernardino Molinari and Bruno Walter, in the winter, and Hans Wilhelm Steinberg in the fall.

Serge Koussevitzky, who began his seventeenth season with the Boston Symphony Orchestra October 11, conducted most of the concerts of the regular series and those of the Berkshire Festival. Guest conductors were Nikolai Malko in January, Tauno Hannikainen, a Finnish leader, in February, Igor Stravinsky, March 29-30, and Désiré Defauw, November 29-30. Works heard for the first time were Edward Burlingame Hill's concertino for strings (April 19); Mario Castelnuovo-Tedesco's *Cipressi* (October 25), and George Foote's *In Praise of Winter* (January 5). Works performed for the first time in the United States were Serge Prokofiev's cello concerto (March 8; soloist, Gregor Piatigorsky), Paul Hindemith's violin concerto (April 19, Richard Burgin), and Darius Milhaud's *Suite Provençale* (December 20) with the composer conducting.

The Boston Symphony continued to be the only non-union major orchestra in the United States, although James C. Petrillo, in August, announced his intention of bringing it into the fold of the American Federation of Musicians. There was no indication from the management, however, of a change of the orchestra's traditional policy in this regard.

Eugene Ormandy, musical director of the Philadelphia Orchestra, who had hitherto ranked as co-conductor with Leopold Stokowski, was re-engaged in November for five years and designated as conductor with full authority. Mr. Stokowski conducted for three weeks in March and three more in November, giving the American première of Dmitri Shostakovich's Sixth Symphony November 29 and the first performance of Schönberg's Violin Concerto December 7, with Louis Krasner as soloist. The work was found rather baffling. Mr. Ormandy conducted the first American performance of Rosario Scalero's *The Divine Forest* December 20. Edwin McArthur and Saul Caston each conducted for a week in March.

For a time, it seemed that the National Symphony Orchestra of Washington, D.C., would end its career with the close of the 1939-40 season, owing to a long deadlock between the orchestra association and the local musicians' union over the

length of the season and the salary scale, the directors feeling that it would not be possible to raise the additional \$27,000 called for by the union's terms. Finally, on April 22, a compromise was reached with the aid of the U.S. Conciliation Service, and the tenth season under Hans Kindler's direction opened November 6.

The Cleveland Orchestra, under Artur Rodzinski as regular conductor and Rudolph Ringwall as associate, began its 23d season October 10. Roy Harris's *Folk-Song Symphony* in seven movements, five of these with a large chorus, had its first complete performance December 26. Arthur Shepherd, long a resident of Cleveland, introduced his second symphony March 7. After the close of the 1939-40 season, which had included five one-composer programs, Franco Ghione resigned his conductorship of the Detroit Symphony Orchestra, which began its next season under the leadership of Victor Kolar, the associate conductor, and Bruno Walter and Tauno Hannikainen as guests. Mr. Kolar gave the first performance of Weinberger's *The Legend of Sleepy Hollow*, November 21. Eugene Goossens, conductor of the Cincinnati Symphony Orchestra, introduced his symphony April 12. Among other novelties were Robert Casadesu's two-piano concerto (February 9), John Ireland's *Concertino Pastorale* (February 23), Bernard Rogers's *The Song of the Nightingale* (March 21), and Anton Bilotti's piano concerto (April 5).

To celebrate its 60th anniversary, the St. Louis Symphony Orchestra offered a \$1000 prize for an American work; this was won by Antoni Van der Woort of Santa Barbara, Calif., whose *Sinfonietta* was played under Vladimir Golschmann's direction November 22. Darius Milhaud's *Fanfare*, dedicated to this orchestra, was introduced in the closing spring concerts. Bela Bartok's divertimento for strings, first played at Basel in May, had its first American performance in St. Louis November 8. Guest conductors were Carlos Chavez, January 26-27, and Sir Thomas Beecham, December 13. The Pittsburgh, Minneapolis, and Kansas City Symphony Orchestras continued under the respective conductorships of Fritz Reiner, Dimitri Mitropoulos, and Karl Krueger. Mr. Reiner introduced Morton Gould's *Stephen Foster Symphony* in January, and a Minneapolis novelty was Frederick Woltmann's *The Coliseum at Night*. Among the new works introduced by the Indianapolis Symphony Orchestra under Fabien Sevitzky were Claude McKay's *To a Liberator*, Frederick Converse's sixth symphony, and Frances McCollin's *Christmas Poem*.

Otto Klemperer, who had been out of action in 1939-40 owing to a serious illness, resigned as conductor of the Los Angeles Philharmonic Orchestra in October. The guest leaders who shared its direction were Albert Coates, in January, March, and April; Leopold Stokowski in February, and Bruno Walter for most of the fall. In January, the orchestra left the Los Angeles Auditorium for the Pantages Theater in Hollywood. Mr. Coates introduced three American works, Charles W. Cadman's *Pennsylvania Symphony*, Elinor Remick Warren's *The Passing of King Arthur*, for orchestra and chorus, and R. Meredith Willson's second symphony, *The Missions of California*. The San Francisco Symphony Orchestra, with Pierre Monteux as its regular conductor, offered 12 pairs of concerts in its regular series, and five concerts and six ballet programs in the series given under the auspices of the city's Art Commission. Messrs.

Stokowski and Chavez made guest appearances. Fortnightly concerts were given from July to September at the San Francisco Fair. Nikolai Sokoloff continued as conductor of the Seattle Symphony Orchestra. Among the new orchestras which made their debuts in 1940 were those organized in Toledo, San Antonio, and Sacramento.

The vogue of outdoor symphony concerts in the summer remained undiminished. As before, the principal series were those held at the Lewisohn Stadium in New York, Robin Hood Dell in Philadelphia, Ravinia Park near Chicago, the Water Gate in Washington, and the Hollywood Bowl near Los Angeles. Each employed several conductors. Several American works, including Roy Harris's *Challenge*, 1940, William Grant Still's *And They Lynched Him to a Tree*, and William Schuman's *This Is Our Day* had their first public performances at the Stadium under Artur Rodzinski and Alexander Smallens. Opera, to a varying extent, figured in all these series, except for Ravinia. Persistent bad weather forced the Dell concerts to close a week earlier than planned. On the other hand, the Hollywood Bowl series was unusually successful from an economic point of view.

In Mexico City, the Orquesta Sinfonica de Mexico gave its usual summer series under Carlos Chavez from June 21 to September 23. Stravinsky, welcomed with great enthusiasm, conducted three pairs of concerts.

Despite exceptional claims on the public purse owing to war conditions, Canadian orchestras did not abate their activities, and a marked increase in the number of subscribers to the concerts of the Toronto Symphony Orchestra was reported at the opening of the 1940-41 season, October 29. The conductor, Sir Ernest McMillan, announced in June that works by German composers living in Germany would be excluded from his programs. Reginald Stewart conducted the annual Promenade series of weekly concerts in Toronto from May to October. Montreal was served by the Montreal Symphony Orchestra under Douglas Clarke and Les Concerts Symphoniques under Wilfred Pelletier and guests. Sir Thomas Beecham made guest appearances in the fall with the Toronto, Montreal, and Vancouver Symphony Orchestras.

Before coming to Canada, Sir Thomas Beecham spent several months in Australia, conducting in Sydney, Melbourne, Brisbane, and other centers. His efforts, following those of Georg Schneevogt earlier in the year, produced substantial progress in the standards of orchestral playing.

**Music in Europe.** After an almost complete halt during the first few weeks of the war, musical activities in Great Britain had revived to a notable extent by the beginning of the year, and the intensity of the London winter season was not very far below its pre-war scale. The British Broadcasting Corporation's orchestra had been divided into smaller groups, but the London Philharmonic and London Symphony Orchestras both presented regular series. The London Philharmonic ran into economic difficulties which threatened its disbandment, and a testimonial concert to impress the public with this fact was held in London July 18. One of those who provided assistance was the well-known popular music leader, Jack Hylton, who undertook the responsibility for a month's tour. Later the C.E.M.A. (Council for the Encouragement of Music and the Arts) took an important step in keeping up the country's major orchestras by guaranteeing ten extra concerts apiece to the

two London organizations, the Hallé Orchestra of Manchester and the Northern and Scottish Philharmonics.

The C.E.M.A. originated with a grant of £25,000 made by the Pilgrim Trust in December, 1939, for the encouragement of music and other cultural activities. This was so well administered that the government agreed to match each private contribution. In November, this organization gave about 400 concerts in rest centers, air raid shelters, and factories. Another source of widespread music was the E.N.S.A. (Entertainments National Service Association), which provided concerts of various kinds for soldiers and sailors and factory workers, and also for interned aliens, and sponsored orchestral programs in provincial centers.

There was no Covent Garden opera season, but the Sadler's Wells Company gave opera in English in London in the winter and spring and returned to London after a provincial tour for a summer season. John Gielgud produced *The Beggar's Opera* in February under the direction of Frederic Austin, who had made some revisions in the score. The London Symphony took part in the annual summer Promenade Concerts under Sir Henry Wood, who had announced that the 1940 season would be his last. The outbreak of intensive air raiding halted it early in September, but the desire to hear music proved to be remarkably persistent, and a skeleton scheme of London concerts was maintained in the fall. The remarkable series of concerts instituted by Myra Hess in London's National Gallery in October, 1939, kept up a daily schedule without a break, offering a varied list recital and ensemble programs with the participation of most of the country's best known artists. During their first year, it was estimated, these concerts had employed nearly 1100 musicians.

Up to the time of the German invasion, Paris had an active musical life. The last novelty produced at the Opéra before the French defeat was Darius Milhaud's *Medée* under Philippe Gaubert's direction, with Marysa Ferrer in the title role. The Opéra-Comique celebrated the 40th anniversary of the première of Charpentier's  *Louise* in February. The Conservatoire Orchestra was conducted by Charles Münch; the Colonne and Lamoureux Orchestras joined forces under Paul Paray, who gave Wagner his first wartime Paris representation, March 9, arousing both favorable and unfavorable demonstrations. Albert Wolff reopened the Pasdeloup Orchestra's schedule early in the winter. One of the season's principal new works was Florent Schmitt's *L'Arbre entre Tous*, for soloists, chorus, and orchestra, introduced in a Conservatoire program early in March. The State Radio gave its hearers a comprehensive supply of music of various kinds.

Under the occupation, the Paris Opéra reopened August 24. In unoccupied France, Marseilles became the principal concert and radio center.

Opera and concerts continued at their normal pace in Italy, although neither La Scala in Milan or the Teatro Reale in Rome staged any premières of much consequence. Guido Pannain's first opera, *L'Intrusa*, based on Maeterlinck's play, and G. Federico Ghedini's *La Pulce d'Oro* were produced in Genoa in February. Lorenzo Filasi's *Mattutino d'Assisi* had a first production in Naples, and Busoni's *Arlecchino* and Richard Strauss's *Friedenstag* had their Italian premières at the Fenice Theater in Venice under Vittorio Gui.

The annual May Festival in Florence, opening



April 20 and continuing into June, began with Rossini's *Semiramide* under Tullio Serafin. Purcell's *Dido and Aeneas* was performed for the first time in Italy May 14, while the only new work staged was Luigi Dallapiccola's *Vol de Nuit*. Other operas performed were *The Magic Flute*, the *Turandots* of Puccini and Busoni, *La Traviata*, *Boris Godunoff* (in the original version), and *Acis and Galatea*. Bach's *Actus Tragicus*, Kodaly's *Psalmus Hungaricus*, Verdi's *Stabat Mater*, Haydn's *Creation*, and *Seven Last Words* were sung in the choral concerts.

The second annual Music Week in Siena in September was devoted to music by members of the Scarlatti family, including Alessandro's opera *Il Trionfo d'Onore*. A little known phase of Domenico's creative talent was represented by a performance of his recently discovered *Stabat Mater* for ten-part chorus and organ.

According to a report from Germany at the beginning of the year, musical life there was continuing with its usual intensity, and concert attendance was said to exceed its pre-war figure. A special court was attached to the concert division of the Reich Music Chamber to decide war questions. It was stipulated that orchestras must not be disbanded, or musicians under contract thrown out of employment, and that if concerts were canceled owing to the depletion of an orchestra for military purposes, artists must receive compensating engagements. New opera theaters were opened in the Sudetenland, Austria, and Upper Silesia. Relatively few novelties were given in the operatic and orchestral fields. Wilhelm Furtwaengler, whose romantic sonata for violin and piano was first played by Georg Kulenkampf and the composer in Bielefeld February 13, was made Commissar of Music for Vienna early in the winter.

The Wagner Festival at Bayreuth, opening July 16, was designated the Bayreuth War Festival and given for soldiers and civilian workers who came as guests of the Strength Through Joy organization. They heard *Der Fliegende Holländer* and the *Ring* cycle. Music in Prague, despite German occupation, continued to be cosmopolitan in character. One event of the 1939-40 season was the re-staging of Gluck's *Orfeo* with modernistic settings.

In Switzerland, Honegger's choral symphony, *Dance of Death*, with text by Paul Claudel, made a notable impression in its première in Basel (March 2) under Paul Sacher's direction. Other new works presented by Basel's enterprising orchestra were Krenek's *Symphonic Piece*, Op. 86, Bela Bartok's divertimento for strings and Willy Burkhard's cantata, *Genug ist nicht Genug*. The Stockholm Opera, in its season of 1939-40, gave the first performances of Erich Korngold's *Kathryn*, Fried Walter's *Queen Elizabeth*, and Gunnar de Frumerie's *Singoalla*. *Fidelio* and three Swedish works were revived. Harald André began his second season as the Stockholm Opera's general manager September 3.

In Russia, Serge Prokofiev's *Semyon Katko*, a folk musical drama with its action in the Ukraine during the civil war, was first performed in Moscow June 23. Other Soviet works prepared for production in 1940 were, according to an article by Dmitri Shostakovich in *Musical America*, I. Dzerzhinsky's *Days of Volochayevsk*, B. Mokrussov's *Chapayev*, and *Toktogul* by V. Vlassov and V. Fere.

Many Finnish musicians fought in the war between Russia and Finland, but casualties among them were relatively small. Music began to revive

in Helsinki during the latter part of the conflict, Arvo Hannikainen gathering what musicians he could for the orchestra. After the war, the Helsinki Orchestra played under Martti Simlaa and other guest leaders during Georg Schneevogt's absence. In the fall, Helsinki's concerts had their best attendance in several years, and the opera was also well patronized. In Spain, musical life continued a gradual revival since the close of the civil struggle.

See **BENEFACTIONS**; **NEGROES**; **PHOTOGRAPHY** under *Motion-Picture Photography*; **RADIO PROGRAMS**.

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**MUSICA CASE.** See **CONNECTICUT** under *History*.

**MUTUAL ASSISTANCE PACTS.** See **BALKAN ENTENTE**; **EGYPT**, **GERMANY**, **GREECE**,



HUNGARY, JAPAN, RUMANIA, and TURKEY, under *History*.

**NANYO.** See JAPANESE PACIFIC ISLANDS.

**NARCOTIC DRUGS CONTROL.** International. During the war year 1940 the international bodies charged with world accountancy of narcotic drugs, and with supervision over the execution of the various opium and drug Conventions, continued their functions in order to ensure the working of the machinery set up to control the manufacture of and domestic trade in narcotic drugs. Due to the application of the international opium Conventions, there continued to be a progressive shrinkage in the volume of trade in opium, coca leaves, and manufactured drugs. The task of supervising and controlling the licensed factories producing drugs for the legitimate trade, in order to prevent serious leakages from legitimate channels of distribution into the illicit traffic, forms the basis of international drug control.

In its Introduction to the Statement of Estimates for 1940, the Drug Supervisory Body expressed the opinion that the importance of the control instituted by the 1931 Convention "is not diminished in war-time; on the contrary, as the experience of the last war showed, it is accentuated by the psychological and other conditions created by a state of war which affect profoundly not merely the nations engaged "in the conflict but many, if not most, other countries."

The Opium Advisory Committee held its Twenty-fifth Session in Geneva, Switzerland, May 13-17, 1940. It devoted its attention particularly to the possible repercussions of the war on national and international supervision of drugs. Summing up the results achieved since the last war (1914-18), the Opium Advisory Committee reached the following conclusions:

1. More than 60 countries parties to the opium conventions are now under obligation to operate national legislation and administrative systems based on uniform principles;
2. The total medical and scientific requirements in drugs are now known and the quantities of drugs manufactured legitimately by some sixty licensed factories have been stabilized at the level of the world's legitimate needs;
3. A dividing line between the legitimate trade and the illicit traffic has thus been drawn and the free passage of the legitimately manufactured narcotics into the illicit traffic has been stopped; the leakages which may occur have been reduced to a police problem;
4. A world system of estimates and statistics based on national returns forms the foundation of an international system of accounts in which are recorded all legitimate operations connected with the production of, trade in, and consumption of narcotics.
5. All the channels of distribution, national as well as international, are supervised.

Against this background of results of nineteen years of sustained and unremitting efforts, the Opium Advisory Committee viewed with concern the possible repercussions of the present international conflict on the subject of its work. It drew the attention of the governments to the fact that recent wars, and particularly the war of 1914-18, resulted in a serious increase of drug addiction and a dangerous extension of the illicit traffic due to the absence of national or international legislation of a repressive character, and to the lack of any adequate system of control. The Opium Advisory Committee, therefore, strongly recommended that governments and international organs functioning under the international opium conventions should take all necessary measures to prevent an increase of drug addiction and a return to conditions such as prevailed during and after the war of 1914-18. It considered essential that these in-

ternational organs should continue to function as fully as possible and that governments should assist them in the accomplishment of their obligations, particularly by furnishing annual reports, reports on seizures of drugs in the illicit traffic, estimates of legitimate needs, statistics, etc.

It was noted that the raw opium seized in the Far East continued to be of Iranian and Chinese origin. This is disquieting to the North American authorities because much of the opium smuggled into the United States is Iranian and is known to come from China.

Smuggling continued southward from North China and Jehol. France, Yugoslavia, and Italy were used as bases for smuggling into the United States during 1939 and the early months of 1940. The Opium Advisory Committee noted that the narcotic drug situation in the Far East is in a progressive state of deterioration notwithstanding the laudable efforts of the National Government of China.

The work of the Opium Advisory Committee concerning the limitation of the production of raw opium reached the advanced stage of a preliminary draft Convention, which has been referred to governments for consideration. The Committee decided that while it is obviously impossible for the time being to summon the proposed conference to consider the limitation of the production of raw opium, the studies aiming at the completion of the text of the preliminary draft Convention should be continued.

One of the principal objectives of the Opium Advisory Committee has been to have governments send more and more precise information on cases of illicit traffic, to weave the first meshes of the net to entangle the traffickers which was given final legal sanction in Article 23 of the 1931 Convention. As the cases of illicit traffic furnish valuable indications on the weak points of the worldwide system of the regulation of legitimate trade, it is clear that, if this system is shaken by the war and hence liable to show rifts, an accurate and speedy notification of these cases appears more than ever desirable and indispensable to the effective application of the 1931 Convention.

**United States.** In common with the sixty-two other signatories of the International Convention of 1931, the United States Government operates under the quota system. Only an amount of drugs equivalent to the estimated legitimate needs of the country is permitted to be imported each year. A system of close control is maintained over manufacturers and distributors, and through the splendid co-operation of our drug manufacturers and distributors, the diversion of legitimate drugs into illicit channels represents only a small portion of the problem. In the field of international control, the system provided by the Convention approaches, in principle, the national system of drug control in the United States.

As a result of the various control measures, the number of drug addicts per thousand of the population in the United States has decreased year by year, and the quantity of drugs abusively consumed by the individual addict in the United States is growing steadily less; in fact there is evidence from many reliable sources that addiction to narcotics in this country has reached its lowest ebb since the enactment of the Harrison Narcotic Act in 1914. This trend of decrease in addiction corresponds closely to the reduction achieved in Canada. Throughout 1939 and increasingly so in 1940,

evidence at times indicated an almost total absence of illicit narcotics in large sections of the country.

In commenting editorially on the "Traffic in Narcotic Drugs" the American Medical Association in its Journal dated Dec. 28, 1940, stated:

"The Journal commends the enlightened and effective administration of the Bureau of Narcotics. A record such as that here reported indicates effective control. (The article summarized accomplishments reported by the U. S. Bureau of Narcotics on "Traffic in Opium and Other Dangerous Drugs" for the year 1939.) The cooperation of the medical profession has been freely and fully rendered, owing no doubt to recognition by the medical profession of the desire of the Bureau to destroy criminal practice without undue interference with the legitimate prescription of narcotic drugs. Complete cooperation with the Bureau by State licensing agencies will do much to further this significant work."

"Contained in this report [Sixth annual report of the Michigan State Board of Health for the fiscal year ended Sept. 30, 1878] is a most interesting contrast of the prevalence of addiction to narcotic drugs in 1877 and at present. In 1877, according to the report, one in every 400 persons in the United States was addicted to opium or one of its derivatives, while in 1922 and 1938, subsequent to enactment of the Harrison Narcotic Act in 1914, the ratio of such addicts to population was respectively 1 in every 1,000 and 1 in every 3,000. In the State of Michigan in 1877 there were 516 narcotic addicts per hundred thousand of population, but in 1938, according to a survey conducted in Michigan by the Bureau of Narcotics in that year, there were only 17 addicts per hundred thousand. In 1877 this country, with a population of 46,000,000, imported 350,000 pounds of raw opium, but during the past few years, since importation of that drug was by law restricted to amounts necessary for medicinal and scientific needs, such imports have averaged only 150,000 pounds yearly for more than 130,000,000 people. In 1877 the average per capita consumption of opium and its derivatives was 53 grains as compared with an average consumption in 1939 of approximately 8 grains per capita. The consumption of opium is no longer greatly out of proportion to medical needs."

Preliminary figures compiled by the Bureau of Narcotics showed that during the last year there was a decrease in the number of persons arrested for violations of the Federal narcotic laws (excluding marihuana); 2216 persons being arrested in 1940 as compared with the final figure of 3295 in 1939. The number of marihuana arrests remained practically constant, 870 persons being arrested for violations of the Marihuana Tax Act in 1940 as compared with the final figure of 864 persons arrested in 1939. Arrests for all offenses therefore were 3086 as compared with 4159 in 1939.

Preliminary figures also show a substantial decrease in the amount of drugs seized. In the internal traffic the Bureau of Narcotics seized approximately 2292 oz. of narcotic drugs in 1940 as compared with 3544 oz. in 1939. The Bureau of Customs seized at ports and borders approximately 2286 oz. in 1940 as compared with 8895 in 1939. Total Federal narcotic seizures, therefore, were approximately 4578 oz. in 1940 as compared with 12,439 in 1939.

In addition, in 1940 there were seized in the illicit traffic 20,960 oz. of bulk marihuana (which includes 3450 oz. seized at ports and borders) and 19,560 marihuana cigarettes (which includes 1243 seized at ports and borders), as compared with final figures showing 17,035 oz. of bulk marihuana and 19,091 cigarettes seized in 1939.

In the carrying on of a program of marihuana eradication throughout the country in co-operation with State, municipal, and other enforcement agencies, marihuana was found growing, and was eradicated from approximately 19,200 acres of land in 1940 as compared with 6506 acres of land in 1939.

For several years the principal narcotic drug of addiction has been heroin, with morphine and

smoking opium next in importance, and it is believed that this relative situation continues. However, such heroin as is commonly encountered in the illicit traffic is generally highly adulterated and that commonly sold is a mixture which usually contains less than 5 per cent heroin. In the amounts used in many cases it does not establish a real tolerance and dependence for the drug.

The apparent shortage in many sections of smuggled drugs has resulted in efforts by peddlers and addicts to divert narcotics from medicinal sources. There was an increase both in the number of robberies and the amounts stolen from pharmacies, wholesale houses, and other sources for legitimate narcotics. Because of the co-operation of the drug trade in affording maximum protection to large concentrations of supplies, the total amount of narcotic drugs thus made available to the illicit traffic was minimized. Considerable attention was devoted by the Bureau of Narcotics to the problem presented by numerous addicts resorting to paregoric, various barbituric acid derivatives, or other so-called exempt preparations for narcotics to satisfy their addiction (Exempt preparations are those containing such a small amount of narcotic drugs as to be conditionally exempted from the usual requirement of the law that narcotic drugs be dispensed on prescriptions only.)

Credit for the downward trend of illicit narcotic trafficking and resultant addiction is given to rigid enforcement of the domestic narcotic laws, and to the effectiveness of present international control under the 1931 Convention to Limit the Manufacture of Narcotic Drugs, sixty-three nations being parties thereto. The situation with respect to the increasing scarcity of smuggled drugs which has been noted in the last two or three years was also accentuated in 1940 by war conditions which have disrupted shipping routes.

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HARRY J. ANSLINGER.

**NARCOTICS, Bureau of.** See NARCOTIC DRUGS CONTROL.

**NARVIK.** See EUROPEAN WAR under *The Norwegian Campaign*; NORWAY under *History*.

**NATAL.** See SOUTH AFRICA, UNION OF under *Area and Population*.

**NATIONAL ART WEEK.** See ART  
**NATIONAL DEFENSE ADVISORY COMMISSION.** To co-ordinate and organize the resources of men and materials for the defense of the United States, President Roosevelt on May 28, 1940, under authority of a statute passed by Congress Aug. 29, 1916 (39 Stat. 649), appointed the Advisory Commission to the Council of National Defense.

The 1916 statute directed the President to appoint a Council of National Defense, composed of the Secretaries of War, Navy, Interior, Agriculture, Commerce, and Labor. The Council, in turn was directed to nominate, and the President appoint "An Advisory Commission consisting of no more than seven persons, each of whom shall have special knowledge of some industry, public utility or the development of some natural resource, or be otherwise specifically qualified, in the opinion of the Council; for the performance of the duties hereinafter provided."

On request of the President, the 76th Congress

appropriated \$10 billion and authorized an additional \$6 billion in contract authorizations to increase the strength of our Army to 1,200,000 men and to provide critical equipment for an additional 800,000 men, and a two-ocean Navy.

The Commission's task, in brief, is to translate this national defense program from appropriations and blueprints into action. It is based on three fundamental questions: What do we need? Where is it? How do we get it? The Commission draws no specifications, signs no contracts. It advises, aids in negotiations, facilitates procurement, by means of the following organization:

**Industrial Materials Division.** The Industrial Materials Division, under Edward R. Stettinius, Jr., former Chairman of United States Steel Corporation, is responsible for insuring a continual supply of raw materials. The Division is building stock piles of strategic and critical materials such as aluminum, tungsten, antimony, etc. It sees that adequate sources of heat, light, and power are available to meet the enormously increased productive capacity of American industry. The procedure of the Division is first to secure from the Army and Navy a statement of requirements. The next step is to check the available supply. Where scarcity exists, the Division undertakes to find means of building the supply, whether by enlarging American production, arranging for increased international purchase or developing substitutes. The work of the Division is broken into three main sub-divisions: Mining and mineral products, agriculture and forest products, and chemical and allied products. The responsibility of the Division carries to the point where materials, such as sheet steel, armor plate, and hides, are cut up for production.

**Production Division.** The job of arranging for production of essential defense items—airplanes, tanks, machine guns, munitions, uniforms—is carried on by the Production Division headed by William S. Knudsen, former President of General Motors Corporation. This production job involves obtaining fullest use of all available manufacturing facilities. Additional facilities are provided where expansion is needed. Plants engaged in manufacture of peacetime items are adapted. Whole new factories are built, some, such as those making munitions, in non-strategic inland areas away from usual industrial areas. Contracts cleared by the Production Division are then awarded by the Army and Navy. Clearance is based on considerations of speed, quality, price, and a recognition of labor standards and of the needs of the civilian consumer.

**Transportation Division.** Watching the Nation's vast network of transportation lines to see that no vital supplies of raw materials are cut off from the factories and that finished products move smoothly to cantonments is the task of the Transportation Division, under Ralph Budd, President of the Chicago, Burlington and Quincy Railroad. The Transportation Division is also charged with responsibility for acquiring special rolling stock for transporting men and military materials. Waterways, pipe lines, airlines, truck lines, and warehousing facilities come under Mr. Budd's jurisdiction and it is up to his Division to see that they are ready to meet any emergency.

**Labor Division.** Making certain that the factories, fields, and mines of the Nation have a sufficient supply of manpower, and that this manpower is trained for the task and not exploited, is the

responsibility of the Labor Division, whose Commissioner is Sidney Hillman, President of the Amalgamated Clothing Workers Union. Thousands of men have enrolled in training courses in vocational schools and in on-the-job apprentice training in plants. Further, the Division has organized a Labor Advisory Board with representatives from the American Federation of Labor, the Congress of Industrial Organizations and the Railroad Brotherhoods. The Division works to avert work stoppages on defense projects.

**Agriculture Division.** The Agriculture Division, under Chester Davis, a member of the Board of Governors of the Federal Reserve System, is vitally interested in maintaining parity between agricultural and industrial prices. One of its main functions is to prevent shortages of farm produce and to find means of utilizing surpluses. It is also concerned with the problem of location of new plants manufacturing defense items, aiming at use of unemployed rural labor where possible.

**Division of Price Stabilization.** To handle the complex problem of price stabilization, this Division, headed by Leon Henderson, member of the Securities and Exchange Commission, watches the effect of the defense program on the Nation's price structure. If prices of materials begin to rise unduly, voluntary agreements with producers are sought. If this fails, recommendations for appropriate governmental actions are made.

**Division of Consumer Protection.** Headed by Miss Harriet Elliott, Dean of Women, Woman's College of the University of North Carolina, the Consumer Division studies all aspects of the defense program affecting consumers. This Division makes recommendations which will balance military and civilian requirements and which will maintain and promote economic well being of the civilian population. The Division protects living standards by co-operating with Federal agencies, civic organizations, industrial and trade associations, and other groups. It promotes activities designed to encourage economic stability through steady flow of goods. In addition to the seven members of the Commission specified in the original statute, the following divisions of the Commission have been created:

**Co-ordinator of Purchasing.** The Co-ordinator of National Defense Purchases was appointed by Executive Order on June 27, 1940, to maintain close contact with defense procurement agencies and the Commission. Donald M. Nelson, as Co-ordinator, studies and makes recommendations on a wide variety of subjects dealing with procurement. Included are methods of financing, profit control, contract forms, specifications, and geographic distribution of purchasing. A Priorities section has been set up to deal with this specific problem. A Small Business Activities office, working through the Federal Reserve System, assists manufacturers and others in dealing with the Government by giving them a central distribution point for information.

**Bureau of Research and Statistics.** The Bureau of Research and Statistics, under Stacy May of the Rockefeller Foundation, serves the Commission by supplying information and conducting research studies upon request. Where possible, requests for information are directed to existing agencies in and out of the Government. The Bureau undertakes special studies only when no other agency can readily supply the desired information.

**Co-ordinator of Defense Housing.** The De-

fense Housing Co-ordinator is Charles F. Palmer, President of the National Association of Housing Officials. Under direction of the Commission he is charged with planning the defense housing program and co-ordinating it with private industry and the appropriate Federal agencies. The Housing Co-ordinator also takes necessary action to avoid housing shortages.

**Division of State and Local Co-operation.** Under Frank Bane, Executive Director of the Council of State Governments, this Division serves as a channel of communication between the Commission and the State Defense Councils, and with local Councils within each State; keeps the State and local Councils informed of the progress of the defense program, particularly with respect to the specific activities in which State and local co-operation are needed; receives from the State and local Councils reports on co-ordination problems resulting from defense activities; and advises the Commission concerning the most effective use of facilities of States and localities in the defense program.

**Other Offices.** In addition to the Advisory Commission, the President, at the recommendation of the Council of National Defense, has created three other offices.

Since 1935 licensing of arms, ammunitions, and implements of war has been required prior to export. This summer certain other materials, chemical products, machine tools, etc., have been placed under licensing requirements. The President has the power to prohibit all exports or requisition materials prepared for export needed for national defense. The administration of such powers are handled by the *Administrator of Export Control*, Lieut. Col. Russell L. Maxwell. His office co-operates with the State Department which handles the licensing of items already on the list.

Nelson Rockefeller was appointed *Co-ordinator of Commercial and Cultural Relations Between the American Republics* to take charge of developing closer relationship between the United States and the nations of Latin America, through the medium of press, radio, motion pictures, and by strengthening the commercial bonds of all of the Pan-American republics. It aims to remove existing sources of cultural friction which may have existed by promoting greater understanding of the cultural backgrounds of Latin America and the United States, each for the other.

The Federal Security Administrator, Paul V. McNutt, has been appointed *Co-ordinator of Health, Welfare, Nutrition, Recreation, and Related Activities* to carry out these responsibilities in co-operation with the National Defense Advisory Commission. The Co-ordinator formulates and executes plans, policies, and programs to provide adequate services of this character during the defense emergency. He co-ordinates the facilities of existing Federal agencies in these fields and maintains a liaison with other agencies, public and private. The Health and Medical Committee, established in September, exercises its functions under the direction of the Co-ordinator.

**Activities of the Commission.** The following is an outline of the activities undertaken by the National Defense Advisory Commission in its first six months.

To meet defense needs the Commission has cleared contracts totalling more than \$10 billion. The Army and Navy have awarded approximately \$9 billion of those contracts to industry, represent-

ing over ¾ of the program. Major contract categories include: \$3.3 billion for ships; \$1.5 billion for construction of factory expansion and for housing; \$1.5 billion for planes and parts; \$600 million for ammunition; \$500 million for guns; \$400 million for trucks and tanks.

These contracts, plus such British and other foreign material orders as have been placed at the present time, call for: 50,000 airplanes; 130,000 engines; 17,000 heavy guns; 25,000 light guns; 13,000 trench mortars; 33 million shells loaded; 9200 tanks; 300,000 machine guns and ammunition; 400,000 automatic rifles and ammunition; 1,300,000 regular rifles and ammunition; 380 navy ships; 200 mercantile ships; 210 camps and cantonments; 40 government factories; clothing and equipment for 1,200,000; the first mass production tank factory in the world; 5 smokeless powder and high explosive plants; 6 shell, bag, and ammunition loading plants; 5 new machine-gun plants; 50,000 new trucks.

Deliveries on these contracts show: Approximately 2400 airplane engines monthly; approximately 700 airplanes monthly, over 100 light tanks monthly; more than 10,000 M1 semi-automatic rifles monthly; one fighting ship for the Navy every 12 days. Contracts will call for about 18,000,000 man hours of labor.

As the Nation's factories go to work on defense, a system of priorities has been set up to minimize the threat of bottlenecks with consequent price rises in materials for defense and civilian needs. A Priorities Board and an Administrator of Priorities have been appointed to handle this question and establish policies. The Board has already approved a system of voluntary preference ratings on national defense contracts. A Commercial Aircraft Priority Committee is co-ordinating production and maintenance of commercial air transport equipment with defense requirements. A Machine Tool Priority Committee is co-ordinating national defense, commercial, and export demands on machine tool industries.

Closely integrated with the priority plan was development of new purchasing policies to prevent defense orders from dislocating our economic structure and causing spiralling prices such as occurred during the last War. New f.o.b. and split-bid buying policies distribute defense orders geographically and to smaller units. Under the f.o.b. buying plan, the government will take delivery on its orders at the factory door. Split-bids enable small manufacturers to bid on as much of a contract as they can fulfill. In a new type of contract the Government shares the risk of emergency plant expansion for defense orders, thus bringing private capital into the defense program. The Commission has also developed a policy of negotiated contracts to speed defense work and make fullest possible use of the Nation's resources.

A Small Business Activities Office has been set up to make use of the facilities of smaller manufacturers and sub-contractors in the defense program, spreading orders even further. This Office maintains close contacts with Army and Navy procurement offices. Through district offices of the Federal Reserve System, information is transmitted to small business throughout the Nation on defense needs. Local Federal Reserve officers are ready to work with manufacturers, give information on government requirements, and arrange financing through local banks, the Federal Reserve System, or the RFC. Manufacturers desiring fur-

ther information should call on their local Federal Reserve officials.

An intensive drive to revitalize the Nation's "ghost towns" is going ahead, along with the development of the Small Business Activities Office. This division will utilize idle labor and plant capacities of shut-down areas in meeting defense needs.

In order to have on hand detailed surveys of the requirements of the defense program in terms of raw materials and productive facilities, the Bureau of Research and Statistics works in close collaboration with the Army and Navy. Thus, when the Commission receives estimates of Army and Navy requirements for a certain product, it can break these down into raw materials such as iron, steel, tungsten, leather, wool, etc. These figures are checked against the available productive facilities. Arrangements are made to augment supplies when and where necessary.

Through surveys of available supplies of raw materials and of requirements of the defense program, the Commission has prevented threatened price rises in such key industries as wood pulp and lumber, steel, copper, and zinc. Representatives of these industries agreed that speculative rises were unjustifiable. A contract has been signed for the delivery of Bolivian tin and negotiations for the construction of domestic tin smelters are in the final stages. Reserve stocks of tin, already in the country or en route to this country, are adequate to meet requirements for the next nine to twelve months. Stock piles of antimony, rubber, manganese, tungsten, chrome ore, etc. are growing. Production of synthetic substitutes for vital materials which we do not produce in this country, such as rubber, has been encouraged. Satisfactory substitutes are now available for two of the strategic materials—coconut shell-char and silk. Domestic output of strategic materials, such as manganese and mercury is being encouraged, and scientists are at work on new processes for the fuller utilization of domestic resources. The Brazilian Government has agreed to increase its exports of manganese. Supplementary supplies of chrome ore will come from Cuba. Congress has authorized a \$25 million increase to TVA to insure adequate supplies of electricity for aluminum production. Large scale expansion in the production of aluminum will provide a sufficient quantity to meet the military requirements of the defense program as well as present civilian needs.

In the field of agricultural and forest materials, plans have been laid for ample supplies of cotton linters for munitions purposes. Arrangements are under way for stock piles and storage of necessary wool for all emergency needs. Surveys have been made of lumber requirements, and plans arranged for utilizing the New England hurricane lumber in defense construction. Lumber for Army cantonments is being received, and construction is up to schedule. A survey has shown domestic supplies of pulp and paper products sufficient for domestic needs and export. Adequate supplies of leather are available. In the field of chemical and allied products, expansion in the output of ammonia and ammonium nitrates for powder production has been arranged. A program for underground storage of high-performance aviation gasoline is under way. Steps have been taken toward protection of storage facilities against attack and sabotage. Arrangements have been made to develop adequate new sources of toluene from pe-

troleum to augment our present supplies of this basic ingredient of TNT, and a new plant is already under way. The Commission's surveys of agricultural production have shown that sufficient supplies are on hand and surpluses exist in many commodities. This has been a factor in the Commission's decision to develop a program of decentralizing industry to make excess agricultural manpower available for defense production.

Surveys in the field of transportation show an adequacy of transportation facilities at present. Some 80,000 miles of roads are being improved to facilitate rapid movement of troops and materials. A co-ordinated warehousing program is being undertaken by the Commission as an adjunct to making full use of transportation facilities. A survey of all warehouses available is being made.

Providing manpower for the Nation's factories, mines, and transportation systems is another function of the Commission. One million men and women have gone back to work in the past two months. Several million more will be needed by next November. To provide manpower for industries, the Commission has set up a three-phase labor supply program. Five and a half million men and women registered through the U.S. Employment Service have been classified as to availability for defense jobs. These registers are available to manufacturers throughout the country.

A program has been developed for training men in industry and for advancing present employees to positions of greater responsibility with the expansion of the defense program. In the vocational training program, over 100,000 enrollees are taking refresher courses and learning new skills. A training program designed to strengthen and expand managerial organizations through increasing responsibility in junior executive and supervisory positions is under way. A detailed program of training skilled craftsmen for America's defense industries through apprenticeship has been formulated. The A.F.L. and the C.I.O. have informed the Commission that they will be responsible for seeing that Negro workers are not discriminated against in national defense employment.

Adequate housing is vital to the defense program so that not a single rivet in a single ship is delayed, because workers cannot find decent housing at reasonable rentals. The Commission has launched a co-ordinated housing program. The first two projects of housing units are completed. Construction is under way on housing projects in 75 additional vital defense centers. Private industry is being encouraged to construct the major portion of the \$700 million housing program. Under the co-ordinated program various Federal agencies will aid private enterprise in this task. The remaining portion designed for temporary needs during the period of emergency, or for families whose income does not permit private enterprise to make a reasonable profit, will be constructed by various Federal agencies.

The Commission has taken action to protect the consumer. For example, evidence was found of speculation in No. 10 size canned foods. Military supplies are usually purchased in a No. 10 size can. Should this condition continue, not only the Army, but institutional buyers of food in large size cans, such as hospitals, schools, restaurants, etc. faced unjustifiable increases in the cost of canned goods. The Defense Commission recommended the Quartermaster General authorize the purchase of canned foods in smaller size cans as

an alternate, tending to bring about more normal relationships between the prices of different sizes.

A program to strengthen the Nation's human defenses by making food market information available to household buyers through market news broadcasts is under way. A price information program, designed to assist consumers in meeting some of their food purchasing problems and help them contribute to the defense program by buying in ways which will tend to stabilize prices, has been initiated. Methods of co-operation between wholesale distributors of consumer goods and the Commission have been discussed at a conference of wholesaling trade representatives. Merchant and distributor leaders of 100 wholesaling groups took part. For Office of Production Management, see DEFENSIVE PREPARATIONS. See BUSINESS REVIEW under *Commodity Prices*; LIVING COSTS AND STANDARDS; RECONSTRUCTION FINANCE CORPORATION.

WILLIAM H. McREYNOLDS.

**NATIONAL FORESTS.** See FORESTRY.

**NATIONAL GALLERY OF ART.** See ART under *Museums*.

**NATIONAL GUARD.** See DEFENSIVE PREPARATIONS, U.S.; DRAFT, MILITARY; MILITARY PROGRESS.

**NATIONALISM.** See EDUCATION and the articles on literature. Compare COMMUNISM; FASCISM.

**NATIONALITY.** See IMMIGRATION, EMIGRATION, AND NATURALIZATION; INTERNATIONAL LAW.

**NATIONAL LABOR RELATIONS BOARD (NLRB).** Congress enacted the National Labor Relations Act in 1935 in an effort to lessen industrial strife by removing that portion of it which was caused by certain unfair labor practices. To the National Labor Relations Board was given the task of enforcing the prohibition of unfair labor practices by employers and the conduct of secret ballot elections to determine the accredited representatives of their employees. The fifth year of the Board's operations shows that it has been active and vigilant in carrying out the mandate of Congress.

In the last fiscal year the Board had on its docket more than 10,000 cases involving over two and a half million workers. The Board disposed of more than 70 per cent of these cases, involving one and a half million employees, as compared with a total of 62 per cent of such cases disposed of during the preceding year.

The effect of this case work upon the status of industrial peace is most clearly seen by comparing the strike activity in the last fiscal year with that of the fiscal period 1936-37, which is one of comparable business activity. The total number of strikes declined 49 per cent between the two periods; the number of workers involved declined 63 per cent, and man-days of idleness—the most accurate index of unemployment due to strikes—dropped 66 per cent. The number of strikes for recognition and against discrimination—the very causes of industrial strife that Congress had in mind when it enacted the NLRA—declined 62 per cent.

In addition to the sharp decrease in industrial strife the positive effects of the Board's work were discernible in the 880 agreements to bargain arising from the Board cases, and the 600 written trade contracts between labor organizations and employers as a result of such cases.

Evidently working upon the principle that cases disposed of without formal hearings and formal orders are most conducive to future amicable employer-employee relationships, the Board, as in previous years, stressed the informal handling and disposition of cases. Eighty-three per cent of the cases were closed without the necessity of formal action. Forty per cent of these closed cases were disposed of by settlement. Slightly less than half of the cases alleging unfair labor practices closed during the year were removed from the active docket by settlements voluntarily accepted by the parties and by substantial compliance with the Act. Of the cases involving questions concerning representation, nearly 40 per cent of those disposed of were closed by informal determination. Thus, a great number of secret ballot elections were held by consent of all parties without the necessity of formal hearings. Determination of representation questions thus expedited resulted in early collective bargaining.

Entrusted with the protection of the public policy which guarantees to workers the right to self-organization and, upon a showing of a majority representation, the right to bargain collectively with the employer, the Board was given the power to set forth remedies in situations which ran counter to that public policy. During the past fiscal year the record of the remedies applied by the Board disclosed that approximately 31,000 workers were reinstated after discrimination for union membership or after strikes in protest against violations of the Act. Approximately 4800 received back pay awards amounting to \$650,000 for the losses they suffered because of discrimination against them. Other forms of remedy included the posting of 1000 notices by employers agreeing to cease interfering with labor organizations, the disestablishment of 220 company-dominated unions, the agreement to bargain collectively in 880 cases, and the signing of written agreements in 600 instances.

The Board conducted a total of 1192 elections during the year, more than half of these with the consent of all the parties involved. The number of elections represented an increase of 446 over the number conducted during the preceding fiscal year; the number of workers eligible to vote more than doubled over the same period. A keen interest and belief in the election machinery continues, as in preceding years, to be shown by the workers eligible to cast their ballots in these elections. More than 90 per cent of the 590,000 workers eligible to vote cast their ballots; in the preceding year 88 per cent of the eligibles voted.

Stressing as it has informal procedure and disposition of cases, the Board is called upon to issue final orders in only a very small percentage of cases. This is especially true in cases involving questions of unfair labor practices. Thus, during the last fiscal year, the Board had on its docket 6836 unfair labor practice cases. In the same period the Board issued 530 decisions and orders, of which 132 were issued by the Board with the express consent of the employer. The Board's decisions continued to show an increase in the number dismissing the unfair labor practice allegations. Also, the year was marked by a continued and marked increase in compliance with the Board's orders and decisions.

Thus, a delineation of the Board's operations shows a pyramid of cases tapering off from a base of charges and allegations with fewer and fewer

instances in which the Board is called upon to initiate formal action and issue final decisions and orders. At the apex of this record of the Board's work stands the small number of cases in which recourse to the Courts was necessary to resolve contested issues. Sixty-nine decisions were issued in such cases during the year by the Circuit Courts of Appeals and the Supreme Court of the United States. Of these 69 court decisions involving the enforcement or review of Board orders, the Board was sustained in whole or in part in 58 cases, or 84 per cent of the total cases decided, which compares with its record of 74 per cent during the preceding year. No Board order was reversed by the Supreme Court.

In the past fiscal year the Supreme Court accepted nine cases, the Board and the employer seeking review in four cases each, and a union in the remaining case. Two of these cases remained on the Court's docket at the conclusion of the term. The Board's position was fully upheld in each of the seven cases, although in two instances the Board's order was modified slightly.

As in the preceding years the issues ruled upon by the courts were of great importance to an understanding of the Act and afforded guide posts for the future orderly administration of it. In *N.L.R.B. v. Newport News Shipbuilding & Drydock Company* the Supreme Court held that the Board could properly find that only complete disestablishment of a company-dominated organization could eliminate the effects of years of such domination and restore the employees' freedom of choice. It was immaterial, the Court stated, that a majority of the employees had endorsed the organization and that it had worked to the apparent satisfaction of all concerned.

In two cases the Supreme Court sustained the Board's right to control its own election procedure. (*N.L.R.B. v. Falk Corp.*, *N.L.R.B. v. Waterman Steamship Corp.*) In the *Waterman* case the Board's view prevailed that during a union election campaign a ship owner may grant ship passes to all competitors or to none, but that he may not discriminate between them in this matter.

In the *Waterman* case and in *N.L.R.B. v. Bradford Dyeing Association* the Supreme Court ruled upon questions of considerable importance to Federal administrative bodies. Both cases raised issues as to the sufficiency of evidence supporting fact findings of the Board. In the first decision the Court held that a Circuit Court had exceeded its powers and stressed the strict necessity of judicial adherence to the Congressional demarcation of power between administrative agencies and the reviewing courts and admonished the lower court for encroaching upon the exclusive jurisdiction of the Board in its fact finding powers. In addition to a similar treatment of the difference between the powers of a judicial and administrative body in the *Bradford* case, the Supreme Court there ruled that a shift in majority status of a union due to unfair labor practices of the employer did not affect the validity of the Board's order to bargain based upon the original majority status of the union.

In *National Licorice Co. v. N.L.R.B.* and *American Manufacturing Co. v. N.L.R.B.* Board orders setting aside illegal contracts of employment exacted from employees in violation of rights guaranteed to them by the Act were sustained by the Court with slight modification of the notice ordered to be posted.

In the several Circuit Courts of Appeals 63 Board decisions were ruled upon during the fiscal year, an increase of 65 per cent over the 38 decisions rendered in the preceding year. Of these, Board orders were enforced in full in 22 cases and were enforced as modified in 30. In 11 of the cases the Board's orders were set aside. Of these, in two cases new hearings were ordered, in another the decision was subsequently reversed by the Supreme Court, and in the fourth the Court itself vacated its decision.

A multitude of issues were involved in the Board orders reviewed in the Circuit Courts. Some of these were of exceeding importance in giving body to and clarifying the provisions of the Act. For instance, a Board order based upon a discriminatory refusal to hire was upheld in the first Circuit in *N.L.R.B. v. Waumbeec Mills, Inc.* The Circuit Courts, following the view set forth in the Supreme Court *Newport News* decision, have interpreted a Board order of disestablishment to mean complete dissolution of the illegal organization. The requirement that the parties should enter into a signed agreement if bargaining resulted in a meeting of minds on the terms has been enforced in numerous decisions, one Circuit having set aside such an order. This issue was finally resolved by the Supreme Court on Jan. 6, 1941, in *H. J. Heinz v. N.L.R.B.*

In that case the Supreme Court stated:

It is true that the National Labor Relations Act, while requiring the employer to bargain collectively, does not compel him to enter into an agreement. But it does not follow, as petitioner (company) argues, that, having reached an agreement, he can refuse to sign it, because he has never agreed to sign one. He may never have agreed to bargain but the statute requires him to do so. To that extent his freedom is restricted in order to secure the legislative objective of collective bargaining as the means of curtailing labor disputes affecting interstate commerce. The freedom of the employer to refuse to make an agreement relates to its terms in matters of substance and not, once it is reached, to its expression in a signed contract, the absence of which, as experience has shown, tends to frustrate the end sought by the requirement for collective bargaining. A business man who entered into negotiations with another for an agreement having numerous provisions, with the reservation that he would not reduce it to writing or sign it, could hardly be thought to have bargained in good faith. This is even more so in the case of an employer who by his refusal to honor, with his signature, the agreement which he has made with a labor organization, discredits the organization, impairs the bargaining process and tends to frustrate the aim of the statute to secure industrial peace through collective bargaining.

Petitioner's (company's) refusal to sign was a refusal to bargain collectively and an unfair labor practice.

See LABOR CONDITIONS; UNITED STATES under *Government and Labor and Investigations.*

H. A. MILLIS.

## NATIONAL MEDIATION BOARD. See RAILWAYS.

**NATIONAL PARK SERVICE.** A bureau of the U.S. Department of the Interior, established Aug. 25, 1916. Inclusion of *Kings Canyon National Park, California*, and of *Isle Royale National Park, Michigan*, in the Federal park system administered by the National Park Service were major conservation developments of the year 1940. Within Kings Canyon National Park are numerous High Sierra peaks 12,000 to 14,000 feet high, also outstanding groves of giant Sequoias. This park includes the 4-square mile area established in 1890 as the General Grant National Park. Isle Royale National Park, located in upper Lake Superior, is a roadless wilderness, and contains, in addition to 44-mile-long Isle Royale, a number of near-by islets.



The five following units also were added to the Federal park system in 1940: *Whitman National Monument, Washington*, site of an Indian mission and school established in 1836, the first institution of its kind in the Pacific Northwest; *Appomattox Court House National Historical Monument, Virginia*, scene of the surrender Apr. 9, 1865, of Confederate forces under Gen. Robert E. Lee to the Federal Army under Gen. Ulysses S. Grant; *Manassas National Battlefield Park, Virginia*, site of the Battles of First and Second Manassas, fought July 21, 1861, and Aug. 29-30, 1862, respectively; *Custer Battlefield National Cemetery, Montana*, site of the Battle of the Little Big Horn River of 1876 in which Lieut.-Col. George A. Custer and his command of 226 men were destroyed by Sioux Indians; and *Vanderbilt Mansion National Historic Site*, in Dutchess County, New York, an outstanding example of the type of estate built in the era of expansion that succeeded the War Between the States.

Major boundary adjustments of existing units of the Federal park system resulted in the addition of 187,411 acres of scenic wilderness to Olympic National Park, Washington, and the reduction in size of Grand Canyon National Monument, Arizona, from 272,145 to 201,291 acres, with the eliminated lands being returned to the Public Domain for administration by the Grazing Service of the U.S. Department of the Interior.

From a travel standpoint, the year 1940 was a record one for the National Park Service, approximately sixteen and three-quarter million persons visiting the national parks, national monuments, and allied recreational areas comprising the vast and far-flung Federal park system under its jurisdiction. Two major factors undoubtedly responsible for this heavy travel were the war conditions prevailing overseas and the intensive campaign carried on by the National Park Service to acquaint Americans with the scenic and recreational resources of their own country.

Work was continued by the National Park Service in 1940 on the construction of three national parkways—the Blue Ridge, connecting Shenandoah National Park, Virginia, and Great Smoky Mountains National Park, North Carolina-Tennessee; the Natchez Trace, which will link Natchez, Miss., and Nashville, Tenn.; and the George Washington Memorial Parkway, a projected route between Mount Vernon, Va., and the Great Falls of the Potomac.

Other major projects of the Service were concerned with acquisition of land and the wrecking of undesirable structures in connection with the Jefferson National Expansion Memorial Project, St. Louis, Mo.; supervision of construction of the Thomas Jefferson Memorial in the Nation's Capital; continuation of a Nation-wide Park, Parkway, and Recreational-Area Study being carried on in co-operation with the various States under authority of the Act of Congress of June 23, 1936; and completion of a study of fees charged in parks throughout the Nation and publication of a report on that subject.

Again, during 1940, considerable development work throughout the Federal park system was made possible through funds and manpower furnished by the Civilian Conservation Corps.

At the close of 1940, units in the Federal park system totaled 162, and were classified as follows: national parks, 26 (see table in next column); national historical parks, 4; national monuments,

LOCATION, SIZE, AND TRAVEL RECORDS OF NATIONAL PARKS, 1940

Name of Park	Area in Square Miles	Visitors, Travel Year Ended Sept. 30, 1940
Acadia (Maine) . . . . .	28 83	382,084
Bryce Canyon (Utah) . . . . .	56 22	103,362
Carlsbad Caverns (New Mexico) . . . . .	77.45	236,653
Crater Lake (Oregon) . . . . .	253 45	252,482
Glacier (Montana) . . . . .	1,537.98	177,307
Grand Canyon (Arizona) . . . . .	1,008 00	371,613
Grand Teton (Wyoming) . . . . .	150 00	103,324
Great Smoky Mountains (North Carolina-Tennessee) . . . . .	713 00	860,960
Hawaii (Territory of Hawaii) . . . . .	275 71	287,810
Hot Springs (Arkansas) . . . . .	1 57	182,583
Isle Royale (Michigan) . . . . .	208.85	2,962
Kings Canyon (California) . . . . .	710.31	201,545
Lassen Volcanic (California) . . . . .	163 32	104,619
Mammoth Cave (Kentucky) . . . . .	75 04	169,107
Mesa Verde (Colorado) . . . . .	80 21	36,448
Mount McKinley (Alaska) . . . . .	3,030.46	1,201
Mount Rainier (Washington) . . . . .	377 78	456,637
Olympic (Washington) . . . . .	1,305 33	91,863
Platt (Oklahoma) . . . . .	1 33	309,794
Rocky Mountain (Colorado) . . . . .	405 98	627,847
Sequoia (California) . . . . .	604 00	282,198
Shenandoah (Virginia) . . . . .	286 42	950,807
Wind Cave (South Dakota) . . . . .	19 75	18,028
Yellowstone (Wyoming, Montana, Idaho) . . . . .	3,471 52	526,252
Yosemite (California) . . . . .	1,189 24	506,781
Zion (Utah) . . . . .	134 91	165,029
Totals . . . . .	16,166 66	7,309,296

<sup>1</sup> Actual Admissions to Cave. Persons entering the park totaled 117,751. <sup>2</sup> Actual Admissions to Cave. Visitors totaled 25,808

82; national military parks, 11; national battlefield sites, 7; national historic sites, 6; national recreational areas, 1; national memorials, 9; national cemeteries, 12; national parkways, 3, and the system of national capital parks in and adjacent to the Nation's Capital which are considered as one unit.

See TRAVEL BUREAU, U.S.

NEWTON B. DRURY.

## NATIONAL RAILROAD ADJUSTMENT BOARD. See RAILWAYS.

**NATIONAL RESOURCES PLANNING BOARD.** Under President Roosevelt's Reorganization Plan, effective July 1, 1939, the functions of the National Resources Committee were consolidated with the functions of the Federal Employment Stabilization Office under the name of the National Resources Planning Board in the Executive Office of the President. The functions do not differ radically from those entrusted to the Board's immediate predecessor, the National Resources Committee. The Board is concentrating its current activities on problems of the Post-Defense Period.

The Board has also made large contributions in the field of research toward filling in planning gaps. Its research on "trends of business and employment" includes studies on national income, consumption habits, the structure of our economy, patterns of resource use, housing, etc. The Board through its Advisory Committee on Science has made long-range surveys of population, technological trends, and the Nation's research resources, both public and private. An extensive study of urban problems has been completed by its Committee on Urbanism. Nationwide studies of land and water problems have been made. At the request of the President, and with a view to establishing national policies for the conservation and use of resources, basic surveys have been made of our energy resources, of the relief problem, and of transportation. It has also prepared for the President and



for Congress a program for the development of the national resources and a six-year program of public works as required by the Federal Employment Stabilization Act.

For the Defense Program, the Board has undertaken special studies of Industrial Location, and is co-operating with the Civil Service Commission on the Roster of Scientific and Specialized Personnel. Assistance on planning problems is also being provided to State and Local communities where critical situations have developed due to defense activities.

Through its technical committees the National Resources Planning Board acts as a clearing-house and a correlator for overlapping planning activities. The Board's 10 field offices assist the various regional, State, and local planning endeavors. All of these activities of the Board head up in its advisory function. It reports its findings to the President and the Congress and makes recommendations as to long-range programs for the conservation and full development of our natural and social heritage. It makes suggestions to the President and to administrative establishments as to policy proposals and the planning of national policy. It assists the President, as requested, in developing public policies that are co-ordinated both among the various agencies administering them and with other broad programs of the Administration. See **PLANNING**.

CHARLES W. ELIOT 2ND.

**NATIONAL YOUTH ADMINISTRATION (NYA).** The National Youth Administration was established through Executive Order on June 26, 1935, within the Works Progress Administration; but on July 1, 1939, the First Reorganization Plan placed it under the Federal Security Agency. Since its inception the National Youth Administration has been allocated approximately \$456,000,000 and has employed, on the average, over 500,000 young men and women a year. During the current year, operating on a budget of \$134,659,000, NYA will employ more than a million different young people, more than 500,000 out-of-school youth, and approximately 500,000 students.

The out-of-school work program provides part-time jobs for out-of-school youth who are in need of employment and unable to find it in private industry. A high percentage of the young people employed by the NYA have either had no work experience or merely the experience obtained from jobs calling for little or no skill. NYA work projects are therefore planned by local officials and co-sponsors with two major aims in mind: first, the filling of community needs; and, second, the provision to youth of an opportunity to acquire good work habits and certain skills that are basic to a general occupational field. During the current year increasing emphasis is being placed on mechanical production projects because of the expanded employment opportunities in this field. In view of its importance in providing young people with practical experience that will fit them for jobs in private industry, NYA has been designated as a national defense agency.

During the week ending Dec. 21, 1940, a total of 352,186 youths were employed on the out-of-school work program. Of these 117,139 were employed on non-resident production projects; 97,211 were employed on construction projects, and 105,328 were employed on professional, clerical, and service projects. In a somewhat special category were the 32,-

508 young people who were employed at the 600 NYA resident projects. The young people employed at resident projects live at the job site and provide their own subsistence.

Through the co-operation of the local school system, young people employed on the NYA out-of-school work program have the opportunity of attending related training classes on non-paid time. They study subjects which have a direct bearing on the work they are doing, such as blueprint reading and shop mathematics. In this way they are able to acquire a background in which theory and practical experience are co-ordinated.

The National Youth Administration's student work program provides jobs for financially handicapped students from 16 to 24 years of age. The students are selected for NYA work by the school officials on the basis of need and scholarship. They are assigned to such jobs as the repair of classroom furniture, library and laboratory assistants, research work, and improvement of campuses or school grounds. For this work they receive a regular monthly wage based on the prevailing hourly rate for the type of job they perform. The wage for secondary school students, of whom there were 315,000 employed in November, 1940, varies between a minimum of \$3 and a maximum of \$6 a month. The wage for college students, of whom there were 121,000 employed in November, 1940, runs from \$10 up to \$20 a month, and the wage for graduate students, of whom there were 3100 during the same month, varies from \$10 to \$30 a month. All told, the student work program was employing 439,548 students in November, 1940.

The National Youth Administration pioneered the establishment of junior placement offices which were operated in co-operation with State Employment Services for the purpose of finding jobs in private industry for young people. This function is being carried on by the various State Employment Services in co-operation with the Bureau of Employment Security of the Social Security Board. To assist young people in finding suitable jobs in private industry, the National Youth Administration has published over 100 occupational and industrial studies which outline the job possibilities and training requirements in various lines of work.

See **MUSIC**; **EDUCATION**; table under **RELIEF**.

AUBREY WILLIAMS.

**NATURALIZATION.** See **IMMIGRATION**, **EMIGRATION**, AND **NATURALIZATION**.

**NAURU.** See **AUSTRALIA** under *Area and Population and History*.

**NAVAL AND AIR BASES, Leased.** See **NAVAL PROGRESS**; **GREAT BRITAIN** under *History*; the map under **UNITED STATES**. For a detailed account of each see **ANTIGUA**; **BAHAMAS**; **BERMUDA**; **BRITISH GUIANA**; **JAMAICA**; **NEWFOUNDLAND**; **ST. LUCIA**; **TRINIDAD**.

**NAVAL PROGRESS.** In a year marked by no great naval battles such as Jutland, Trafalgar, or Lepanto, nor even by clashes of opposing forces as strong as those at Coronel or the Falklands, a great fleet of war-ships was sunk. Scores of other fighting craft were so badly damaged that millions of dollars and hundreds of thousands of man-hours were required to repair them. Included in this vast armada of lost and damaged ships were battleships and carriers, a dozen or more cruisers, destroyers, and submarines by the score, and small craft in untold numbers.

Great Britain, having many more ships and em-

ploying them freely on dangerous missions, was the heaviest single loser. Italy, Germany, and France, however, lost larger proportions of their navies, and Norway had its navy completely wiped out.

Since the beginning of the war Germany had lost a pocket battleship to English cruisers off Montevideo, and had the 26,000-ton battleships *Scharnhorst* and *Gneisenau* damaged by gun-fire off Norway. Italy beached one new battleship and suffered serious damage to two or three others from torpedoes launched from aircraft at the ships at anchor in Taranto. France had four battleships put out of action by British gun-fire and bombs at Oran and Dakar. Great Britain lost the old battleship *Royal Oak* and the old aircraft carrier *Courageous* from submarine attacks in 1939; the demilitarized *Iron Duke* was accounted for by bombing, and the carrier *Glorious* was sunk off Narvik by gun-fire from two German battleships during 1940. Other heavy ships were reported damaged.

The cruiser casualties to the various powers came from collision, grounding, bombs, torpedoes, and gun-fire. Auxiliary cruisers particularly suffered from under-water attacks and gun-fire from heavier opponents.

All belligerents suffered heavy destroyer losses, the British about thirty; the Germans more than half as many, of which perhaps at least ten were sunk by gun-fire at Narvik; the French lost almost as many as the Germans, and the Italians not very many less. The small belligerents having few surface craft other than destroyers suffered their heaviest losses in that type.

Submarines, which were the most effective foe of both naval and merchant shipping, paid heavily for their destructive ventures. Authoritative information of German losses, of this their most important naval weapon, were lacking; but well informed sources placed their losses at about fifty, probably more rather than less. The British also suffered heavily in this type. Italian submarine casualties were also high; but the French lost comparatively few, perhaps because they were less actively employed than were those of the other principal belligerents. By the very nature of their operations, the character of the attacks, and the secrecy surrounding anti-submarine devices and tactics little information was available to the general public as to the methods of destroying submarines.

The absence of fleet actions had stimulated the war of attrition, with results as great. Naval experts everywhere clamored for complete information of each engagement in order to develop counter measures through modification of tactics or changes in material. As might have been expected, one of the chief interests of both experts and laymen was concerned with the relative merits of ships and aircraft. And, as the more thoughtful and perhaps more conservative naval officers, air officers, and lay students had long realized, there was no clear-cut advantage. Aircraft sank ships, anti-aircraft guns from ships brought down planes; but ships continued to ply the seas even in narrow waters, aircraft continued to fly over the water and to attack the ships at favorable opportunity. Aircraft co-operated with surface ships by spying out enemy vessels to be chased or fled from. Ships bombarded airfields within range of their guns to weaken the enemy air opposition and thus to facilitate friendly aircraft activities. There were strong indications that German aircraft frequently ap-

prised their own submarines of the movement of enemy convoys and thus enabled them to gain favorable position for torpedo attack.

In the earlier part of the year dive bombing employed by the Germans was particularly efficacious against naval vessels, but this advantage rapidly diminished as multi-barreled pompom guns were supplied to ships, and improved fire-control facilities were developed. The duels between bombers and anti-aircraft guns at sea as well as on shore forced the horizontal bombing planes to seek higher altitudes to deliver their attacks, with a consequent reduction in accuracy.

It soon developed that bombers in one respect had a certain capacity for inflicting damage that had not hitherto been fully appreciated. Fragmentation from near misses of bombs with instantaneous fuses often inflicted casualties among exposed personnel and damaged imperfectly protected material. Incidentally similar results were experienced from shells exploding in upper works of ships. As a consequence, alterations to improve splinter protection were feverishly inaugurated. Aircraft, however, in order to take full advantage of such fragmentation damage were obliged to determine before loading their bombs whether they would seek to reduce temporarily the fighting efficiency of the ship in such manner, or whether they would strive to damage the target more seriously by using delayed action fuses that, in case of a hit, would cause explosion of the bomb to be delayed until it had penetrated to more vital parts of the ship. In the latter case, there was the disadvantage that if the target proved to be lightly protected the bomb might penetrate the ship doing but slight damage and explode harmlessly in the water outside.

Naval vessels found that operations at high speed and radical maneuvers tended to confuse the bombers, and to interfere seriously with the accuracy of their aim. The bombers, on the other hand, found that high altitude and judicious use of cloud protection rendered them virtually immune to anti-aircraft fire, as when operating against land objectives. Unlike the operations over land at night, however, the mobile targets on the sea were difficult if not impossible to locate, and their relatively small size gave night bombing against ships at sea little hope of success.

Operations of French and English light naval forces in the evacuation of Dunkirk demonstrated that even with a strong air superiority air attacks might not necessarily be completely successful in stopping naval operations. Damage there inflicted by aircraft on ships, both merchant and naval, was enormous. Nonetheless, favored by weather conditions, the naval forces were able to carry out with a high degree of success a most difficult mission with but little support from their own aircraft.

It was fully demonstrated, however, that it would not only be extremely hazardous but impossible for surface vessels to operate for any considerable time within range of shore-based enemy bombers. That fact was borne out in the Allied naval operations off the coast of occupied Norway. Lack of adequate air support for naval vessels against the shore-based planes of the Germans soon forced withdrawal of the French and English ships.

A further change in the composition of naval forces and in equipment of naval vessels that became marked during the year because of air threats was the trend toward special anti-aircraft ships, and the trend toward increased anti-aircraft gun

power in ships of all classes. The U.S. Navy expected to gain the desired ends by extensive use of double purpose guns suitable for use either against planes or light surface craft. The British felt the necessity also for using the special type of ship. For the time being, the *Carlisle* class of cruisers that were rearmed for this special purpose constituted the principal ships of the new type. It was reported, however, that certain destroyers had also been rearmed, and that some ships building were being redesigned with the same end in view. The necessity for a different type of gun and fire control arrangement to oppose dive and horizontal bombings also added to the complications of those who designed or fought men of war.

Even though heavy ships repeatedly showed that they could withstand bombing attacks of considerable power the German air attacks took heavy toll of English ships that came within range of her planes. In the Mediterranean area the English naval ships were more successful in combating the Italian air menace. Naval and air authorities, neutral and belligerent, however, were agreed that support of one's own fighting planes would always constitute a much more effective answer to opposing bombers than would any amount of anti-aircraft fire, splinter protection, speed, or maneuverability. Acceptance of that principle, as well as an offensive spirit calling for great aerial striking power caused the United States to let contracts for eleven aircraft carriers during the year. European nations who were doing their fighting in and over the water in more restricted seas sought similar ends by basing aircraft at strategic points along the coast from which they might send planes to attack enemy ships or to protect their own.

In general, the results of bombing attacks on ships, of which there were many hundred, showed that between the last world war and the present one as the range, mobility, and striking power of aircraft increased, the menace had in considerable degree been met by tactician, gunner, and designer. In the U.S. Navy it was further met by the developments of naval aviation. In that service aviation, surface craft, and submarines had never been dissociated. As a consequence, development of offensive and defensive power of both planes and ships had proceeded hand in hand, so that some of the lessons learned by the belligerents as a result of serious losses in action, had been appreciated by them long before as a result of maneuver on the game board or at sea.

While the developments resulting from the injection of aircraft into naval warfare was spectacular, both because of the nature and the character of the new weapon, and though this new development brought greater changes in design and tactics, the underwater menace was a more serious one. The toll taken by submarines and mines was greater for both men-of-war and merchant ships.

The magnetic mine, briefly described in the 1939 YEAR BOOK, for a time caused heavy losses to Allied navies and shipping; but in time effective sweeping methods were devised, and scientists evolved schemes for rendering the mines inoperative as ships passed over them. It took time, however, to find suitable means to overcome the newly created hazards, and further time to manufacture and install the requisite devices to gain protection. The measures developed under pressure were not always completely successful but they did check the losses that were rapidly becoming alarming. As with all new weapons, those against whom they

were first used quickly seized upon the principle and applied it to their own use.

Other new mine devices of less importance were reported from time to time. Acoustic mines were experimented with, and several appliances were used with varying degrees of success to interfere with minesweeping or to render paravanes ineffectual.

The British, of course, suffered most from mines, because extensive use of ships that must pass in and out of mineable waters was essential to the receipt of food and raw materials and to the maintenance of blockade against the enemy. The mines around their ports were planted largely by submarines and aircraft. It was generally believed that a number of the German and Italian submarine losses were attributable to mines, either those planted by the Allies or, in some cases, to mines previously laid by the Axis powers themselves.

The number of small craft involved in mine-sweeping, the man power required, and the time, energy, and treasure expended by all the belligerents to gain protection from this danger was enormous. Even so, damage from mines continued to be an important cause for losses, and a considerable portion of the war effort was expended in salvaging or repairing ships that had been struck. American ships were forbidden by law and presidential proclamation to enter the European war zone, but one American ship on the other side of the world was sunk when it ran into a mine, evidently laid by a raider, in Australian waters.

The effectiveness of mine fields laid by Italians in the Straits of Sicily was less effective than some authorities had anticipated. Although war operations had brought merchant traffic through those waters to a virtual standstill it was reported on good authority that the English occasionally used the passage. The main bodies of water in the eastern and western Mediterranean are too deep for mining, but nearly all the North Sea and the waters adjacent to the British Isles are well suited to mining tactics.

As in the last war, the submarine was the principal weapon of attrition for the Germans and their chief means for blockading the English. Although initially the tactics employed were less ruthless than in 1917 and 1918 the methods employed soon followed closely the earlier pattern. Progress in this field as in others had been made however; torpedoes were of longer range and carried heavier explosive charges, communication facilities had improved, submarine listening devices were more proficient, and machinery was more reliable. All those advantages accrued to all powers. The Germans had tremendous improvement in operating conditions. After the fall of France there was little chance of hampering their exit from port as was the case in the first World War. They could and did base from Bordeaux to Narvik. Superiority in air power made available to submarines much information that would otherwise have been unobtainable. In addition the Germans had carefully studied all reports of Allied anti-submarine measures of the previous war and they took many corrective measures in planning and conducting their operations.

Notwithstanding the progress in submarine tactics and material, the submarine losses by all belligerents were great. This was primarily because even greater progress had been made in the methods of submarine detection and in the tactics for attacking them. Sound devices operated from surface ships could detect the presence of a submerged

submarine within limited distances, or could similarly locate it on the surface at night. Patrol aircraft gave warning of the presence of submarines on the surface; and under favorable circumstances spotted them at considerable distances below the surface. The waters of the Mediterranean especially favored the aircraft searching for submarines. Some of the aircraft carried special depth bombs for use against the submarines sighted, others led surface craft to attack.

Improvements in acoustic devices, and the use of opposing aircraft made it difficult and hazardous to get in attacks on ships so protected; but limited equipment often prevented such protection being given. The current war found the Allies with far fewer available ships for anti-submarine work than they had in 1918, and screens were often woefully weak or not available, and convoys were unduly large. Moreover, screening vessels were often needed to protect against air attacks as well as against submarine threats. The detection devices were available to only a limited number of ships, and skilled operators were necessary to manipulate them.

As against those handicaps the Allies had the background of much knowledge as to organization and measures for combatting submarines and put them into effect with little delay. While much of the desired equipment was not available, there was a considerable amount of essential material ready at hand, and personnel trained in its use. The depth charges were improved over those used in the last war, and suitable tactics for their employment had been developed. As the results of the year showed, submarines did great damage, but much less than during the high tide of 1917, and they paid heavily for damage inflicted.

In addition to aircraft, mines, and submarines, another weapon of attrition that was used was the high speed (30 to 35 knots) motor torpedo boat. All the belligerents, including the smaller powers, had these vessels in considerable numbers. They were a source of great potential danger, but up to the year's end they had done comparatively little damage. Their very existence in an area, however, made it necessary for the enemy to take strong defensive measures.

All of the foregoing methods for affecting attrition were particularly applicable to the restricted area of the principal naval operations of the current war. The gun remained the primary means of exercising control of the high seas. Superiority in gun power enabled the British Fleet to dominate both ends of the Mediterranean, although Italy occupied a central position where she held great superiority in aircraft, submarines, mines, and motor torpedo boats.

The English with their gun power controlled the Atlantic approaches to Europe. But despite the overwhelming preponderance of that gun power they could not dominate the North Sea and its shores because they had insufficient aircraft to give adequate defense against enemy bombing attacks.

In such gun actions as occurred there were no startling developments, the principal progress noted being in the increased proficiency of damage control over that of Jutland days. All types of newer ships were able to take more punishment whether it came from bomb, gun, mine, or torpedo. This increase in floatability was partly due to design and partly due to improved organization and drill in localizing damage. Ships, in general, were faster, but any increase in gun power over that of two

decades before was about offset by corresponding increase in the defensive qualities of the ships. The added defensive arrangements and the increase in anti-aircraft guns had necessitated larger crews and more complex organizations all along the line.

**Comparative Naval Strength.** The status of the various important navies in combatant types of vessels could only be approximated, and it was quite impossible to bring data completely up to date by the end of the year. Losses were sometimes concealed for considerable periods, or the merits of conflicting claims as to losses could not be analyzed. Moreover, data as to ships building by belligerents cannot be based on official figures. For purposes of comparison, however, the data as of July 1, 1940, is furnished in the table on page 495, and subject to the notes thereunder is about correct. Further information regarding naval activities in the different countries follows.

**Argentina.** This country, with the largest Navy in Latin America, continued to add small craft to its list; the latest additions being a series of nine minesweepers. The last of these, the *Fournier*, was launched in August. Their general characteristics were 550 tons, 11.5 knots, two 4-inch guns, crew of 62. Built in local yards, they were destined to replace sweepers of the M-Class acquired from Germany after the last war. Plans were underway for building larger ships at home, and work was begun on installation of facilities at Rio Santiago for producing 10,000-ton ships. Hitherto the largest ship built in the country, or even in South America, had been the 5000-ton tanker *Figueroa Alcorta*.

The personnel was increased to 1000 officers and 14,500 men. Three United States naval officers were attached to the Navy Department in an advisory capacity. The recently built 6-inch cruiser *La Argentina* engaged in an extensive cruise in the Pacific to train men and prospective officers.

**Australia.** The backbone of the navy were the two 8-inch cruisers *Australia* and *Canberra*. These and most of the other combatant ships, however, were engaged on Empire duties rather than restricting their operations to local waters. Stimulated by occasional mining in adjacent waters by raiders considerable progress was made in building locally a number of minesweepers and other small local defense craft. It was also reliably reported that some destroyer construction had been undertaken. The personnel that consisted of but little over 4000 men at the beginning of the war was considerably increased both for manning Australian ships and for augmenting the Royal Navy.

**Brazil.** The British Government terminated the prewar contracts for six destroyers, similar to the *Hero* class, which were being built in British yards and returned the sums already paid toward their construction. The vessels in question were incorporated into the British navy as they were completed. One of them, the *Javary*, had the same name as a destroyer which was similarly building at commencement of the first World War but was commissioned in the British Navy as the *Hardy*.

Meantime the Brazilians launched a destroyer at Rio de Janeiro, the *Marcidio Dias*, and laid keels for two more. The four remaining minelayers of the C-Class, also locally built, were completed. No progress was made toward building the two cruisers of the ten-year program.

**Canada.** Out of necessary wartime secrecy surrounding details of Canada's war efforts, only general information was available. A \$50,000,000 ship-construction program made rapid progress at

## COMPARATIVE DATA—THE GREAT NAVAL POWERS—AS OF JULY 1, 1940

Country and type of ships	Commissioned and under age		Total built		Building *	
	No.	1000 tons	No.	1000 tons	No.	1000 tons
<b>United States</b>						
Capital Ships	12	384	15	464	10	390
Aircraft Carriers	6	135	6	135	5	126
Cruisers (8" guns)	18	171	18	171	4	52
Cruisers (6" guns)	17	144	19	158	17	154
Destroyers	74	115	197	254	61	111
Submarines	33	49	101	101	41	61
Light Minelayers	00	00	8	9	00	00
Total	160	998	364	1292	138	894
<b>British Empire</b>						
Capital Ships	14	445	14	445	9	335
Aircraft Carriers	5	83	7	104	7	153
Cruisers (8" guns)	15	146	15	146		
Cruisers (6" guns)	25	196	46	297	23	158
Destroyers	104	154	175	233	26	48
Submarines	42	51	54	57	4	3
Minelayers and Gun boats	1	7	1	7	24	39
Total	206	1082	312	1289	93	736
<b>Japan</b>						
Capital Ships	9	272	10	301	8	332
Aircraft Carriers	11	147	11	147	2	40
Cruisers (8" guns)	12	108	12	108		
Cruisers (6" guns)	15	98	22	129	6	47
Destroyers	90	125	134	170	12	12
Submarines	41	65	66	91	9	4
Minelayers			1	9	1	6
Total	178	815	256	955	38	441
<b>France</b>						
Capital Ships	6	142	7	164	4	140
Aircraft Carriers	2	32	2	32	2	36
Cruisers (8" guns)	7	70	7	70		
Cruisers (6" guns)	11	80	11	80	3	24
Destroyers	63	108	64	109	32	50
Submarines	72	69	76	73	25	25
Total	161	501	167	528	66	275
<b>Italy</b>						
Capital Ships	6	164	6	164	2	70
Aircraft Carriers						
Cruisers (8" guns)	7	70	7	70		
Cruisers (6" guns)	12	74	14	81	14	56
Destroyers	98	109	130	132	12	15
Submarines	103	83	110	85	22	25
Total	226	500	267	532	50	166
<b>Germany</b>						
Capital Ships	5	107	5	107	3	115
Aircraft Carriers					2	39
Cruisers (8" guns)	2	20	2	20	2	20
Cruisers (6" guns)	4	23	4	23	6	46
Destroyers and Minelayers	49	55	49	55	23	16
Submarines	80	42	80	42	??	??
Total	140	247	140	247	36??	236??
<b>Russia</b> † (Figures given are minimums—much data unavailable)						
Capital Ships	3	70	3	70	3	105
Aircraft Carriers	1	9	1	9	2	24
Cruisers (8" guns)	3	24	3	24	5	40
Cruisers (6" guns)	3	17	5	29		
Destroyers	38	67	53	84	??	??
Submarines	192	114	203	120	??	??
Total						

Total—Data are too incomplete to give totals

\* As Japan releases no data officially the information may be incomplete, particularly as to "building and appropriated for"

† Note that this data is of July 1, 1940 before certain units were immobilized by the British, and before the incidents at Oran and Dakar. The ships listed as building have probably had no further work done on them.

\* The deductions for submarine and destroyer losses of Germany and Italy may be incomplete. It is also probable that additional vessels of those classes were building but the number and tonnage is unknown.

† Data available as to Russia are known to be incomplete but figures given are considered to be reliable minimums.

\* Building and appropriated for as far as is known.

fifteen different yards. Sixty-four patrol ships and twenty-nine sweepers were underway as were ten ships of unannounced characteristics building for the British Admiralty. Other craft included lighters, aircraft tenders, rescue boats, supply and salvage boats, etc.

Chile. Naval authorities, recalling violations of the country's neutrality in past wars, put into effect stringent rules regarding the use of national wa-

ters by both merchant ships and men-of-war, irrespective of nationality. Efforts of Italy to obtain orders for the two new cruisers planned, with payment to be in copper and nitrates, was unsuccessful, and later the Minister of National Defense announced a decision to place no order for those vessels during continuance of the present war.

Unconfirmed reports stated that the government had given final approval to plans for a dry dock

capable of accommodating 45,000-ton ships. The dock was to be built at Caleta Membrillo on Valpariso Bay at a cost of \$5,000,000 and completed in four years. Presumably its construction was dependent upon a United States loan.

**Denmark.** At the time this country was invaded by the Germans the navy consisted of two armored coast defense ships, *Peder Skrum* and *Niels Iuel*, about twenty torpedo boats, some twelve submarines, and a few auxiliaries. In addition, the mine-layer *Lindormen* and one or more small submarines were nearing completion. Shortly after the invasion, all naval personnel was disarmed and announcement was made that all crews had been given furlough and that all recruiting had ceased. It was not apparent, however, whether any of the units were manned and operated by German crews.

Aside from the naval ships that came under their control, the Germans found in Denmark a flourishing naval construction industry well adapted to building craft that might be used for transporting men and supplies in an invasion of England.

**Estonia.** Prior to its absorption by Russia this small Baltic power had made some progress toward developing a coastal defense force; the most important units were a mine-laying torpedo boat and two Vickers' built submarines. At the time the country was taken over by the Soviets, three small submarines were under order in Finland and four motor torpedo boats were building at Tallinn.

**France.** At the outbreak of war the French navy had 82,000 men and 4900 officers; some 172 combatant ships were in commission and sixty odd others, principally destroyers and submarines, were building. The personnel was rapidly expanded and numerous small craft for anti-submarine, anti-mine, and other purposes were added to the navy list. Until the invasion of Norway, only routine operations were engaged in and losses received or inflicted were inconsequential. Several ships were engaged in the Norwegian operations, where one destroyer was lost and the cruiser mine layer *Emile Bertin* was damaged.

During invasion of the low countries and collapse of France, intensive coastal operations were engaged in by light forces, particularly in the evacuation of Boulogne and Dunkirk. Some eight destroyers and a submarine were lost and others damaged. In general command of the heterogeneous Allied craft that so effectively evacuated Dunkirk was the French Vice Admiral Abrial.

After the French collapse much confusion existed as to the location, loyalty, and future of the French Navy. The Armistice terms provided that the French fleet should not be used against their former Allies, but the English did not trust the Germans and feared the dire consequences if the French ships fell into German hands. Accordingly, early in July possession was taken of all those in English ports and in Alexandria. These included 3 battleships, 6 cruisers, 8 destroyers, a few submarines, including the 3000 ton *Surcouf*, and numerous small craft. On July 3 a British force appeared off Oran where many important French units were anchored and presented an ultimatum which was refused. In the ensuing action three French battleships were sunk or badly damaged, as were several other ships; some escaped to Toulon where most of the French cruisers, destroyers, and submarines were assembled.

Shortly after this incident an abortive attempt was made to capture Dakar, but the British force which had expected the forces there to join Gen-

eral de Gaulle were driven off after minor damage had been inflicted on each side. Those incidents of course brought tension between the English and the Vichy government.

At the year's end two battleships, a dozen cruisers, and large numbers of destroyers, submarines, and auxiliaries were in French Mediterranean ports, Casablanca, or Dakar. The aircraft carrier *Bearn*, two cruisers, and several auxiliaries were at Martinique. A number of ships that were building were on the ways in occupied France. Rumors were frequently circulated that the Germans were endeavoring to gain possession of the French ships but that Pétain continued a firm refusal.

**Germany.** Although Germany suffered considerable losses during the Norway operations and in connection with the campaign against Allied shipping she ended the year with a navy no smaller than that with which she commenced the war. Throughout the war the U-boats have been active, and in the latter part of the year were particularly vigorous.

In the Norwegian campaign the small German Navy supported by air was employed with great boldness against its far more powerful adversaries. Early in April, almost the entire submarine force was on station to cover the operations. About twenty-five were disposed along the coast of Scotland thence to the Orkneys, Shetlands, and the coast of Norway to give warning of British Fleet and transport movements and to attack such ships. Many others operated off entrances to the various fjords to prevent Allied interruption of German landings. To naval tacticians this mass employment of submarines was noteworthy. The results they achieved were inconsequential. A few merchant ships were torpedoed, but no successful attacks were accomplished against troop ships or combatant vessels. Submarine losses are not definitely known, but were certainly considerable and probably exceeded the number of merchant ships sunk. It was considered as a clear indication of the limitations of submarines in operating against high speed, well escorted ships.

The surface escorts that accompanied convoys to the various ports were effective, and except at Narvik the losses were comparatively light. The British successful feat of taking the 30,000-ton battleship *Warspite* up the narrow fjord in the face of submarine and destroyer opposition was noteworthy. All German naval forces present were destroyed. Meantime an encounter between the world war battle-cruiser *Renown* and the modern battleship *Scharnhorst* supported by the 10,000-ton *Hipper* had quickly resulted in some slight damage to the *Renown* and considerable damage to the *Scharnhorst*, after which the modern ships took advantage of superior speed and broke off the engagement, for the new 11-inch guns were not a match for the older 15-inch.

After occupation of Norway, the low countries, and northern France, the naval forces continued active principally against the enemy sea-borne commerce; submarines in the western approaches to the British Isles, motor torpedo boats in the channel, pocket battleships occasionally in the North Atlantic, and auxiliary cruisers raiding as far away as the South Pacific. Threats by battleships, cruisers, and destroyers based in the German Bight or on Norway, together with air support, prevented any serious English interference with the traffic between occupied Norway and the homeland. Thus developments of a quarter of a century prevented

the British Navy from exercising the same close control of the North Sea that it did in the last war, even though it had become relatively more powerful.

The Germans were prompt to develop naval bases in all occupied areas. Some were for small craft only, but others were suitable for major operations such for instance as Bordeaux which became a major submarine operating base, and Trondheim which was suitable as an advance fleet operating base. All of them combined to add tremendously to the effectiveness of naval forces that might operate in support of a major landing effort from the continent against the British Isles.

**Great Britain.** As in the Napoleonic Wars and the first world war, the strategy of the British Navy in the current war has been to conduct a long range blockade of the enemy, and, if the pressure thus applied could draw the enemy fighting ships to sea, to crush them with overwhelming power. Developments of succeeding decades had forced the blockading forces further and further off shore, but in 1940 as in Nelson's day the advantages accruing to a naval power that controlled the high seas were tremendous. Collapse of France and entry of Italy into the war as an opponent put a terrific strain upon the British Navy but it continued the blockade with a high degree of effectiveness.

In the Narvik operations the British lost heavily, particularly from bombs. By the time their naval forces reached Norwegian waters the enemy had established control of the air, and, although the British vessels were well handled and themselves inflicted considerable damage, they were unable to maintain themselves in Southern Norway without adequate fighter protection against repeated air attacks any more than they could have operated there with inadequate destroyer screens to safeguard them from submarine torpedoes.

For a time, the air opposition in the Narvik area was much less intense and the operations there were correspondingly more successful. When the fall of Dunkirk and the collapse of France occurred, that area too was abandoned. On June 8, the carrier *Glorious*, with all her planes on deck, escorted by two destroyers was surprised by two German battleships as she was evacuating Narvik. The 47-inch guns of the *Glorious* were, of course, no match for those of the heavier ships and she and her escort were at once destroyed. No satisfactory explanation has been made for the hopeless inadequacy of the escort, nor for the reason for the surprise under conditions of ten miles visibility when she might have had warning from an air patrol had one been established.

During the Norwegian operations a particularly historic event occurred when an English submarine was captured. It had struck a mine in the Kattegat which rendered it completely inoperative on the surface. Its commander surrendered to an aircraft that landed alongside. After minesweepers had cleared a path, it was towed into port. This was the first capture of an English warship since 1815 when the U.S.S. *Hornet* captured H.M.S. *Penguin*.

As has been mentioned earlier, the evacuation of Dunkirk in late May, using all manner of ships from cruisers to row boats without suitable air support in face of opposition by mine, submarine, motor torpedo boat, aircraft, and shore batteries, was not only a fine illustration of the efficiency, morale, and discipline of the naval personnel, and

a tribute to the ship builders and designers, but it forcibly demonstrated that aircraft had not gained ascendancy over surface craft as might have been concluded from the Norwegian campaign.

With France out of the war and Italy in, it became necessary for Great Britain to readjust the disposition of its naval forces to prevent serious, perhaps fatal, leaks in its blockade. The Mediterranean force was heavily reinforced. The handicap of continuously operating ships in close proximity to enemy air bases was not so marked in that area, and with their own fleet bases at Alexandria and Gibraltar moderately secure, it became possible gradually to bring increasing pressure on enemy outlying positions without relinquishing the blockade. The major naval base at Malta that had for so many years been Great Britain's key position in the Mediterranean was too close to Italian air centers to be used as a primary base. On the other hand, with the English fleet behind it neither Italian sea nor air power was able to force its capitulation and the English ships continued to use it to a minor extent.

A number of contacts between English and Italian ships occurred and the former were uniformly successful. Early in November a new type of naval engagement occurred. A strong English force including two carriers entered the instep of the Italian boot by night. Torpedo planes supported by fighters were launched from the carriers and attacked naval vessels in the strongly fortified base at Taranto. Conflicting claims were made as to results, but it was certain that one new battleship was severely damaged and sunk in shallow water and that two others were struck by torpedoes. Other indeterminate damage was done. Italian counter air attacks on the ships apparently did no serious damage.

During the latter half of the year the demands on the British Navy to maintain unaided a blockade of such vast proportions, to be ready to overcome enemy surface ships that might put to sea, to safeguard convoys from air and submarine attacks, and to dispose of raiders in distant seas, necessitated strenuous efforts to increase the available light forces.

The problem was all the more difficult because she had entered the war with too few destroyers for major efforts in modern war and the losses in that type had been heavy. In addition, the repair facilities, particularly those along the channel had suffered heavily from the enemy air offensive. President Roosevelt helped the situation when he entered into an arrangement to exchange 50 over-age American destroyers for leases of sites in British territory in the western Atlantic suitable for American air and naval bases. This and other possible American aid, together with Empire building, promised to continue the British, for a time at least, in a favorable naval situation.

**Greece.** In August, as a prelude to the Greek-Italian war, an old minelaying cruiser, the 2100-ton *Helle*, was torpedoed by a submarine, but the Italians disclaimed any responsibility for the act. Profiting by instruction and technical advice from English naval officers the small Greek navy demonstrated an unexpected degree of proficiency in patrolling adjacent waters after the war broke. At least one Italian submarine was sunk by a Greek vessel of similar class, and a destroyer division on one occasion penetrated the Straits of Otranto and raided the Italian held port of Valona in Albania.

The new navy yard at Scaramanga was in full



operation, and two destroyers, the first to be built in Greece, were under construction.

**Ireland.** Probably as a consequence of reports that German submarines were entering the bays of Ireland in perfect safety to recharge batteries and for other purposes, the government of Eire commenced the nucleus of a Navy. Two fishing escort vessels were equipped and commissioned, plans were made for putting several tugs into service, a number of fast motor torpedo boats costing about \$1,000,000 were ordered, and personnel was recruited.

Under the terms of the Anglo-Irish accord of 1938, the ships of the Royal Navy had no right to enter the territorial waters of the Free State. The British rigidly respected this agreement, but made insistent pleas for permission to use Irish ports upon which to base naval vessels for anti-submarine operations. At the year's end, however, such permission had been steadfastly refused.

**Italy.** When Italy entered the war on June 10 she had two powerful new battleships and four older ones that had been recently modernized, seven new 8-inch cruisers that were regarded as among the best afloat, a dozen modern light cruisers, about a hundred destroyers, and even more submarines, all modern, besides a number of older vessels of those types, and about a hundred motor torpedo boats.

The power of this great Navy, however, did not make itself felt. Among the material factors to which the failure may be ascribed were a serious oil shortage, inadequate munitions supply, particularly torpedoes and mines, and a general lack of raw materials to make up losses and deficiencies.

The fleet remained for the most part in port as "a fleet in being" rather than one striving for mastery of the Mediterranean. The English forces at the opposite ends of the sea not only extended their control instead of being driven back to their bases, but they seriously interfered with communications between Italy and the African colonies. Several of their transports and supply ships were reported destroyed, and lack of a sure and steady stream of supplies became a serious handicap for the Army in Libya.

The weak point in Italy's fundamental naval policy gradually became apparent. That policy had influenced the design of ships which were extremely fast. But the high speed was attained at sacrifice of protection. The policy might be characterized of one to raid and run rather than to stand and fight. Such a policy when operating against tougher ships manned by personnel ready to trade heavy blows could not bring control of the sea.

In six months the Italians lost at least 15 combatant ships, with fully as many more badly damaged, without inflicting anything like as serious losses on the enemy. Early in July British and Italian forces met in the southern part of the Ionian Sea. Such fighting as took place was at long range and the Italians outdistanced the British and returned to port. En route the battleships *Cavour* and *Cesare* were attacked by their own aircraft. The aviators, in a separate service in Italy, had probably confused the appearance of these ships with that of one of the English which they closely resembled.

In one engagement the *Sydney* sank the *Barotolomeo Colleoni* as it was running away, and in another the *Ajax* (made famous in the *Graf Spee* engagement) sank three destroyers and damaged

another that she encountered in the eastern approaches to the Straits of Sicily. The Taranto disaster has been mentioned in the account of British activities. The British also claim to have done some damage to naval ships in bombing Naples and Brindisi. At any rate, well credited reports stated that most of the important Italian naval units had been withdrawn to the comparative safety of the ports of Trieste, Fiume, and Pola.

Little had been heard of activities of motor torpedo boat flotillas, and the submarine service from which so much was expected inflicted comparatively little damage in the Mediterranean. Italian announcements that numbers of them were operating in the Atlantic (possibly based at Bordeaux) lacked confirmation.

**Japan.** "The Combined Fleet," Japan's principal fighting force, did not take direct part in the China war but carried on its regular training schedule in home waters and in the mandated islands. The forces in China occupied the Yangtze river and a number of coast ports and maintained a blockade against Chiang Kai-shek. The naval air force gained considerable experience in bombing shore objectives. They operated both from carriers and shore bases.

The Navy established a base on Hainan island but details were lacking. The facilities of the base at Maidzuru were expanded to bring it up to the first rank. Various unconfirmed reports were in circulation regarding improvement of the naval facilities in the Marshall, Caroline, and Mariana Islands.

The reticence as to the building program continued, but public announcements were made from time to time giving the names, but not the types nor characteristics, of ships launched. A large amount of naval work was going on in shipyards, and it had become well established that two of the battleships building were nearing completion, and that a number of others were on the ways. The necessary light units to maintain a well balanced fleet were also under construction.

The record-breaking ten-billion-yen budget for the 1940-41 fiscal year was so divided that it was not possible to get a clear idea of just what proportion would be used for naval purposes, but about 64 per cent was for Army and Navy establishments.

On January 22 the submarine I-63, which went down with 81 officers and men after a collision in Bungo Straits the preceding February, was raised after more than eleven months salvage operations. This mishap to that ship was the first of a series of submarine disasters that befell Japanese, American, British, and French submarines in turn during the first six months of 1938.

**Netherlands.** Before being overrun by Germany the government continued to keep its naval forces, both in home waters and in the East Indies, in fighting trim. At the same time, it pushed forward the construction work in progress on two cruisers, a number of destroyers and submarines, and other minor vessels. Paravanes, motor torpedo boats, and other accessories were ordered from abroad.

When the German invasion came the naval forces had no surface craft to oppose, but for several days numerous contests occurred between ships and aircraft. The naval losses were surprisingly small, about ten of the least valuable ships; just how many of these were from bombing attacks and how many from mines or artillery fire remained



uncertain. The anti-aircraft fire of the ships inflicted considerable damage on the invaders, and valuable assistance was given shore-based forces.

After naval support of the Army could no longer be effective several ships under construction were destroyed, and several others that were building accompanied the fleet to England, either under their own power or under tow. Two cruisers on the ways in the early stages of construction fell into German hands. The ships that reached England continued in the war, operating with the British Navy but with their own crews.

In the East Indies, the Dutch naval forces consisted of two cruisers, a dozen modern destroyers, at least twenty submarines, and several squadrons of naval flying boats, as well as various small craft. That force under general direction of the Dutch Government in London maintained itself in readiness for action, improved its principal base at Surabaya, and developed subsidiary bases at other points in the Dutch possessions.

**Norway.** The Norwegian Admiralty announced that a series of tests as to probabilities of collision with floating mines established that in a calm sea the bow wave would throw the mine clear if it were more than five yards from the stem of the ship, and that in a rough sea the results were irregular. (Note: This referred, of course, to contact mines, not to magnetic mines.)

The Norwegian naval forces on April 9 when the Germans made their unexpected attack were as impotent as the Norwegian Army. While the Germans sustained considerable naval losses during the Norwegian campaign the only damage directly attributable to the Navy was that to a cruiser by gun-fire from the minelayer *Olaf Trygvasson*. The Norwegians, on the other hand, had at least eleven ships sunk and the rest of their Navy captured; virtually all losses being without any show of resistance.

**Portugal.** Slow progress was made on the building program. The new navy yard at Alfeite launched a 1150-ton hydrographic ship. Work was commenced on a small dry dock at Paco de Arcos, six miles from Lisbon. Reports indicated that facilities for submarine operations were being developed in the Cape Verde Islands.

**Spain.** Extensive plans for rehabilitating the Spanish navy seemed unlikely to make much progress in the existing impoverished condition of the country. Some work was accomplished, however, in improving the facilities of the Ferrol navy yard. The naval vessels that survived the war were in poor shape, and remained relatively inactive. Funds were not available for modernizing or repairing them, much less for building new ships.

**Sweden.** The navy was actively engaged in improving its defenses; protective mine fields were planted; reserve supplies of fuel were accumulated, and special provisions were made for protection from mine damage. More than one hundred merchant ships were armed, and the government assisted in providing them with paravanes for protection against mines. The construction program, however, was slowed down because of difficulties in obtaining materials. Supplementary appropriations were made for current and future maneuvers.

**Union of Soviet Socialist Republics (Russia).** Notwithstanding the lack of complete or wholly accurate information, many things suggested that the Soviet's navy was developing and strengthening. In July Admiral Kuznetsov announced that the Navy would add 168 warships to

her fleet during the year; and he stated that 112 ships had been completed in 1939. Those grandiose claims might not have been warranted, but numerous additions to the fleet were made, particularly in the destroyer and submarine classes. More operations at sea than formerly were noted in the Baltic, the Black Sea, the Arctic, and on the eastern coast of Siberia.

Acquisition of naval bases in Finland, Latvia, and Estonia greatly strengthened the Russian naval position in the Baltic; while control of the northern mouth of the Danube, in the territory taken from Rumania, improved her position in the Black Sea. For some years she had been improving the facilities of her Arctic coast, and naval bases of a sort were being slowly developed in the Far East.

**United States.** At the beginning of the year, with the European War relatively quiescent, naval training, expansion, and development was planned to continue along the lines of late 1939. After a substantial reduction in its initial estimates by the Budget Bureau, the Navy Department asked Congress for \$1,078,000,000. This was cut about 113 million by the House in February and another two million by the Senate in April. Before final approval of the bill, German successes in Europe caused the country, the President, and Congress to become alarmed over our own defenses, and the President delivered a special message to Congress on the subject. The Senate recalled the bill and when it next passed, the amount had been increased to \$1,300,000,000. Meantime a bill had been passed authorizing an 11 per cent increase in ships.

As the international situation rapidly became worse, a supplementary appropriation measure carried additional funds, bringing the Navy allotment to \$1,867,451,208 with contract authorization for a further \$311,755,612. After France collapsed, Congress hastily rushed through a bill to increase the Navy by 70 per cent at an estimated ultimate cost of four billion dollars. The aircraft program called for 15,000 naval planes. A bill for 10,000 naval pilots followed closely.

In August, a second supplementary defense bill added over 700 millions and a further 500 millions in contracts was authorized. A third bill provided for another 75 million bringing the total in cash and contract authorization for the year to \$3,460,000,000.

Provision was made for 170,000 men in the Navy and 34,000 in the Marine Corps, a substantial increase in the number of reserves on extended active service, and a large increase in pilot training. Funds were made available for 10,000 serviceable aircraft, for commencing construction of 292 combatant vessels and 57 auxiliary ships and for acquiring and converting other auxiliary ships, for recommissioning decommissioned naval vessels, for establishing new air bases and stations, and for providing additional production facilities, including new plants and extension of existing plants for accelerating immediate production.

The composition of the Navy in under-age combatant vessels as authorized by the aforementioned legislation, and for which funds to commence construction were made available was:

Battleships	.....	1,045,000 tons
Aircraft Carriers	.....	454,500 tons
Cruisers	.....	899,024 tons
Destroyers	.....	478,000 tons
Submarines	.....	172,956 tons
<b>Total...</b>	<b>.....</b>	<b>3,049,480 tons.</b>

The authorized number of aircraft for that fleet was 15,000. It was estimated that to man it would require 461,000 men and 25,000 officers, including 10,000 pilots. The earliest date of completion was estimated to be 1946.

The Navy Department in anticipation of passage of those several successive bills conferred with shipyard representatives and contractors. Tentative agreements were negotiated, and as bills were passed contracts were definitely awarded with but little delay. Plant expansions were provided for, and arrangements were made for acquisition of auxiliary vessels.

Legislation in June gave the President authority to dispose of any naval weapon, ship, boat, aircraft, etc., in the event that the Chief of Naval Operations certified they were not essential to the defenses of the United States. On September third he informed Congress that he had negotiated an agreement with the British Government to secure sites for naval and air bases in British territory in the western hemisphere in exchange for 50 over-age American destroyers. The requisite certification was given by Admiral Stark, Chief of Naval Operations, and the destroyers were taken to Canadian ports where they were turned over to British officers.

A board headed by Rear Admiral Greenslade, a member of the General Board, conferred with British representatives and agreed upon sites for bases in Newfoundland, Bermuda, the Bahamas, the Antilles, and Trinidad. Plans for their development were drawn and arrangements were made to commence construction at once.

The ships and planes of the Navy were maintained in the same general organization as in the recent past with a large portion of the combatant strength operating in the Pacific. In April these units were concentrated in Hawaiian waters for extended maneuvers, including the annual fleet problem. Upon the scheduled date of return to the Pacific Coast announcement was made that the fleet would continue to base indefinitely in Hawaii to facilitate training. At the end of the year it was still operating in that area. The Atlantic Squadron was considerably increased in strength by additions of new ships and old ones recommissioned. With increase in operating strength, its status was raised to that of a force and its name changed to Patrol Force. The organization was along fleet lines to which it might be advanced as the two-ocean navy became a reality.

The rapid increase in the number of operating ships and planes required a commensurate increase in personnel. And the increase in numbers became even greater when determination was made to bring all ships up to 100 per cent complement instead of the 85 per cent which was the normal peacetime allowance of most of them. This required an accelerated recruiting program and a large increase in shore facilities where the men newly inducted in to the Service received initial indoctrination and training. The period of preliminary training was reduced to six weeks, and as the new men joined their ships they were given intensive training to qualify them for the innumerable specialized billets they were to fill.

Difficult as were the problems of developing competent petty officers and skilled technicians, those of providing officers for the existing and building navy were even more acute. Retired and reserve officers were placed on active duty and the Naval Academy was expanded. New air stations

were being built at Corpus Christi, Texas, and at Jacksonville, Florida, to supplement the one at Pensacola, Florida, for training naval aviators. Machinery was set up for obtaining the embryo pilots, and arrangements were perfected for having both the new stations operating to capacity in 1941.

With the large navy in prospect it would no longer be possible to obtain all the line officers necessary to man it from the Naval Academy. Legislation was obtained authorizing permanent commissions in the line of the regular Navy of selected reserve officers and graduates of naval R.O.T.C. units. Examinations were held, and it was expected that the first groups would have their commissions approved early in 1941. As with the enlisted personnel, strenuous training schedules awaited the newly commissioned officers as they joined their ships.

During the year the carrier *Wasp*, the 10,000-ton light cruiser *Helena*, and a number of destroyers, submarines, and motor torpedo boats were commissioned. A great number of destroyers, submarines, and auxiliaries were recommissioned, and a large number of auxiliaries were purchased and converted or were being converted to naval use. Two new battleships were nearing completion, but no other large ships were scheduled for delivery before 1942. After the construction program was in full swing various means of speeding it up were found, and late in December the Secretary of the Navy announced that many of the ships would be completed ahead of scheduled dates, and that normal building time of destroyers particularly was being considerably reduced.

Much progress was made in expanding shore facilities both for new construction and for repairs and other services to the fleet. Activities were most marked in providing air bases from which long range patrol bombers would operate. The largest development of this nature was in the Hawaiian Islands, with outlying advance bases at Midway, Johnston, and Palmyra. Others, outside the continental limits of the United States, were in Alaska, Panama, and Porto Rico. It was expected that the developments of the bases obtained from Great Britain would be rapid.

See AERONAUTICS under *Military Aviation*; EUROPEAN WAR; SHIPBUILDING; Compare MILITARY PROGRESS.

C. H. McMorris.

**NAVIGATION.** See COAST GUARD, U.S.; NAVAL PROGRESS; SHIPPING.

**NAVY, U.S.** See NATIONAL DEFENSE ADVISORY COMMISSION; NAVAL PROGRESS.

**NAZARENE,** Church of the. A church organized in Los Angeles, Calif., in 1895. With it were subsequently united the Association of Pentecostal Churches in America (founded in 1895), the Holiness Church of Christ, and the Pentecostal Mission. Headquarters, 2923 Troost Avenue, Kansas City, Mo. For statistics, see RELIGIOUS ORGANIZATIONS.

**NAZISM.** See FASCISM.

**NEANDERTAL MAN.** See ANTHROPOLOGY.

**NEBRASKA.** Area, 77,520 square miles; includes water, 712 square miles. Population (U.S. Census), April, 1940, 1,315,834; 1930, 1,377,963. Omaha (1940), 223,844, Lincoln (the capital), 81,984. The whole population of the State diminished (1930-40) by 62,129; the rural group, by 90,170, to 801,686; but the urban population

(dwellers in places of 2500 or more) rose by 28,041, to 514,148.

**Agriculture.** Nebraska harvested, in 1940, 17,322,000 acres of the principal crops. Leading these, corn, on 6,289,000 acres, made 106,913,000 bu., estimated as having a value of \$62,010,000 to the producers. Wheat, on 2,646,000 acres, gave 34,821,000 bu. (value, about \$22,634,000); oats, 1,490,000 acres, 35,760,000 bu. (\$10,013,000); barley, 1,409,000 acres, 22,544,000 bu. (\$8,792,000); tame hay, 1,029,000 acres, 1,366,000 tons (\$8,879,000); potatoes, 81,000 acres, 11,340,000 bu. (\$5,557,000); grain sorghums, 736,000 acres, 7,728,000 bu. (\$3,246,000); sugar beets, 70,000 acres, 910,000 tons (for crop of previous year, 1940, \$3,492,000). Farms numbered 121,062 in 1940 and averaged 391 1/2 acres.

**Education.** For the academic year 1939-40 Nebraska's inhabitants of school age (from 5 years to 21) were reckoned at 369,154. The year's enrollments of pupils in all public schools numbered 276,188: this comprised 191,910 in the elementary group and 84,278 in high school. The year's expenditure for public-school education totaled \$20,427,684. Teachers in public schools numbered 12,759; their year's pay averaged \$1283 for men and \$981 for women in cities and villages and \$518 for men and \$498 for women in rural schools.

**Mineral Production.** Petroleum, found near Falls City in 1939, gave a small but rising yield in 1940. Mineral production (totaling \$4,028,712 for 1938) had previously no conspicuous features.

**History.** The Legislature met in special session early in the year. As the Union's only unicameral legislative body, established in 1937 and still in the initial stage of trial, it continued to draw attention from outside the State. It sat for eleven days, disposed of about twenty bills dealing chiefly with poor-relief, pensions, and unemployment compensation, and kept the cost of running the session down to about \$5000, the members getting no additional pay. This compared favorably with its own previous record, \$103,445 for the regular session of 1937 and \$100,678 for the regular session of 1939; still more favorably with the \$202,593 that the last regular session of the old bicameral Legislature cost in 1935. Comment at the time noted that the unicameral Legislature showed the advantage of fixing responsibility in a single house, that it had successfully done without the secrecy employed in other legislatures' executive sessions and often in their committees' meetings, and that it had brought to the task a higher type of citizens. The *Atlanta Constitution* apprehended, however, that a unicameral Legislature in the hands of a political ring "could wreak great damage," even though the system had brought "astonishing results" in Nebraska.

Nebraska's three State-owned power districts became (August 15) a single organization, forming a \$60,000,000 system of electrical generation. Five years of dispute and litigation had preceded the merger, long sought by the Federal authorities through the Public Works Administration, which had furnished the money for constructing the works. The Platte Valley and Loup River districts were in operation at the time of the merger; the Central Nebraska District was still partly in stage of construction. Its Kingsley Dam was scheduled for completion by November 1. In addition to supplying electricity, the district was to irrigate 220,000 acres of land that had suffered much from drought in recent years. An adverse report on financial practices, made to the WPA, led to D. W. Kings-

ley's retirement (October 8) as head of the Central District. See **FLOODS**.

**Elections.** On November 5 Nebraska's popular vote for President gave Willkie (Rep.) 352,201, constituting a margin of about 88,524 over Roosevelt (Dem.), who got 263,677 votes. Dwight L. Griswold (Rep.) was elected Governor, defeating Terry Carpenter (Dem.). For U.S. Senator, Hugh A. Butler (Rep.) defeated Gov. R. L. Cochran (Dem.) and won the seat actually held by E. R. Burke (Dem.), an opponent of the New Deal, who had failed of renomination in the Democratic primary.

**Officers.** Nebraska's chief officers, serving in 1940, were: Governor, R. L. Cochran (Dem.); Lieutenant Governor, William E. Johnson; Secretary of State, Harry R. Swanson; Auditor, Ray C. Johnson; Treasurer, John Havekost; Attorney General, W. R. Johnson; Superintendent of Public Instruction, Charles W. Taylor.

**NECROLOGY.** The following is a list of notable persons who died during the year 1940.

**Aage,** Prince of Denmark; died in Taza, French Morocco, Feb. 29, 1940, born in Copenhagen, June 10, 1877. He renounced his rights to the Danish throne in 1914. He served in the French Foreign Legion during 1923-31 and again after 1932.

**Abbott, Maude E. S.** Canadian heart specialist; died in Montreal, Can., Sept. 2, 1940, born in 1869, was graduated from Laval Univ. Faculty of Medicine, 1894. An international authority on heart ailments, she served on the staff of McGill University until her retirement in 1935. At her death she was secretary of the International Association of Medical Museums.

**Abbott, Robert Sungstacke,** American editor and publisher; died in Chicago, Feb. 29, 1940; born in Savannah, Ga., Nov. 24, 1870. Educated at Claflin University, Hampton Institute, and Kent Law School. Founder in 1905 and afterwards editor and publisher of *The Chicago Defender*, a weekly devoted to the interests of the Negro race.

**Abercrombie, John W.** American educator; died in Montgomery, Ala., July 2, 1940; born in St. Clair Co., Ala., May 17, 1866. He served as State superintendent of education in Alabama during 1898-1902 and again during 1920-27, as assistant superintendent, 1927-35, and as State supervisor of teacher certification thereafter. He was president of the University of Alabama (1902-11) and was a member of the 63d and 64th Congresses (1913-17) as a delegate at large from Alabama.

**Abertay, 1st Baron, Charles (Goupar) Barrie,** British politician, shipowner, and merchant; died at Tullybelton, Perthshire, Scot., Dec. 6, 1940; born in 1875. He was a member of Parliament from Elgin Burghs (1918); from Banffshire (1918-24); and from Southampton (1931-40).

**Adams, Thomas,** British architect; died in Battle, Sussex, Mar. 24, 1940; born in Edinburgh, Sept. 10, 1871. He was the founder and first president of the Town Planning Institute (1914-15) and subsequently served as president of the Canadian Town Planning Institute (1916) and as director of the Regional Plan of New York (1923-30). He taught at Harvard University and the Massachusetts Institute of Technology and was president of the Institute of Landscape Architects during 1937-39.

**Adler, Cyrus,** American educator, died in Philadelphia, Apr. 7, 1940, born in Van Buren, Ark., Sept. 13, 1863. He was associated with the Smithsonian Institution during 1892-1908 and with the U.S. National Museum (1889-1908); was named president of Dropsie College for Hebrew and Cognate Learning in 1908, and in 1924 became, in addition, president of the Jewish Theological Seminary of America. He was a founder of the American Jewish Committee (1907), and served as its president after 1929, and was a member of the Jewish Publication Society. Although a non-Zionist, he was president of the United Synagogue of America, resigning in 1917 when that organization expressed approval of the Zionist movement. He was a leader in the United Palestine Appeal, and the United Jewish Appeal for Refugees and Overseas Needs, and was one of the editors of the *Jewish Encyclopedia*, and of the *American Jewish Year Book* (1899-1906). Also, he was chairman of the Army and Navy Committee of the Jewish Welfare Board and on Dec. 23, 1939, was invited by President Roosevelt to represent the Jews in a joint peace effort by the religious leaders of the world. An authority on Semitic philosophy, Assyriology, Oriental archaeology, and comparative religions, he wrote a memorandum on the *Wailing Wall* (1930) prepared for the Special Committee of the League of Nations on behalf of the Jewish Agency for Palestine.

**Aglipay, Gregorio.** Filipino bishop; died in Manila, Philippines, Sept. 1, 1940; born in Batac, Ilocos Norte Province, May 9, 1860. In 1889 he was ordained a Roman Catholic priest. Ten years later he was excommunicated for having joined Aguinaldo's rebel forces the previous year. In 1902 he founded the Philippines Independent Church, which he headed until his death. With Aguinaldo, he was defeated by Quezon in the 1935 presidential election.

**Aldrich, Chester Holmes.** American architect; died in Rome, Italy, Dec. 26, 1940; born in Providence, R.I., June 4, 1871. He was educated at Columbia University and the Ecole des Beaux Arts, Paris; and (with W. Adams Delano) founded the firm of Delano and Aldrich, New York, in 1903. Delano and Aldrich were the architects for many famous structures, public and private, including the Japanese Embassy in Washington, the new American Embassy in Paris; the homes of John D. Rockefeller in Pocantico Hills, N.Y., and Col. Charles E. Lindbergh at Hopewell, N.J. In the World War, Mr. Aldrich was director general of civil affairs of the American Red Cross Mission in Italy. He was a trustee of the American Academy in Rome since 1926 and director since 1935.

**Aleshire, Arthur William.** American Democratic Congressman from Ohio (1937-39); born in Luray, Va., Feb. 15, 1900; died in Springfield, O., Mar. 11, 1940.

**Alexander, Sir Henry.** Scottish editor; died in Aberdeen, Apr. 7, 1940; born in 1875. He edited the *Aberdeen Free Press* from 1914 to 1922 and was Lord Provost of Aberdeen during 1932-35.

**Allan, George William.** Canadian lawyer and business executive; died in Victoria, B.C., Can., Dec. 6, 1940; born in Moss Park, Toronto, Ont., Aug. 13, 1860. He was president of the Great-West Life Assurance Co.; and was a member of the House of Commons from South Winnipeg (1917-21).

**Alsberg, O(arl) Lucas.** American biochemist; died in Berkeley, Calif., Nov. 1, 1940, born in New York City, N.Y., Apr. 2, 1877. He was graduated from the College of Physicians and Surgeons at Columbia University (1900), and continued his medical studies at the Universities of Strassburg and Berlin (1900-03). He was chief chemist of the Bureau of Chemistry of the Department of Agriculture from 1912 to 1921, resigning to head the newly established Food Research Institute of the Carnegie Foundation at Stanford University, California. Dr. Alsberg's father, Meinhard, who was also a noted chemist, was the founder of the New York Chemical Society, parent body of the American Chemical Society.

**Amos, Sir Maurice Sheldon.** British jurist; died in Ulverston, Lancashire, Eng., June, 1940; born on June 15, 1872. In public life since 1898, he was adviser to the Egyptian Government, 1919-25, Quain Professor of Comparative Law, London Univ., 1932-37, and chief British member of the International Committee of Experts on Private Aerial Law from 1933 until his death.

**Amyot, John Andrew.** Canadian physician, Deputy Minister of Pensions and National Health (1919-33); died in Ottawa, Feb. 13, 1940; born in Toronto, July 25, 1867. An advocate of modern sanitation methods, he taught at the University of Toronto during 1900-18 and served with the Canadian Expeditionary Forces during the World War as a consultant in sanitation.

**Andersen, Hendrik Christian.** American sculptor; died in Rome, Italy, Dec. 9, 1940; born in Norway, Apr. 17, 1872. He came to the United States as a child, studied art in Boston; and lived in Italy after 1899. Besides sculpture, he was famous as the author of plans for a proposed international city, to be devoted to peace and art. He spent \$150,000 and employed 40 architects, working under Ernest Hebrard of Paris, to make blueprints for the city, which was to be the permanent seat of all governments and in which all internal, financial, commercial, and cultural exchanges were to be transacted—thus assuring world unity and peace.

**Anderson, Abraham A.** American artist; born in Peapack, N.J., in 1847; died in New York, Apr. 27, 1940. His work was mainly of portraits of prominent men, but one of his best known works was a triptych, "Neither do I Condemn Thee." He was active in the founding of the United States forest reserve system.

**Anderson, Harold MacDonald.** American journalist; died in New York City, Dec. 26, 1940; born in Great Barrington, Mass., Aug. 22, 1876. He worked as a reporter on the *Berkshire News* and the *Berkshire Courier*, Great Barrington; corresponded for New York newspapers; and joined the staff of *The Sun* in New York City on June 1, 1894, remaining there, except for an interval of 15 months in 1924-25, until his death. He penned the editorial *Lindbergh Flies Alone*, which was published in *The Sun* May 21, 1927, and attracted nation-wide notice.

**Anderson, John Crawford.** American lawyer, associate justice of the Supreme Court of Alabama from 1904 to 1914, chief justice thereafter; died in Montgomery, Ala., Apr. 27, 1940; born in Greene Co., Ala., Aug. 5, 1863. He dissented from the Court's opinion that the Negroes in the

Scottboro case had received a fair and impartial trial.

**Anderson, Mary.** See NAVARRO, MARY ANDERSON DE.  
**Andreen, Gustav Albert.** American educator and author; died in Chicago, Ill., Oct. 1, 1940; born in Porter, Ind., Mar. 13, 1864. He was president of Augustana Coll., Rock Island, Ill., 1901-35 (Emeritus). Until his death he served as general alumni secretary.

**Andreve, Guillermo.** See SPANISH-AMERICAN LITERATURES under Panama.

**Andrew, John B.** American Civil War veteran, national commander of the Grand Army of the Republic (1939-40); died in Quincy, Ill., June 30, 1940; born in Ohio in 1849.

**Andrews, Charles Freer.** British clergyman; died in Calcutta, Apr. 5, 1940; born in Newcastle-on-Tyne, Feb. 12, 1871. Vice-president of Rabindranath Tagore's Institution in Bengal India, he was an authority on Indian labor and a trusted friend of Mahatma Gandhi. A prolific writer on Indian affairs, he wrote *Mahatma Gandhi, His Own Story and The Rise and Growth of the Congress in India* (1939).

**Arco, Georg von.** German engineer; died in Berlin, May 7, 1940; born in Grossgorschuetz, Aug. 30, 1869. A pioneer in wireless telephony and telegraphy, he invented several improvements for high frequency machines and was director of *Gesellschaft für Drahtlose Telegraphie*, Berlin, and of *Telefunken*.

**Argüello Barreto, Santiago.** See SPANISH-AMERICAN LITERATURES under Nicaragua.

**Arnott, Sir John Alexander.** Irish soldier and publisher; died on July 26, 1940; born on Nov. 16, 1853. He was a major and an honorary lieutenant colonel of the 4th Battalion, Cheshire Regiment until he retired in 1900. At his death he was chairman of *The Irish Times* and justice of the peace of Dublin and Cork Counties.

**Aronson, Louis V.** American inventor; died in Long Branch, N.J., Nov. 2, 1940; born in New York City, N.Y., Dec. 25, 1870. He invented the Ronson cigarette lighter; originated several types of mechanical fireworks, including a time-fuse for airplane bombs, and was a leader in the development of non-poisonous matches, for which last-named work he received a \$10,000 award from the Belgian Government. He founded the Art Metal Works of Newark, N.J., in 1897.

**Ashbrook, William A.** American Congressman; died in Johnstown, O., Jan. 1, 1940, where he was born, July 1, 1867. Publisher and editor of the *Johnstown Independent* from 1885, he served as a Democratic member of Congress (1907-21; 1935-39).

**Auden, Henry William.** Canadian philologist; died in London, Canada, Jan. 26, 1940; born in 1867. From 1903 to 1918 he was principal of Upper Canada College, and from 1919 to 1938 he was professor of Latin at University of Western Ontario, London, Ont. Thereafter he was Professor Emeritus of the Classics.

**Aughinbaugh, William Edmund.** American physician, author, educator, lawyer, and explorer; died in New York City, Dec. 18, 1940; born in Westmoreland Co., Va., Oct. 12, 1871. A graduate of the National Law School, Washington, D.C. (1892), and of Columbia (now George Washington) University (1897), he practiced medicine among lepers in Cuba, Puerto Rico, and Venezuela; visited many countries on medical, economic, and legal missions; entertained William Jennings Bryan in India; was friend of a rajah who had 800 wives and no children; wrote for various magazines, newspapers, and syndicates, and was for a while Professor of Foreign Trade at New York University. He served also on the faculty of Columbia University; founded the Explorers Club; and headed the Manhattan Medical Society as president. His most famous book was *I Swear by Apollo*, an effervescent autobiography published in 1938.

**Ayres, Agnes.** American motion picture actress; died in Hollywood, Dec. 25, 1940; born in Carbondale, Ill., in 1898. She played opposite Rudolph Valentino in *The Sheik* and starred in many other silent photoplays.

**Asafia, Manuel.** Spanish ex-President and writer; died in Montauban, France, Nov. 4, 1940; born in Alcala de los Henares, Castile, Spain, Jan. 10, 1880. He became Minister of War in 1931; was accused and acquitted of complicity in the Socialist and Catalan uprising (1934); and was made Prime Minister in February, 1936. He was elected President (May, 1936) and served through the Civil War until February, 1939, when he fled to France.

**Bailey, Sir Abe.** South African financier and politician; died in Cape Town, South Africa, Aug. 10, 1940; born in Cradock, Cape Colony, Nov. 6, 1864. In 1887 he went to Johannesburg, and became one of the leading mine owners. After the Jameson Raid in 1895 he spent thirteen months in jail for alleged conspiracy in it. He served in the Boer War, 1899-1902, and was a member of the Cape House of Assembly, 1902-05, and the Transvaal Parliament, 1910-24. He held large interests in gold mining and other industries.

**Bailey, Guy Winfred.** American educator; died in Boston, Mass., Oct. 22, 1940; born in Hardwick, Vt., May 7,

1876. Graduating from the Univ. of Vermont in 1900, he studied law, and served in the House of Representatives of Vermont, 1904-08, becoming Secretary of State, 1908-17. He became controller of the Univ. of Vermont in 1917 and was its president from 1920 until his death.

**Baillie, Baris.** American investment banker; died in New York City, N.Y., Nov. 15, 1940; born in Milwaukee, Wis., Sept. 17, 1890. He was chairman of the board and founder of the Tri-Continental Corporation, the country's largest investment management corporation. In 1933 he was appointed a special assistant for fiscal affairs in the Treasury Department; and on Sept. 5, 1939, he became a member of a special advisory committee of three bankers who assisted the Treasury Department in handling the complex financial and economic problems arising from the European War.

**Baker, Asa George.** American publisher; died in Springfield, Mass., Sept. 10, 1940; born in Milwaukee, Wis., Sept. 27, 1866. He began with G. & C. Merriam Co. in 1888 and supervised three editions of the *Merriam Webster Dictionary*. He was president of the firm from 1922 to 1934, and chairman of the board thereafter until his death.

**Baker, James Marion.** American diplomat; died in Lowndesville, S.C., Nov. 21, 1940; born in Lowndesville, Aug. 18, 1861. He was Minister to Siam (1933-37) and Secretary of the U.S. Senate (1913-19).

**Balbo, Italo.** Italian aviator, killed fighting the British over Tobruk, Libya, June 28, 1940, as announced by the Italian Government but denied by the British who said that none of their aircraft was over Tobruk at the time Balbo was killed, born in Quaratesana, Ferrara, June 6, 1896. After service in the World War, he entered politics and by 1922 was a trusted member of the Fascist Party. He became minister of national economy and general of the Black Shirt Militia after Mussolini came into power and subsequently became under-secretary for Air, General of the Air Fleet, and in September, 1929, Air Minister. Under his rule the Italian air force was modernized and reorganized and he promoted mass flights as a demonstration of military strength. He led a squadron of 12 planes from Rome to Rio de Janeiro in 1931, and in 1933 he piloted a mass flight of 24 planes to America, flying from Rome on June 30, arriving in Chicago on July 14 and New York on July 18. They left for home on July 25, reaching Rome on August 12. He was made Air Marshal in recognition of this feat. In November, 1933, Marshal Balbo was appointed Governor of Libya, said to have been more of an exile than a promotion. During his rule many improvements were made in that country. In April, 1937, he was appointed commander in chief of the armed forces of Italian North Africa. He was the founder and former editor of *Corriere Padano* and published his diary in 1922.

**Ball, David H.** American manufacturer; died in Mount Vernon, N.Y., Feb. 3, 1940; born in Baltimore in 1870. Associated with the American Tobacco Co. from 1900, in 1911 he became executive vice-president of P. Lorillard Co. and in 1937 succeeded to the presidency.

**Ball, John.** British golf champion; died in Holywell, Wales, Dec. 2, 1940; born in Hoylake, 1861. He was British amateur champion in 1888, 1890, 1892, 1894, 1899, 1907, 1910, and 1912, and in 1890 he captured the open championship as well.

**Bankhead, William Brockman.** American congressman; died in Washington, D.C., Sept. 15, 1940, born in Moscow, Ala., Apr. 12, 1874. He graduated from the Univ. of Alabama in 1893, and from the law school of Georgetown Univ. in 1895. He served in the Alabama legislature, 1900-01. Elected to the 65th Congress in 1917, he was re-elected to each succeeding Congress, being a member of the 76th Congress at his death. He had the distinction of holding the three most important positions in the House—chairman of the Rules Committee in the 73rd Congress; Majority Leader, 1st session, 74th Congress, and Speaker since June 4, 1936, upon the death of Joseph W. Byrns. Noted for his knowledge of parliamentary law, he was also a skilled orator.

**Barling, Sir (Harry) Gilbert.** British surgeon; died in Birmingham, Aug. 27, 1940; born in Newnham, England, Apr. 30, 1855. Consulting surgeon at Birmingham General Hospital, he was pro-chancellor and late dean of the Medical Faculty at the University of Birmingham and former examiner in surgery at the University of Cambridge.

**Barnes, George Nicoll.** British politician; died in London, Apr. 22, 1940; born in Scotland, Jan. 2, 1859. Active in labor circles from 1892, he served as a Labor Member of Parliament from 1906 to 1922, when he resigned. He was Pensions minister (1916-18), minister without portfolio (1919), a member of the War Cabinet (1917), and minister plenipotentiary at the Paris Peace Conference (1919). In 1926 he wrote *The History of the International Labour Organisation*.

**Barnes, Ralph W(aldo).** American newspaper correspondent; killed in an airplane accident near Danilov Grad, Yugoslavia, Nov. 18, 1940; born in Salem, Ore.,

June 14, 1899. He was educated at Willamette and Harvard Universities; worked for the *Brooklyn Eagle* in 1924; the *New York Evening World* (1925-26); *Paris Herald* (1926-29); and was thereafter assigned to various European capitals as correspondent for the *New York Herald Tribune*. He was in Germany from 1935 to 1939; was with the British Expeditionary Force in France from the beginning of the war until April, 1940, when he was shifted to cover operations of the German army. He was later expelled from Germany on the ground that he had "indulged in false, hateful, and sensational reporting" and had "endangered German interests." He then went to the Balkans and Palestine and to Egypt, where he covered the Italian advance to Sidi Barrani. On the outbreak of the war in Greece he was transferred to that battleground. He met his death in a night-riding British bomber that crashed in Yugoslavia.

**Barrère, Camille.** French diplomat; died in Paris, France, Oct. 9, 1940, born in La Charité-sur-Loire, October, 1851. He was Ambassador to Switzerland, 1894, and to Italy, 1897-1929. In 1922 he was a delegate to the Lausanne Conference. The most noteworthy achievement in his career was the winning over of Italy from the Triple Alliance to the Triple Entente in the World War.

**Barriero, Manuel.** Spanish soldier; died in Vigo, Spain, July 14, 1940; born in 1881. A general of Engineers, he was reputed to have been the first to use heavier-than-air craft for military purposes. He was decorated by Spain, after having been shot down and wounded during the Riff wars in 1903, while piloting a primitive biplane over Comico Mountain.

**Barriga, Juan Agustín.** See SPANISH-AMERICAN LITERATURES under *Chile*.

**Barry, Patrick.** Roman Catholic bishop; died in Jacksonville, Fla., Aug. 12, 1940; born in West Clare, Ireland, 1869. He was ordained a priest in 1895. He was rector of the Cathedral of St. Augustine and vicar general of the St. Augustine Diocese, 1917-21, and was consecrated bishop in 1922.

**Bauer, Bertha.** American educator; died in Cincinnati, O., Sept. 18, 1940; born in Ann Arbor, Mich. She was president of the Cincinnati Conservatory of Music from 1912 to 1930 when she retired as emerita. The conservatory was founded by her aunt, Miss Clara Bauer, in 1876, and is now affiliated with the Univ. of Cincinnati.

**Beck, Martin.** American vaudeville impresario, died in New York City, N.Y., Nov. 16, 1940; born in Bohemia, 1869. He came to America in 1887; played with a group of German actors; and opened his first theater, the Orpheum Concert Hall, in 1889, the nucleus of the Orpheum Circuit, which numbered some 60 theaters headed by Mr. Beck. In 1924 he built the Martin Beck Theater in West 45th Street, New York City.

**Becker, Karl.** German soldier and scientist; died in Berlin, Apr. 8, 1940; born in Speyer, Dec. 14, 1879. A general and a renowned ballistics expert, he headed the Arms and Munition Bureau in the War Ministry. His state funeral was attended by Reichsfuehrer Hitler.

**Beckham, J(ohn) Oreppe Wickliffe.** American lawyer; died in Louisville, Ky., Jan. 9, 1940, born in Wickland, Ky., Aug. 5, 1869. Active in the affairs of his State he was its governor from 1900 to 1907 and in 1915 was elected to the U.S. Senate, serving one term. In 1927 he was defeated for the governorship and in 1937 tried unsuccessfully to obtain the nomination for Senatorship.

**Bedford, Duke of, Herbrand Arthur Russell.** English landowner; died at Woburn Abbey, Bedfordshire, Eng., Aug. 27, 1940; born in London, Feb. 19, 1858. The eleventh to hold the title, he was one of the richest dukes in the United Kingdom. A natural history expert, he was president of the Zoological Society of London, 1899-1936, maintaining a large zoological park on his estate, and financing many world-wide specimen-collecting expeditions. He served in the Egyptian Campaign of 1882, and was aide de camp to King Edward VII and King George V, 1908-20. Rejoining the army, he served throughout the World War. His vast holdings included his family seat at Woburn, estates in Northamptonshire and other parts of England, and large parcels in Bloomsbury and St. Pancras sections in London. The Covent Garden estate in the heart of London was sold by him in 1913 at an estimated price of \$17,500,000.

**Begg, Alexander Swanson.** American educator; died in Boston, Mass., Sept. 26, 1940; born in Council Bluffs, Ia., May 23, 1861. He received his M.D. degree in 1907 from Drake Univ., and taught there until 1913, from 1911 to 1918 and 1919 to 1921 he taught at Harvard Medical School, and was dean of the Graduate School of Medicine, 1917-18. At the Carnegie Inst. he was research associate in 1915-16. During the World War he commanded the base hospitals of the A.E.F. From 1923 until his death, he was dean of the Boston Univ. School of Medicine which he had joined in 1921.

**Behrend, Ernst Richard.** German-American paper manufacturer; died in Erie, Pa., Sept. 22, 1940; born in Coeslin, Germany, Mar. 29, 1869. He came to the United

States in 1896 and was naturalized in 1901. After working for several paper companies he founded the Hammermill Co. in 1898. A pioneer in manufacturing fine writing papers from cellulose fibers in wood, he invented high-speed watermarking, and founded the first all-sulphite process paper mill in the United States.

**Belloso y Sánchez, Mons. Alfonso.** See SPANISH-AMERICAN LITERATURES under *El Salvador*.

**Benjamin, William Everts.** American antiquarian and philanthropist; died in New York, Feb. 24, 1940, where he was born, Feb. 19, 1859. A collector of Americana, he endowed a chair of American History at the Library of Congress and contributed historical papers and photographs to the Congressional Library, Columbia University, and the New York Historical Society.

**Benson, Allan L.** American writer; died in Yonkers, N.Y., Aug. 19, 1940; born in Plainwell, Mich., Nov. 6, 1871. Entering newspaper work in 1890 as a reporter, he was successively assistant managing editor and managing editor on several newspapers until 1907, when he retired from active newspaper work. From 1908 to 1916 he wrote on political and economic subjects for *Pearson's Magazine*. In 1916 he was selected as the Socialist presidential candidate, replacing Debs, but resigned from the party in 1918 due to its stand on World War issues. He was one of the founders of *Reconstruction Magazine* after the war.

**Benson, Edward Frederic.** British writer; died in London, Feb. 29, 1940; born at Wellington College, July 24, 1867, the son of the Archbishop of Canterbury. He worked in Athens for the British Archaeological Society and in Egypt for the Hellenic Society, and in 1893 published his first book *Dodo*, which established him as a writer of fiction. His later works included *As We Were* (1930), *As We Are* (1932), *King Edward VII* (1933), *Queen Victoria* (1935), and *Daughters of Queen Victoria* (1939).

**Bentley, Irene (Mrs. Harry B. Smith).** American actress; died in Allenhurst, N.J., June 3, 1940; born in Baltimore, Md., in 1870. A musical comedy star of the 1890's, she was best known for her roles in *The Belle of New York* (1898), *The Rounders* (1900), *The Girl from Dixie* (1903), etc. She retired in 1910.

**Berg, William H.** American industrialist, president of the Standard Oil Co. of California from 1937; died in Burlingame, Calif., June 26, 1940; born in Tripoli, Ia., Apr. 8, 1882.

**Berry, Sir George A.** British ophthalmologist; died in London, June 18, 1940; born in Glenstriven, Scotland in 1853. He lectured on ophthalmology at Edinburgh University and had served as a Conservative Member of Parliament for the Scottish Universities (1922-31). He wrote several works on diseases of the eye and was a former president of the Ophthalmological Society of the United Kingdom.

**Bert, Sir Matthew Robert.** British naval officer; died, Oct. 13, 1940; born, June 18, 1878. Rising through the grades he served in the World War, and participated in the battle of Jutland. He was Commander in Chief of the America and West Indies Station, 1934-37, becoming a full admiral in 1936. He retired in 1939.

**Besteiro, Julian.** Spanish republican leader; died in Carmona, Sevilla Province, Spain, Sept. 27, 1940; born in 1870. He had been professor of logic and dean of the faculty at Madrid Univ., Minister to the Hague, and Minister of Foreign Affairs. He became president of the Cortes in 1931 and speaker in 1933. He was president general of the Union of Workers and leader of the Socialist Party until 1934. As the last head of the Republican Government he surrendered Madrid to the Nationalists in 1939, and was sentenced to prison, where he died.

**Bielschowsky, Alfred.** German ophthalmologist; died in Brooklyn, N.Y., Jan. 5, 1940; born in German Silesia in 1872. After a noteworthy career in Germany as professor of ophthalmology and chief of the eye clinic of the University of Breslau, Germany, he became associated with the Dartmouth Eye Institute in 1934. After 1937 he became professor of ophthalmology and director of the Institute. He was known as an authority on motor anomalies of the eye.

**Billotte, Gaston.** French general; killed in an automobile accident while commanding a group of armies in the field in May, 1940; born in Sommeval, Aube Dept., Feb. 10, 1875. In the army from 1896, he saw service in the Colonial army; during the World War; and in Poland, and from 1937 to September, 1939, was Military Governor General of Paris.

**Binet-Valmer, Jean.** French novelist; founder of *La Renaissance Latine* (1902) and author of several books including *Le Mendiant magnifique* (1919) and *Le Jardin de l'Impér* (1930); born, 1875; died, 1940.

**Birch, Stephen.** American industrialist and mining engineer; died in New York City, Dec. 29, 1940; born in New York City, Mar. 24, 1872. He was graduated from Columbia School of Mines in 1898; became a mining engineer in Alaska for the Morgan-Guggenheim Syndicate, and later, as director of the syndicate, he developed nu-

merous projects, including copper mines. The Kennecott Copper Co., with Mr. Birch as its head, was formed in 1915 in a merger of several of the syndicate's interests. He was chairman of the board of directors at the time of his death.

**Black, Alexander.** American journalist, Sunday editor of the *New York World* (1905-10), managing editor of "Frank Seaman, Inc." (1910-13), editor, Newspaper Feature Service (1913-26), and art editor of King Features Syndicate (1926-35); died in New York, May 8, 1940; born in Brooklyn, N.Y., Feb. 7, 1859. His reminiscences, *Time and Chance*, appeared in 1937.

**Bland, Pascal Brooke.** American obstetrician and gynecologist; died in Pennsylvania, Oct. 31, 1940; born in Monocacy, Pa., May 9, 1875. He was the author of several textbooks and was Professor of Obstetrics (1925-37) at Jefferson Medical College.

**Blatch, Harriot Stanton.** American woman suffrage leader and lecturer; died in Greenwich, Conn., Nov. 20, 1940; born in Seneca Falls, N.Y., Jan. 20, 1856. She was graduated from Vassar College (1878); and lived in England from 1881 to 1896, where she married William Henry Blatch, an Englishman. Returning to the United States, she led the first woman suffrage parade in New York City (1910); and was unsuccessful Socialist party nominee for Comptroller of New York City (1921). She wrote several books including: *Challenging Years*; *Mobilizing Woman Power*, for which President Theodore Roosevelt wrote an introduction; and *The Life and Letters of Elizabeth Cady Stanton*, her mother.

**Blatchley, Willis.** American naturalist, state geologist of Indiana from 1894 to 1911 when he retired; died in Indianapolis, Ind., May 28, 1940; born in No. Madison, Conn., Oct. 6, 1859. A prolific writer his works include *My Nature Nook* (1931), *South America as I Saw It* (1934), and *The Fishes of Indiana* (1938).

**Bliss, William J. A.** American educator, professor of physics at Johns Hopkins University from 1901 to 1928, died in Baltimore, Md., on Dec. 27, 1940; born in Washington, D.C., Jan. 22, 1867. He was educated at Harvard and Johns Hopkins Universities.

**Bloch, Charles Edward.** American publisher; died in Great Neck, L.I., Sept. 2, 1940; born in Cincinnati, O., 1862. Known as the dean of Jewish publishers in the United States, he was president of the Bloch Publishing Co., and founder and former president of the Free Synagogue of N.Y.

**Block, Rudolph (Bruno Lessing).** American journalist, with the Hearst papers from 1896, he was editor of the comic supplement for twenty years and wrote the column "Vagabondia" from 1928; died in Tucson, Ariz., Apr. 29, 1940; born in New York, Dec. 6, 1870.

**Blood, Sir Bindon.** British army officer; died in London, May 16, 1940; born in Cranaher, Ireland, Nov. 7, 1842. He entered the Royal Engineers in 1860, retiring in 1907 with the rank of lieutenant general. In 1936 he was appointed to the revived position of Chief Royal Engineer, retiring in April, 1940. He wrote *Four Score Years and Ten* (1933).

**Blumer, George Alder.** American alienist; died in Providence, R.I., Apr. 25, 1940; born in Sunderland, England, May 25, 1857. He was associated with the Utica State Hospital from 1889 to 1899 and thereafter was physician-in-chief and superintendent of the Butler Hospital at Providence until he was retired as emeritus in 1922. He was also editor emeritus of the *American Journal of Psychiatry*.

**Bocchini, Arturo.** Italian chief of the secret police and senator; died on Nov. 20, 1940; born in the hills of San Giorgio del Sannio, Campania, Italy, 1880. He became prefect of Bologna (1923); Genoa (1926); and senator and member of the National Fascist Council since 1933.

**Bockus, Charles E.** American industrialist; died in New York, June 29, 1940; born in Dorchester, Mass., July 10, 1868. With the Clinchfield Coal Corporation from 1913, he became president and chairman of the board in 1914. He was also president of the National Coal Association during 1929-34.

**Boix, Joseph Henri Honoré.** See ROSNY, J. H.  
**Bonci, Alessandro.** Italian lyric tenor; died in Italy, August, 1940; born in Cesena, Italy, in 1870. Oscar Hammerstein brought him to the Manhattan Opera House in 1906 as a counter-attraction to Enrico Caruso, who was at that time starring for the Metropolitan Opera Co. After two years Bonci transferred to the Metropolitan while Hammerstein, charging breach of contract, sought in vain to halt his appearance there. Addicted to emotional explosions, Bonci quit the Metropolitan suddenly in 1909 and returned to Italy. He toured the American concert halls during 1910-11, and was with the Chicago Opera Co. in 1920-21. Many critics regarded him as a greater singer than Caruso.

**Book, William F.** American psychologist; died in Long Beach, Calif., May 22, 1940; born in Princeton, Ind., June 10, 1873. Professor of psychology at the University of Montana (1906-12), he became professor of educa-



tional psychology at Indiana University in 1913. During 1913-17 he was director of vocational education there, and after 1917 was professor of psychology and director of the Psychology Laboratory until his retirement in 1934. He taught at the summer sessions at Indiana, Columbia, Wisconsin, and Hawaiian universities and was the author of numerous articles and books on education and psychology, the latest being *Economy and Technique of Learning* (1931).

**Booth, Ballington.** American welfare worker; died in Blue Point, L.I., Oct. 5, 1940; born in Brighouse, Eng., July 28, 1859. He was the son of William Booth, founder of the Salvation Army, after serving as commander in Australia and the United States, he broke with his father in 1896, and formed the Volunteers of America, a religious reform and benevolent organization, which he headed as general in chief and Ordained presbyter.

**Borah, William E.** American Senator, died in Washington, Jan. 19, 1940; born in Fairfield, Ill., June 29, 1865. A lawyer by profession, in 1907 he was elected Senator from Idaho on the Republican ticket and was re-elected thereafter to each succeeding term. Dean of the Senate, he served as a member of the judiciary, labor, and education committees and as chairman of the Indian depredations, the expenditures in the Department of Justice, the Inter-oceanic canals, and the education and labor committees. From 1924 to 1932 he was chairman of the committee on foreign relations. The highlights of his career were: successful opposition to American entrance into the League of Nations and the World Court (1920); the limitation of arms conference in Washington (1922), and his unsuccessful opposition to the repeal of the arms clause of the Neutrality Act (1939). He also waged a long fight against monopolies and advocated the federal licensing of corporations—a measure sponsored jointly with Senator O'Mahony of Wisconsin. Although an isolationist in foreign affairs and an opponent of "entangling alliances," he was a strong believer in world peace and the reduction of armaments. In his domestic policy he was a firm believer in constitutionality, and often found himself against bills with which he was in sympathy but which he felt were unconstitutional, as the anti-lynching bill.

**Bordenave, Enrique.** Paraguayan diplomatist, minister to the United States during 1933-36, died in Asuncion, Jan. 24, 1940, born in Barrero Grande, Oct. 30, 1889.

**Bosch, Carl.** German chemist, chairman of the board of directors of the I. G. Farbenindustrie Aktiengesellschaft; died in Heidelberg, Apr. 26, 1940, born in Cologne, Aug. 27, 1874. In 1931 he shared the Nobel prize in chemistry for his process of large-scale production of ammonia through adaptation of the Haber process in the synthesis of nitrogen and hydrogen.

**Bosley, Mrs. Elizabeth Cromwell.** American turf-woman, died in an auto accident near Baltimore, Md., Dec. 9, 1940, born in 1895. She was a nationally known breeder and trainer of thoroughbreds, and brought out *Chase Me*, which was one of the few unbeaten horses of turf history.

**Bostwick, Lucius Allyn.** American naval officer; died in Washington, Jan. 14, 1940; born in Providence, R.I., Feb. 21, 1869. After graduation from the Naval Academy in 1890 he held various posts and was advanced successively to the grade of rear admiral in 1923. As commander of the battleship division, Battle Fleet 1929-30, he held the rank of vice admiral. He retired Mar. 1, 1933.

**Bothesat, George de.** American aerodynamics expert; died in Boston, Mass., Feb. 1, 1940; born in Bessarabia, Russia in 1884. In 1922 he built for the U. S. Army Air Corps the first helicopter to make sustained hovering flights.

**Bouglé, Célestin.** French sociologist, professor of social economy at the Sorbonne from 1901 and director of l'École Normale Supérieure; died in Paris, Jan. 25, 1940; born in 1870. His latest work was *Bilan de la sociologie française contemporaine* (1935). In 1926 he lectured at Harvard and in 1938 at Columbia University.

**Bourne, Jr., Jonathan.** American ex-senator; died in Washington, D.C., Sept. 2, 1940; born in New Bedford, Mass., Feb. 23, 1855. He was a member of the Oregon House of Representatives in 1885, 1886, and 1892, and served as United States Senator from 1907 to 1913, being the first to be elected by popular vote. He was the author of the parcel-post law.

**Bower, Sir Hamilton.** British soldier and explorer; died in London, Mar. 7, 1940; born, Sept. 1, 1858. In the Army from 1880 to 1912, he was the first European to cross the Tibetan plateau, for which he received the Founder's medal of the Royal Geographical Society.

**Boycott, Arthur St. John.** British riding master; died in Newark, N.J., Oct. 27, 1940; born in Norfolk Co., Eng., 1862. In his youth he lived with an uncle, Capt. Charles C. Boycott, on a farm in County Mayo, Ireland; and the actions of tenant-farmers, involved in a labor dispute with the elder Boycott, resulted in the coining of the word "boycott." St. John Boycott served as master

of the hounds for many wealthy families in the United States.

**Boylan, William A.** American educator, first president of Brooklyn College, Brooklyn, N.Y., (1930-38); died in New York, July 8, 1940; born there, Jan. 6, 1869. He was a graduate of St. Francis Xavier College (1887), had taught in the New York City public schools, and served (1927-30) as associate superintendent of schools.

**Brady, John F.** American Roman Catholic monsignor, died in New York City, Dec. 27, 1940; born in New York City in 1871. Shortly after his graduation therefrom in 1898, he became professor of science at St. Joseph's Seminary, Troy, N.Y., a position he held for 18 years. He was rector of the Church of St. Francis de Sales since 1916 and director of Catholic hospitals of the archdiocese of New York since 1918.

**Brand, Albert B.** American ornithologist; died in Ithaca, N.Y., Mar. 28, 1940, born in New York in 1889. He retired from the business world in 1929 to make a study of birds and subsequently became research associate in the Department of Ornithology at Cornell University and the American Museum of Natural History. He was an authority on the recording of bird calls and had made expeditions to all parts of Canada and the United States.

**Brandenburg, William A.** American educator and lecturer; died on Oct. 29, 1940, born in Clayton Co., Ia., Oct. 10, 1869. He was graduated from Drake University and later was superintendent of schools at Mason City, Ia., and Oklahoma City. After 1913 he was president of Kansas State Teachers College.

**Branly, Edouard.** French physicist, died in Paris, Mar. 24, 1940; born in Amiens, Oct. 23, 1844. Associated with the Institut Catholique for many years, his discovery of the principle of the coherer, one of the first successful devices used as a detector of wireless signals, led to his election to the French Academy of Sciences. In 1903 he shared the Osiris Prize with Mme Curie.

**Brennen, Joseph D.** American character actor, died in Philadelphia, Pa., Dec. 10, 1940, born in New York City, 1858. He became famous as "Simon Legree" in *Uncle Tom's Cabin*, a role he played for several years in a cast headed by Otis Skinner. He appeared also in plays with David Belasco, William Gillette, and David Warfield.

**Brentano, Theodore.** American lawyer; died in Larchmont, N.Y., July 2, 1940; born in Kalamazoo, Mich., Mar. 29, 1854. He was a judge of the Superior Court of Cook Co., Ill., from 1890 to 1921, and served as Envoy Extraordinary and Minister Plenipotentiary to Hungary from 1922 to 1927 when he retired.

**Brittingham, Juan F.** American industrialist; died in Los Angeles, Calif., Oct. 28, 1940; born in St. Louis, Mo., 1859. Visiting Mexico on a vacation in 1883, he turned the trip into a 57-year stay. In Gomez Palacio, in the State of Durango, where he made his home, he founded Mexico's first cottonseed oil mill and soap factory, later building the first glass factory and cement plant at Monterey. He changed his given name from John to Juan and was known throughout Mexico as Don Juan.

**Bronner, Harry.** American financier; died in New York City on Dec. 21, 1940; born thereat in 1868. A graduate of the College of the City of New York, he began his banking career in 1887 with Hallgarten and Co.; became senior partner in the firm and a member of 33 boards of directors; and retired in 1917 from Hallgarten and Co., to become chairman of the board and president of the Missouri Pacific Railroad Co. and a dominant factor in many other corporations. From 1920 to 1930 he was a director of Blair and Co., investment bankers, and of its successor, Bancamerica-Blair Corp. Among the many reorganizations with which he was connected was that of the old Maxwell Motors Corp. As chairman of the reorganization committee of the firm he was instrumental in securing for the reorganized company the services of the late Walter P. Chrysler. The reorganized company later became part of the Chrysler Corp.

**Brookfield, Robert M.** American major general; died in Philadelphia on Dec. 20, 1940; born in 1873. A graduate of West Point (1896), he served in the Spanish-American and World Wars; became a brigadier general in 1926 and a major general three years later.

**Brown, Donald Lamont.** American manufacturer; died in New York, Jan. 29, 1940; born in Berlin, Wis., Nov. 17, 1890. Associated with the aeronautical industry from 1917, in 1930 he was elected president of Pratt & Whitney Aircraft Co., and upon the organization of the United Aircraft Corporation in 1934 he was elected president.

**Brown, James Buckner.** American banker; died in Louisville, Ky., Oct. 24, 1940; born in Lawrenceburg, Ky., 1872. Early in the 1920's he founded and headed the Banco Kentucky Corporation, a \$50,000,000 holding company for several banks, which crashed in November, 1930. He was also publisher for a time of the Louisville *Herald-Post*.

**Bruneau, Arthur Aime.** Canadian jurist; died in Montreal, Que., Can., Dec. 1, 1940; born in St. Anthonase, Que., Mar. 4, 1864. He was a Superior Court Judge

(1908-28) and represented Richelieu Riding, Quebec, in the House of Commons (1892-1908).

**Brush, Matthew Chauncey.** American industrialist; died in New York City, N.Y., Oct. 15, 1940; born in Stillwater, Minn., 1877. Turning to railroad work after graduation from the Massachusetts Inst. of Technology in 1901, he became president of the Boston Elevated Railroad, 1914-15, 1916-18; president of the American International Ship-building Corp., 1918-21, and served as president of the American International Corp., one of the largest investment companies in the United States, from 1923 to 1935.

**Bruny, William Edmund.** American rubber expert; died in New York City, N.Y., Oct. 31, 1940; born in Rosendale, N.Y., 1879. He was with the importing firm of Littlejohn and Co., New York City, since 1905 and in latter years was treasurer and director; he was also a director and former president of the Rubber Trade Association of New York.

**Buchan, Sir John.** See **TWEEDSMUIR, 1st BARON, OF ELSFIELD**.

**Buchanan, Sir George.** British engineer; died in Ditchingham, Norfolk, Apr. 14, 1940; born Apr. 20, 1865. A consulting engineer, a specialist in harbor, dock, and river works and the economics of transport, his services were called for, not only throughout the Empire, but also in Venezuela, Argentina, and Spain. Among his more notable achievements were the Rangoon River Training Works, costing a million pounds sterling, the new port of Basra, and the river improvements on the Tigris and Euphrates. He was the author of several books on ports and rivers.

**Bunau-Varilla, Philippe J.** French engineer; died in Paris, May 18, 1940; born there, July 26, 1859. He served as chief engineer of the French Panama Co. in its unsuccessful attempt to build the Panama Canal in 1885, and in 1893 was Minister Plenipotentiary of the Republic of Panama to the United States; as such he signed the Hay-Bunau-Varilla treaty granting the United States the right to complete the canal and operate it in perpetuity.

**Bundy, Omar.** American soldier; died in Washington, Jan. 21, 1940, born in Newcastle, Ind., June 17, 1861. In the army from 1887, he served with the American Expeditionary Forces in France and was known for his work at Chateau Thierry and Belleau Woods. He retired in 1925 with the rank of major general.

**Burdick, Charles Kellogg.** American legal educator; died in Ithaca, N.Y., June 22, 1940; born in Utica, N.Y., Feb. 7, 1883. He became professor of law at Tulane University in 1909; in 1912 he joined the faculty of the University of Missouri and in 1914 that of Cornell, where he served as acting dean, 1923-24 and 1925-26, and as dean, 1926-36. Active in civic affairs, he was a member of the New York State Commission to Investigate the Administration of Justice (1931-39), chairman of the New York State Law Revision Commission after 1934, and Counsel to Governor Lehman of New York in the Geoghan removal proceedings (1936). He edited *Burdick's Law of Torts* (4th ed., 1926) and *Burdick's Cases on Torts* (4th ed., 1929).

**Burkam, Elsey G.** American journalist, editor, and publisher of the Dayton (Ohio) *Journal* and Dayton *Herald* (1910-35); died in Dayton, Mar. 13, 1940; born in Lawrenceburg, Ind., Dec. 7, 1872.

**Burke, James.** American inventor; died in Erie, Pa., Jan. 21, 1940; born in Ireland, Apr. 7, 1873. He was founder (1890) and president of the Burke Electrical Co., retired in 1931, and was known for his invention of the three-wire generator, the universal motor, and the "teaser" system for electrical printing-press control. He was president of Edison Pioneers, 1936-39.

**Burkhardt, Wilbur N.** American journalist, editor, and vice-president of the *San Francisco News* from 1923; a suicide in San Francisco, June 27, 1940; born in Altoona, Ia., Nov. 11, 1899.

**Burns, James Aloysius.** American Catholic educator; died in South Bend, Ind., Sept. 9, 1940; born in Michigan City, Ind., Feb. 13, 1867. He graduated from the University of Notre Dame in 1888, and was ordained a priest in 1893. He became president of Holy Cross College in 1900, and president of the University of Notre Dame, 1919-22. Named provincial superior of the Congregation of the Holy Cross in 1927 he became assistant superior general in 1938. In 1904 he was one of the founders of the Catholic Education Association.

**Burt, William H.** American general; died in Westwood, Mass., Nov. 21, 1940; born in Provincetown, Mass., 1866. He entered military service as a corporal in the First Vermont Volunteer Infantry in 1898; was commissioned a first lieutenant in 1900 and a brigadier general in the World War. He retired Sept. 30, 1934.

**Burton, Lewis William.** American Protestant Episcopal bishop; died in Lexington, Ky., Oct. 17, 1940; born in Cleveland, O., Nov. 9, 1852. He graduated from Kenyon College in 1873, and from the Philadelphia Divinity

School in 1877. He received the Doctor of Divinity degree from Kenyon College, and the College of the South in 1896. Ordained a priest in 1878, he was consecrated bishop of Lexington, Ky. in 1896, retiring in 1928.

**Burwash, Lashlin Taylor.** Canadian Arctic explorer; died near Coburg, Ont., Dec. 21, 1940; born thereat in 1874. He was graduated from the University of Toronto in 1896; was an engineer for the Dominion government in the Yukon Territory from 1897 to 1912; and chief Arctic investigator for the Canadian government from 1923 to 1932. He made several trips to the Far North and collected much geographical and other scientific data, despite harrowing hardships and obstacles. He was one of the searchers for the ill-fated Franklin expedition of 1845 and after months in the north in 1928, 1929, and 1930 he found sufficient traces to map the route of the lost expedition which, under the leadership of Sir John Franklin, had sought the Northwest Passage. In 1930, with W. E. Gilbert, his pilot, he was the first man to fly over and map by aerial photography the north magnetic pole, to which all compass needles in the Northern Hemisphere point. He was a lieutenant in the Canadian forces in France in the World War and suffered injuries in battle.

**Bush, Lincoln.** American civil engineer; died in East Orange, N.J., Dec. 11, 1940; born in Cook Co., Ill., Dec. 14, 1860. He was graduated from the University of Illinois (1888) and after holding various engineering jobs in the middle west he entered the employ of the Delaware, Lackawanna, and Western Railroad in 1899 as a bridge engineer, progressing to chief engineer, a position he resigned in 1908 to open up a consulting engineer's firm in New York City. He was a colonel in the Quartermaster Corps in the World War and designed and supervised the construction of military terminals at Brooklyn, Port Newark, Boston, Philadelphia, Norfolk, Charleston, and New Orleans, and of 14 warehouses and three arsenals.

**Butler, Jr., James.** American merchant; died in Katonah, N.Y., Oct. 20, 1940; born in 1891. The son of the founder of the Butler grocery chain was killed when a horse he was schooling failed to make a jump. In 1934 he succeeded his father as president of the James Butler Grocery Co. and the Empire City Race Track.

**Butler, Mother Mary Joseph.** American educator, died in Tarrytown, N.Y., Apr. 23, 1940, born in Kilkenny, Ireland, July 22, 1860. A member of the Congregation of the Religious of the Sacred Heart of Mary, she was founder and president (1918-26) of Marymount College. After 1926 she was Superior General of the Order.

**Butler, Smedley D.** American marine officer; died in Philadelphia, June 21, 1940; born in West Chester, Pa., July 30, 1881. Appointed to the United States Marine Corps in 1898, he was promoted through the grades to brigadier general (1921) and major general (1929) and was retired on Oct. 1, 1931. He received Congressional Medals of Honor for his work in Mexico (1914) and in Haiti (1917). Under a leave of absence he acted as Director of the Department of Safety, Philadelphia, 1924-25. In 1932 he was an unsuccessful candidate for the Republican nomination for United States Senator from Pennsylvania.

**Butte, George Charles.** American lawyer; died in Mexico City, Jan. 18, 1940; born in San Francisco, May 9, 1877. Professor of law at the University of Texas from 1914 and dean of the law school during 1923-24, he was Republican candidate for governor of Texas in 1924. He served as attorney general of Puerto Rico from 1925 to 1928 and during that period was acting governor three times. He was vice-governor of the Philippine islands during 1930-32 and associate justice of the Supreme Court there during 1932-36.

**Byrne, Edward J.** Irish Roman Catholic Archbishop of Dublin from 1921 and Primate of Ireland from 1927; died in Dublin, Feb. 9, 1940; born there, May 10, 1872.

**Byrne, John J.** American soldier; died in New York, Apr. 14, 1940; born there, Sept. 13, 1872. He joined the New York National Guard in 1890 and was promoted to brigadier general in 1929 and made chief of coast artillery of the Guard. He was retired as major general in 1935.

**Bywater, Hector Charles.** British naval expert and journalist; died in Richmond, Surrey, Eng., Aug. 17, 1940; born in London, Oct. 21, 1884. He was naval correspondent of the London *Daily Telegraph*, the Navy League in Germany, *Naval and Military Record*, *Fall Mail Gazette*, *Daily Graphic*, *Daily News and Observer*, and the *Baltimore Sun*. He served with the British Naval Intelligence throughout the World War. Author of *Sea Power in the Pacific* (1921); *The Great Pacific War* (1925), and others.

**Calderson, Salvador.** Nicaraguan naturalist; died in San Salvador, El Salvador, Nov. 9, 1940; born in Nicaragua, 1884. He was the author of *Flora of Salvador* and other scientific works.

**Caldwell, Charles Pope.** American lawyer; died in Sunnyside, Queens, L.I., July 31, 1940; born in Bastrop



Co., Tex., June 18, 1875. After receiving the LL.B. degree from the University of Texas in 1898 and from Yale University in 1899, he was admitted to the N.Y. Bar in 1900. He was a member of the 64th to 66th Congresses, 1915-21. In 1926, Mayor Walker of New York City appointed him Associate Justice of the Court of Special Sessions for a ten-year term, after which he resumed his law practice.

**Calfee, John Edward.** American educator; died near Asheville, N.C., Nov. 28, 1940; born in Arcola, Mo., Feb. 7, 1875. He was graduated from Park College, Mo. (1905); was professor of natural science and mathematics, respectively, at Tusculum and Berea Colleges (1907-16); and was president of Asheville Normal Teachers College (1916-37).

**Callahan, Patrick Henry.** American manufacturer, president of the Louisville Varnish Co.; died in Louisville, Ky., Feb. 4, 1940, born in Cleveland, O., Oct. 13, 1866. He was a leader in Catholic affairs and the prohibition and other reform movements. In 1922 he was made a Knight of the Order of St. Gregory by Pope Pius XI.

**Callan, John Guernsey.** American inventor; died at Cambridge, Mass., on Dec. 30, 1940; born at Northfield, Conn., Apr. 7, 1875. He was graduated from Massachusetts Institute of Technology in 1896; was professor of steam and electric engineering at the University of Wisconsin from 1915 to 1920; and professor of industrial management at the Harvard Business School since that time. He held 70 patents on steam turbines and other industrial engines and was responsible for numerous advances in steam engine development.

**Callistos, Bishop.** Greek Orthodox bishop; died in Chicago, Ill., Nov. 28, 1940, born near Patras, Greece, 1875. He came to the United States in 1905 and was head of the San Francisco diocese before becoming Bishop of Chicago in 1931.

**Callow, John Michael.** English metallurgist and mining engineer; died in Redhill, Surrey, Eng., July 27, 1940; born in Northrepps, Norwich, Norfolk, July 7, 1867. Known internationally for his work in metallurgy, he invented the settling tank and traveling belt screen, and originated pneumatic flotation in treating ores, holding 18 patents in all. Coming to the United States in 1890, he worked for various engineering and mining companies, and became president of the General Engineering Co. in 1906, retiring in 1933.

**Calverton, Victor Francis (George Goets).** American writer and lecturer, died in New York City, Nov. 20, 1940, born in Baltimore, Md., June 25, 1900. He was graduated from Johns Hopkins University in 1921 and in 1923 founded the *Modern Quarterly*, a magazine later known as the *Modern Monthly*, which he edited until his death. His many works included *Three Strange Lovers*, 1929; *The Man Inside*, 1936; *Between Two Wars*, 1940; and he was co-author of *Sex in Civilization*, 1929. He took Calverton as a pen name in 1923.

**Camach, Charles Nicoll Bancker.** American physician and educator; died in Altadena, Calif., Sept. 27, 1940; born in Philadelphia, Pa., Aug. 6, 1868. After receiving his medical degree from the University of Pennsylvania in 1895, he took a post-graduate course at Johns Hopkins University Medical School, 1895-97, and became assistant to Sir William Osler there, and later compiled his writings. He taught at the University of Pennsylvania, 1895, Cornell University Medical Coll., 1899-1910, the Coll. of Physicians and Surgeons, Columbia University, 1910-38, and the Polyclinic Hospital Medical School, 1934-36. Serving in the World War, he attained the rank of lieutenant colonel.

**Cameron, Henry George.** Canadian physician; died in Weyburn, Saskatchewan, Can., Aug. 6, 1940; born in Greenock, Scot., in 1895. He was renowned for his discovery of cardiazin, a heart stimulant, in 1926, and was associated for a time with Sir Frederick Banting, a discoverer of insulin.

**Camp, Walter, Jr.** American motion picture executive; died in Westwood, Calif., on Dec. 31, 1940; born in New Haven, Feb. 11, 1891, the son of Walter Camp, famous football coach. He played on the freshman and varsity football teams at Yale University; was graduated in 1913; entered the shipping and banking business and at the time of his retirement in 1935 was president of Inspiration Pictures, Inc., a photoplay concern.

**Campbell, Beatrice Stella (Mrs. Patrick).** British actress, died in Pau, France, Apr. 9, 1940; born in London, Feb. 9, 1865. Her professional debut was made in 1888 and in 1893 she achieved success in the role of Paula Tanqueray in *The Second Mrs. Tanqueray*. Other of her important roles were in *The Notorious Mrs. Ebbsmith* (1895), *The School for Scandal* (1896), *Hamlet* (1897), *Pelleas and Melisande* (1898), *Hedda Gabler* (1907), *Pygmalion* (1914). In 1902 she made her American debut and thereafter made frequent appearances there. After 1914 she was seen mostly in revivals of her early successes. In 1882 she married Patrick Campbell, who died in 1900, and in 1914 she married George Cornwallis-

West. Her memoirs, *My Life and Some Letters* appeared in 1922.

**Cantu, Giuseppe.** Italian admiral and commissioner general for Italy to the New York World's Fair; died in New York City, Oct. 24, 1940; born in Orzinuovi, Italy, May 24, 1873. A graduate of the Royal Naval Academy, he served in the Far East in 1899 and 1900 and in 1903 was appointed aide-de-camp of the Commander of the Royal Italian Navy. He saw active service in the Italian war against Turkey and in China during the Boxer Rebellion. In 1935 he was nominated admiral and president of the Council of the Royal Italian Navy. In December, 1937, he was placed in charge of Italy's exhibit at the New York World's Fair.

**Carpenter, Sir. H. O. Harold.** British metallurgist; died near Swansea, Wales, September, 1940; born on Feb. 6, 1875. He was educated at Oxford, Leipzig, and Manchester Univs. In 1901 he became head of the chemical and metallurgical depts. of the National Physical Laboratory, and was professor of metallurgy at Victoria Univ. 1906-13. A former president of the Institute of Metals and the Institution of Mining and Metallurgy, he was professor of metallurgy in the Royal School of Mines at his death. He received many honors, including the Carnegie gold medal (1905).

**Carpenter, Lewis Van.** American engineer; died in New York, May 10, 1940; born in Wheeling, W. Va., Dec. 25, 1894. In 1929 he became professor of sanitary engineering at the University of West Virginia, and in 1932 was made chairman of the department of civil engineering. He joined the faculty of New York University as professor of sanitary engineering in 1935. Also he was director of the Sanitary Research Laboratory conducted by the University and the City of New York.

**Carson, John Beshaw.** American research engineer; died in New Hope, Pa., Oct. 31, 1940; born in Pittsburgh, Pa., June 28, 1887. He was graduated from Princeton University in 1907; and in 1913 entered the engineering department of the American Telephone and Telegraph Co. and took part in the early radio-telephone experiments. He was responsible for several of the earliest installations of the carrier current system, which permits the transmission of several calls over one circuit. He also developed the mathematical background for the use of metal pipes to guide radio waves. In 1934 he joined the technical staff of the Bell Telephone Laboratories. He was the author of *Electric Circuit Theory and the Operational Calculus* and of a book published in German.

**Casey, Edward Pearce.** American architect; died in New York, Jan. 2, 1940; born in Portland, Me., June 18, 1864. He was architect for the Library of Congress, Washington, during 1892-97 and the winner of the New York City Hall competition in 1893 and the Grant Monument competition in 1902.

**Caulfield, Alfred H. W.** Canadian pathologist; died in Toronto, May 2, 1940; born in Eden, Ont., in 1879. An authority on respiratory diseases, he was consultant for the diseases of the lungs of the Department of Pensions and National Health, and a research member of the Connaught Laboratory of the University of Toronto.

**Cavero, Salvador.** Peruvian politician; first Vice-President of Peru (1908-12); died in Lima, Feb. 19, 1940; born in 1850. He was Peruvian legal adviser in the Tacna-Arica arbitration proceedings in 1923.

**Chamberlain, (Arthur) Neville.** British statesman; died at Highfield Park, Heckfield, Hampshire, Eng., Nov. 9, 1940; born on Mar. 18, 1869. He was the second son of the late Joseph Chamberlain, British imperialist statesman; and a half-brother of Austen Chamberlain, British Foreign Secretary, who engineered the Locarno Treaties in 1925. Neville's mother was Florence, daughter of Timothy Kenrick of Birmingham. He was educated at Rugby and Mason College, Birmingham; and after graduation resided in the Bahama Islands (1890-97). In 1911 he married Annie Vere, daughter of the late Major W. U. Cole; they had one son and one daughter.

A successful manufacturer in Birmingham, Chamberlain was elected to the Birmingham City Council (1911) and became chairman of its Town Planning Committee, in which latter position he attained national fame for his accomplishments in the field of better housing and slum-clearance. A member of the Conservative party, he was Alderman (1914) and Lord Mayor of Birmingham (1915-16); Director-General of National Service (1916-17); Postmaster-General (1922-23); Paymaster-General (1923); Minister of Health for awhile in 1923 and from 1924 to 1929, and again from August to November, 1931. He was also Chancellor of the Exchequer in 1923-24 and in 1931-37. He was chairman of the Unionist Party (1930-31); and was Prime Minister and First Lord of the Treasury from May 28, 1937, to May 9, 1940.

As Minister of Health and in other governmental posts, Mr. Chamberlain was identified with national housing projects, reform of the poor law, and the final legislation which brought the widows' pension law into actual operation. As Chancellor of the Exchequer, he repeatedly ig-

nored the United States war debt in his budget compilations.

When he became Prime Minister, Mr. Chamberlain embarked on a policy of appeasing Hitler, either in the belief that he could thus assure the peace of Europe or as a desperate temporizing device to permit Great Britain to build up her armaments. The German absorption of Austria brought merely perfunctory protests from Downing Street. Hitler's threat to invade Czechoslovakia sent Chamberlain scurrying to Germany (on his first airplane ride, and with his umbrella tucked under his arm), in an effort to conciliate the German Chancellor. In all, Mr. Chamberlain made three airplane flights to Germany (September 15, September 22, and September 30). On the last occasion, Messrs. Chamberlain, Daladier of France, Mussolini of Italy, and Hitler of Germany signed the famous accord in Munich by which Germany was given access to the Sudeten and other predominantly Teutonic areas of Czechoslovakia, thus easing the way to eventual dismemberment of the young republic.

Upon his return to England, Chamberlain said: "This is the second time in our history that there has come back from Germany to Downing Street a peace with honor. I believe it is peace in our time."

When in March, 1939, Hitler took over Czechoslovakia in toto, Mr. Chamberlain declared: "I bitterly regret what has occurred, but do not let us be deflected from our course. Acts of violence and injustice will sooner or later bring their own reward."

Mr. Chamberlain made no further attempts at appeasement, however, and two days after the first German soldier invaded Poland, Great Britain was at war. Mr. Chamberlain fell from power because of public dissatisfaction with the progress of Britain's war effort.

He was buried in Westminster Abbey.

**Chamberlain, Paul Mellen.** American mechanical engineer; died in Keene, N.Y., May 27, 1940; born in Three Oaks, Mich., Feb. 28, 1865. An engineer in private industry from 1890, he taught mechanical engineering at the Michigan Agricultural College (1893-96) and at Lewis Institute, Chicago (1899-1906). Until his retirement in 1917 he was a consulting engineer. He was an authority on timepieces, their history, and their construction.

**Chambers, Frank E.** American merchant; died in Bronxville, N.Y., Apr. 30, 1940, born in Mobile, Ala., Sept. 3, 1850. One of the original partners of Rogers Peet Co., in 1874, he was its president several times and after 1936 was chairman of the board of directors.

**Chandler, Swithin.** American surgeon and diagnostician; died in Stratford, Philadelphia, Pa., Dec. 10, 1940; born in Centreville, Del., 1870. Immediately upon his graduation from the University of Pennsylvania Medical School at the age of 21, he was elected chief surgeon of Delaware Hospital, Wilmington. He was the inventor of several brain surgery instruments and was associate professor of surgery at Temple University from 1918 to 1928. In 1916 he was chief sanitary officer of El Paso, Texas.

**Chandler, Sir William K.** Barbados legislator, member of the legislative council from 1884 and its president in 1912; died in Bridgetown, Barbados, May 24, 1940; born Feb. 19, 1857.

**Chang Shan-Tse.** Chinese painter; died in Chungking, China, Oct. 19, 1940; born in 1878. Known as "the most eminent painter in modern China," he specialized in painting tigers. Fordham University received two paintings, valued at \$5000 each from him in April, 1939. Formerly a major general in the Imperial Court, he joined the revolutionists and became a diplomat for the Republic. In 1937 he was converted to Catholicism, and later he traveled in Europe and the United States, raising funds for the Chinese Government Relief Mission.

**Chapin, Howard Millar.** American librarian; died in Providence, R.I., Sept. 18, 1940; born in Providence, May 11, 1887. Graduating from Brown University in 1908, he was in various businesses until 1912, when he was appointed librarian of the Rhode Island Historical Society, holding this post until his death. He was noted as an authority on Colonial history and heraldry. Author of many books and papers, his best-known work was *Documentary History of Rhode Island* (2 vols.).

**Chase, William Sheafe.** American clergyman; died in Kings Park, L.I., July 16, 1940; born in Amboy, Ill., Jan. 11, 1858. Graduating from Brown University in 1881, he entered the Episcopal Theological School, from which he graduated in 1885. He was honorary canon of the Cathedral of the Incarnation and chaplain of St. Paul's School, Garden City, L.I., 1902-05. When he became rector of Christ Church, Bklyn., N.Y., in 1905, he started national crusades against betting, drinking, war, movies, and Sunday baseball, and all other forms of temptation, and was a leader in a number of reform organizations. He retired in 1932.

**Chilperfield, Burnett Mitchell.** American lawyer; died in Canton, Ill., June 24, 1940; born in Dover, Ill., June

14, 1870. Active in Republican politics, he was a member of the 64th (1915-17) and the 71st-72nd (1929-33) Congresses from Illinois. A member of the Illinois National Guard from 1904 to 1934, he served as judge advocate general of the 3d Army Corps of the Army of Occupation in Germany in 1918-19.

**Chitambar, Jashwant Rao.** Indian Methodist bishop; died in India, Sept. 4, 1940; born in 1875. He was graduated from Lucknow Christian Coll., Allahabad Univ., and the Methodist Theological School in Bareilly, India. From 1916-31 he was president of Lucknow Christian Coll., when he became the first Indian to be elevated to the Methodist episcopacy. Mahatma Gandhi was a close friend, and was the subject of a book by him.

**Christoff, Theodore.** Bulgarian diplomatist; died in Moscow, June 20, 1940; born in Kasanlik, Bulgaria in 1890. In the diplomatic service from 1924, he was minister to Germany (1935-36), to Turkey (1936-39) and to Moscow thereafter. He wrote *Das Heutige Bulgarien* (1931).

**Christopher, Prince of Greece;** died in Athens, Jan. 21, 1940; born in St. Petersburg, Russia, July 29, 1888, the son of King George I of Greece, and Queen Olga. On Feb. 1, 1920, he was married to Mrs. William B. Leeds, widow of a Cleveland tin plate manufacturer. She died in 1923.

**Chrysler, Walter Percy.** American auto manufacturer; died at Great Neck, L.I., Aug. 18, 1940, born in Wamego, Kan., Apr. 2, 1875. Graduating from high school, he became a machinist's apprentice in a railroad shop. At 33 he had risen to superintendent of motive power and machinery of the Chicago Great Western line, and in 1911 was manager of the Pittsburgh works of the American Locomotive Co. Turning to the automobile field he became works manager of the Buick Motor Co., 1912-16, and president and general manager, 1916-19. He was vice-president of General Motors Corp., 1919-20, and resigning, became vice-president of the Willys-Overland Co., 1920-22. Reorganizing the Maxwell Motor Corp. to straighten out its financial difficulties, he again reorganized it in 1925 as the Chrysler Corp., becoming president and chairman of the board. He resigned the presidency in 1935 but remained as chairman of the board until the time of his death.

**Churchill, Allen L.** Former associate editor of *THE NEW INTERNATIONAL ENCYCLOPEDIA* and *THE YEAR BOOK*, died in Flushing, Queens, N.Y., Nov. 15, 1940, born in Houlton, Me., Feb. 26, 1873.

**Clark, Marguerite.** American actress; died in New York City, N.Y., Sept. 25, 1940; born in Avondale, Cincinnati, O., Feb. 22, 1887. She was educated in the Ursuline Convent, Brown Co., O., and made her stage debut in Baltimore in 1900 under Milton Aborn. Appearing with De Wolf Hopper as a child actress at fifteen, she co-starred with him within two years, and starred in several Shubert musical shows, as well as numerous successful plays. In 1914 she was signed by Adolph Zukor of Famous Players for the silent films, and was one of the biggest "box-office" stars in 1917-18. After her marriage to Harry P. Williams, wealthy Louisiana lumber man and plantation owner, in 1918, she retired from the films in 1920. At his death in 1936 she managed his large interests in Louisiana. Included in the long list of successful plays and pictures, were *Prunella*, *Wishing Ring*, *Babes in Toyland*, *Snow White*, *Baby Mine*, *Wild Flower*, *Goose Girl*, *The Crucible*, and *The Seven Sisters*.

**Coefield, John.** American labor leader, president of the United Association of Journeymen Plumbers and Steamfitters and a vice-president of the American Federation of Labor; died in Washington, Feb. 8, 1940; born near Franklin, Pa., in 1870.

**Cogliolo, Pietro.** Italian senator; died in Genoa on Dec. 14, 1940; born in 1858. A university professor and specialist in aeronautical law, he drafted Italy's aviation code in 1923, and was appointed a senator in 1933.

**Coleman, Georgia.** American diving champion, died in Los Angeles, Calif., Sept. 14, 1940, born in 1912. She became world famous in the 1928 Olympic games at Amsterdam, where she won all the diving events, a feat she repeated in the national championships. She won the fancy diving contest in the Olympic games at Los Angeles, 1932, and the Women's Amateur Athletic Union in the same year. Turning professional, she taught swimming and acted in motion pictures. In 1937 she contracted infantile paralysis which affected her limbs and organs of speech, but recovered a year later and resumed teaching.

**Collins, Eddie.** American stage and screen actor; died in Arcadia, Calif., on Sept. 1, 1940, born in Jersey City, N.J., Jan. 30, 1884. He played the role of "Jiggs" in the original stage production of *Bringing Up Father* (1911) and from 1914 to 1930 toured the United States with his own musical comedy company of 20 persons called Mr. and Mrs. Eddie Collins's Big Revue. Walt Disney used him as the model for Dopey in the motion picture *Snow White and the Seven Dwarfs* and he spent practically a whole year in the Disney studio while his facial expres-

sions were being photographed for the eventual amusement of America's millions.

**Collins, Edward Day.** American educator; died in Middlebury, Vt., Jan. 1, 1940; born in Hardwick, Vt., Dec. 17, 1869. Associated with Middlebury College from 1909, he was professor of pedagogy until 1912, acting president during 1918-19 and 1921, provost, 1919-21, and comptroller, 1923-25, when he retired.

**Colquitt, Oscar Branch.** American politician, governor of Texas for two terms (1911-15); died in Dallas, Tex., Mar. 8, 1940; born in Camilla, Ga., Dec. 16, 1861. In May, 1929, he was appointed a member of the U.S. Board of Mediation.

**Combs, Leslie.** American diplomat; died at Belair Farm, near Lexington, Ky., Nov. 18, 1940; born in Little Compton, R.I., July 31, 1852. He was Minister to Guatemala and Honduras during the administration of President Theodore Roosevelt, and Minister to Peru under President Taft.

**Compton, Virginia Bateman (Mrs. Edward).** British actress, died in London, May 4, 1940; born, Jan. 1, 1853. On the stage from 1865, she appeared with the Compton Comedy Co., after her marriage in 1882. She managed the company after the death of her husband, and in September, 1920, opened the Repertory Theatre in Nottingham. She retired in 1925 and devoted her time to the Theatre Girls' Club, founded by her.

**Condon, Frank.** American short-story writer and humorist; died at Beverly Hills, Calif., on Dec. 19, 1940; born at Toledo, Ohio, in 1882. He was a frequent contributor to the *Saturday Evening Post* and *Collier's*, and wrote many scenarios during his 30 years' residence in the vicinity of Hollywood.

**Connolly, Walter.** American actor; died in Beverly Hills, Calif., May 28, 1940, born in Cincinnati, Apr. 8, 1887. On the stage from 1908, he appeared in *The Woman of Bronze* (1920), *Uncle Vanya* (1930), *Six Characters in Search of an Author* (1931), *The Good Fairy* (1931), *The Late Christopher Bean* (1932), and *The Bishop Misbehaves* (1935). He entered motion pictures in 1932 and was seen in such successes as *The Bitter Tea of General Yen*, *Lady for a Day*, *It Happened One Night*, *The Great Victor Herbert* (1939) in which he played the title role, and *Bachelor Mother* (1940). He was considered one of the most versatile actors of stage and screen.

**Cook, Frederick Albert.** American explorer; died in New Rochelle, N.Y., Aug. 5, 1940; born in Callicoon Depot, N.Y., June 10, 1865. Claiming to have discovered the North Pole on Apr. 21, 1908, he was feted by the King of Denmark after he had emerged from the Arctic on Sept. 1, 1909, and was welcomed upon his return to New York and elected president of the Explorers Club. His fame was short lived, for Admiral Peary's claim that he had reached the North Pole on Apr. 6, 1909, was accepted by scientific men, and Cook was discredited and expelled from the Explorers Club. In 1922 he was sentenced to prison for oil swindles, and was released on parole in 1930. On May 17, 1940, President Roosevelt granted him a full pardon, and to his death he sought to vindicate himself.

**Cook, Robert George.** American physician, died on Oct. 25, 1940, born in Canandaigua, N.Y., Aug. 4, 1864. He fostered State legislation to aid the insane of New York and was the head of Brigham Hall, a private mental hospital at Canandaigua, N.Y., from 1908 to 1928.

**Coolidge, Dane.** American author and naturalist; died in Berkeley, Calif., Aug. 8, 1940; born in Natick, Mass., Mar. 24, 1873. He was graduated from Stanford University in 1898, and did post-graduate work in biology at Harvard University, 1898-99. While in college he was field collector of mammals, birds, and reptiles for several learned institutions. He was an expert in Indian lore and a prolific writer of Western stories. Among his biographies and histories were *Texas Cowboys*, 1937; *Arizona Cowboys*, 1938, *California Cowboys*, 1939. Included in his 40-odd novels were *Silver Hat*, 1934; *Snake-Bit Jones*, 1936; *Wally Laughs Easy*, 1939; *Bloody Head*, 1940.

**Cooper, Courtney Ryley.** American writer; died in New York City, N.Y., by suicide, Sept. 29, 1940; born in Kansas City, Mo., Oct. 31, 1886. Educated in public schools, he ran away and joined the circus. A special writer for several newspapers, 1910-13, and a contributor to magazines from 1912 until his death, he is credited with having written more than 500 stories on jungle animal life, circus life, and Rocky Mountain "high country" life. He was press agent for Sells-Floto Circus and Buffalo Bill, 1914-15. In recent years he became interested in crime study, especially in relation to the F.B.I. He wrote several scenarios, including *Wild Cargo* and *Weary River*.

**Cooper, Oswald Bruce.** American type designer; died in Chicago on Dec. 17, 1940; born in Mt. Gilead, O., in 1879. A printer's devil since the age of 14, he attended the Frank Holm School of Illustration in Chicago in 1901, studying under Frederic William Goudy. He later formed the advertising firm of Bertsch and Cooper and became

one of the foremost type designers in the country. He originated the Cooper Black type, also known as the Cooper Bold and designed the Packard type from work which he had done for the Packard Motor Car Co.

**Cope, Sir Arthur.** British portrait painter; died in Cornwall, July 5, 1940; born Nov. 2, 1857. Among his best-known works were portraits of King Edward VII, the German Emperor, King George V, and "Some Sea Officers of the War."

**Copeland, Benjamin.** American Methodist clergyman and poet; died in Buffalo, N.Y., Dec. 1, 1940; born in Clarendon, N.Y., June 14, 1855. He wrote hundreds of verses which were published in magazines and newspapers; composed a coronation hymn for George VI of England and received letters of thanks from the royal family. He was a direct descendant of John Alden and Priscilla Mullins.

**Cortelyou, George Bruce.** American financier; died at Huntington Bay, L.I., Oct. 23, 1940; born in New York, July 26, 1862. After having been a law reporter, 1883-85, and a New York school teacher, 1885-89, he entered public service, becoming secretary to various officials, including the 4th Assistant Postmaster General. Later he served as secretary to Grover Cleveland, William McKinley, and Theodore Roosevelt, who appointed him first Secretary of the Department of Commerce and Labor, 1903-04, Postmaster General, 1905-07, and Secretary of the Treasury, 1907-09. He was president of the Consolidated Gas Co. of New York, 1909-35.

**Cosden, Joshua S.** American oil producer; died aboard a train at Wilcox, Ariz., en route to El Paso, Tex., from Palm Springs, Calif., Nov. 17, 1940; born in Kent Co., Md., July 8, 1882. He organized and headed several of the largest independent oil refineries, owned a seat on the New York Stock Exchange in the early 1920's; entertained the then Prince of Wales at the Cosden estate at Sands Point, L.I., in 1924; and erected the 16-story Cosden Building in Tulsa, Oklahoma, in 1913, at that time the tallest building in the world.

**Coss, John J.** American educator, died in New Orleans, La., Apr. 28, 1940; born in Lima, O., Mar. 24, 1884. Associated with Columbia University from 1912, after 1920, he was executive officer of the department of philosophy, and director of the University's summer session. He was interested in Negro education.

**Cotter, William Timothy.** British Roman Catholic bishop, died in Portsmouth, Eng., Oct. 24, 1940; born in Cloyne, Ireland, 1866. He was bishop of Portsmouth for 30 years.

**Cowie, David Murray.** American pediatrician; died in Ann Arbor, Mich., Jan. 27, 1940; born in Moncton, N.B., Nov. 19, 1872. Associated with the University of Michigan from 1896, he became professor of pediatrics and infectious diseases in 1920. He was associate editor of the *American Journal of Diseases of Children* during 1912-24 and president of the American Pediatric Society in 1923-24.

**Craigavon, 1st Viscount, James Craig.** Irish statesman, died at Glencraig, near Belfast, Northern Ireland, Nov. 24, 1940; born at Craigavon in Down, Jan. 8, 1871. After serving in the Boer war as a lieutenant, he was elected to the British House of Commons (1906) and was successively re-elected until the Ulster government was formed in 1921 with Craigavon as Prime Minister. He was a bitter opponent of union with Southern Ireland.

**Cramer, Stuart.** American manufacturer, died in Charlotte, N.C., July 2, 1940; born in Thomasville, N.C., Mar. 31, 1868. A mill engineer and contractor from 1895 to 1918, during that period he designed or equipped almost all of the South's cotton mills. He became president of Cramerton Mills, Inc., in 1908, and in 1938 became chairman of the board of directors. Also he was head of Mays Mills, and Mayflower Mills. His research in the textile field brought him 60 United States and foreign patents. He was president of the American Cotton Manufacturers Association (1916-17) and of the National Council of American Cotton Manufacturers (1917-18, 1920-27). He wrote *Useful Information for Cotton Manufacturers* (4 vol., 1904-09). Active in Republican politics, he served on state and national committees.

**Cravath, Paul B.** American lawyer; died in Locust Valley, N.Y., July 1, 1940; born in Berlin Heights, O., July 14, 1861. One of the foremost corporation lawyers in the country, he was known for his reorganization work of International Harvester, the Missouri Pacific, Bethlehem Steel, the Metropolitan Street Railway, and the Interborough Rapid Transit Co., and numbered leading industrialists among his clients. At his death he was the senior partner in the firm of Cravath, deGersdorff, Swaine & Wood. His talents were utilized during the World War by the Inter-Allied War Conference in Paris (1917) and the American Mission to the Inter-Allied Council on War Purchases and Finances and he received the Distinguished Service Medal and honors from many foreign governments. A noted art collector and traveller, he was elected president of the board of directors of the Metro-

politan Opera Co., in 1931 and at his death was president of the Metropolitan Opera Association. Also, he was actively interested in the Council on Foreign Relations, Inc., the English Speaking Union, and the Economic Club.

**Crawford, 27th Earl of, David Alexander Edward Lindsay;** Scottish peer; died near Wigan, Mar. 8, 1940; born in 1871. A Conservative Member of Parliament from 1895 to 1913, he served in the Cabinet in 1916 and in 1922, and was Lord Privy Seal from 1916 to 1918, Chancellor of the Duchy of Lancaster during 1919-21, first commissioner of Works in 1921 and 1922, and Minister of Transport in 1922. An expert on art, he wrote *The Evolution of Italian Sculpture* (1910).

**Crawshaw, William H.** American educator; died in Hamilton, N.Y., July 2, 1940; born in Newburgh, N.Y., Nov. 6, 1861. Associated with Colgate University from 1887, he was professor of English literature (1893-1917) and professor of general literature (1917-30), dean (1897-1930), acting president (1897-99, 1907, 1908), and president pro tem., (1908-09). In 1930 he was retired as emeritus. He was associated with the University Cruise Around the World during 1929-31. In 1937 he published *My Colgate Years*.

**Crompton, Bookes E. B.** British electrical engineer; died in Ripon, Feb. 15, 1940; born in Thirsk, May 31, 1845. Founder of Crompton & Co., in 1878, he was an electric light pioneer in Great Britain. He served twice as president of the Institution of Electrical Engineers and was Faraday medallist and James Forrest lecturer. He wrote *Reminiscences* (1928).

**Culpeper, Charles E.** American manufacturer; died in New York, Feb. 2, 1940; born in Rome, Ga., in 1875. Associated with the Coca Cola Co., from 1897, he founded the Coca Cola Bottling Co., of which he was president and chairman of the board. In his will he left his stock in the Coca Cola Co., valued at about \$8,000,000, to the foundation of the Charles E. Culpeper Foundation, a non-sectarian charitable institution.

**Cunningham, William Francis.** American pathologist and author; died in New York City, N.Y., Nov. 19, 1940; born in Norwich, Conn., 1889. He was for many years associated with the Department of Experimental Pathology of the College of Physicians and Surgeons, Columbia University, and was one of the first to experiment with Hodgkin's disease in apes.

**Cureton, Calvin M.** American jurist, chief justice of the Supreme Court of Texas from 1921; died in Austin, Tex., Apr. 8, 1940; born near Walnut Springs, Tex., Sept. 1, 1874.

**Curtin, John J.** American lawyer; died in Brooklyn, N.Y., on Dec. 16, 1940; born in Ireland on Oct. 3, 1878. He came to America with his parents when he was two years old; lived in Manchester, N.H.; was graduated from Manhattan College in 1900 and from the Brooklyn Law School, St. Lawrence University, in 1906. He was identified with much important litigation; succeeded Samuel Untermyer as counsel to the New York Transit Commission in negotiations leading to the unification of New York City's rapid transit system; was special counsel to Gov. Alfred E. Smith and to Mayor James J. Walker, and a counselor of the Democratic National Committee; and was chairman of the State Racing Commission by appointment of Governor Smith and reappointment of Governor Roosevelt. He was a prominent Roman Catholic layman, a Knight of St. Gregory, and counsel to Bishop Thomas E. Molloy of the Brooklyn Diocese.

**Daniels, Arthur Hill.** American educator, professor of philosophy from 1899 and acting president from 1933 at the University of Illinois; emeritus after 1934; died in Urbana, Ill., Apr. 2, 1940; born in East Medway, Mass., Oct. 19, 1865.

**Dargan, Edwin Preston.** American educator; died in Chicago, Ill., Dec. 13, 1940; born in Barboursville, Va., Sept. 7, 1879. He was graduated from the University of Virginia in 1902; taught in the University of Virginia and the University of California; and after 1918 was professor of French Literature at the University of Chicago. He wrote several books on French literary figures, particularly Balzac.

**Darrie, Marvin Lloyd.** American educator; died in Los Angeles, Calif., Jan. 25, 1940; born in Cleveland, O., Feb. 18, 1887. Associated with the University of California at Los Angeles from 1919, he was appointed professor of education in 1927 and dean of Teachers College in 1922.

**D'Arsonval, Jacques Arsene.** French physiologist; died in France in December, 1940; born in 1851. Professor of experimental physiology at the Sorbonne (1894-1932), he was a pioneer in the field of electrotherapy, a medical treatment once known as "arsenovalisation."

**Davidovitch, Ljuba.** Yugoslav politician, died in Belgrade, Feb. 19, 1940, born in Vlasica, Serbia in 1863. A member of the Serbian Radical Party he was elected a deputy in 1901 and in 1919 he was elected president of the newly-founded Democrat party. He was prime minister

of a coalition government from August, 1919, to February, 1920, and again in 1924.

**Davidson, I. F.** American educator; died in New Orleans, La., on Dec. 27, 1940; born in Weymouth, Mass., on Jan. 26, 1875. A graduate of Harvard University (1897), he held various teaching posts and was professor of Latin and Greek at St. Stephen's College (now Bard College) from 1913 to 1918. He was dean of the college from 1918 to 1925 and acting president in 1919.

**Davies, William Henry.** Welsh poet; died in Nailsworth, Gloucestershire, Eng., Sept. 26, 1940; born in Newport, Monmouthshire, Apr. 20, 1871. In his early manhood he spent several years wandering over the United States as a hobo, and lost a foot boarding a train at Renfrew, Ontario. His numerous poems have been widely praised by critics, including George Bernard Shaw, and his *Autobiography of a Super-Tramp*, first published in 1917, has had several republications, the most recent in 1938. In 1913 the Asquith government awarded Davies a small pension from the Civil List, and in 1921 it was increased somewhat.

**D'Avigdor-Goldsmid, Sir Osmond.** British Jewish leader; died in London, Apr. 14, 1940; born in 1877. He served as president of the Anglo-Jewish Association (1921-26), of the Jewish Colonization Association from 1919, and of the Board of Deputies of British Jews (1926-33). He was a recognized leader in the cause of aiding European refugees.

**Davis, Francis B.** American jurist; died in Woodbury, N.J., on Dec. 22, 1940; born in Camden, N.J., in 1878. He was admitted to the bar in 1899; was president judge of the Gloucester County Common Pleas Court (1917-22); State Senator (1923-31); and vice-chancellor of the New Jersey Court of Chancery since 1932. As majority leader of the State Senate, he was Acting Governor for a period in 1937 when Gov. A. Harry Moore was out of the state.

**Davidson, Charles.** British mathematician and authority on earthquakes, about which he wrote several books, including *A History of British Earthquakes*; died in Cambridge, Eng., Apr. 28, 1940; born May 1, 1858.

**Dawes, Rufus Outler.** American industrialist, died in Chicago, Jan. 8, 1940; born in Marietta, O., July 30, 1867. In 1897 he engaged in the organizing and managing of gas and electric companies, subsequently becoming president of the Union Gas & Electric Co. and the Metropolitan Gas & Electric Co. During 1933-34 he was president of the Century of Progress Exposition, Chicago, and after 1934 was president of the Museum of Science and Industry there. He was an adviser on the preparation of the Dawes plan and wrote *Dawes Plan in the Making* (1925).

**Day, George Calvin.** American admiral; died in Washington, D.C., Nov. 3, 1940; born in Bradford, Vt., Nov. 8, 1871. He was graduated from the Naval Academy in 1892; was commander of submarines in the Pacific from 1923 to 1925; and commandant of the 15th Naval District in the Canal Zone, including the Panama Canal, from 1925 to 1927. He was president of the Naval Board of Inspection and Survey at the time of his retirement in 1935. He acquired the rank of rear admiral in 1925.

**Deasy, Luere B.** American jurist, chief justice of the Supreme Court of Maine (1929-30); died in Portland, Me., Mar. 13, 1940; born in Gouldsboro, Me., Feb. 8, 1859.

**De Bower, Herbert F.** American educator, founder of Alexander Hamilton Institute, New York, in 1909, died in New York, Mar. 16, 1940; born in Dane, Wis., in 1874.

**De Kok, Johan Egbert Frederik.** Dutch industrialist; died in The Hague, Netherlands, Oct. 28, 1940; born in 1882. A graduate of the Royal Military Academy (1908) and a former army officer in the Netherlands Indies, De Kok joined the Royal Dutch Shell Co. as an exploitation engineer and worked his way up until he became director general of the company in 1937.

**Dell, Robert.** British journalist; died in New York City, N.Y., July 20, 1940; born in 1865. From 1907 to 1938 he was foreign correspondent for the *Manchester Guardian* in Paris, Berlin, and Geneva and after the World War he was also a regular contributor to the *Nation*. He was expelled from France in May, 1918, following the publication of some critical articles from his pen on the manner in which the French government had discussed indirect Austrian peace moves. He wrote three books; *My Second Country*, published in 1920, was a general discussion of France.

**Demers, Marie Joseph.** Canadian jurist; died in Montreal, Can., July 28, 1940; born in Henryville, Iberville Co., May 31, 1871. He represented St. Johns-Iberville in the House of Commons (1906-11); was Mayor St. Johns (1909); and served as Superior Court Justice for 18 years.

**Deneen, Charles S.** American politician; died in Chicago, Feb. 5, 1940; born in Edwardsville, Ill., May 4, 1863. A leader in Illinois politics, he served as governor

of Illinois during 1905-12 and as senator from that State during 1925-31.

**Denison, Sir Hugh Robert.** Australian newspaper publisher; died in Sydney, Australia, Nov. 23, 1940; born in Forbes, N.S.W., Nov. 11, 1865. Born Hugh Robert Dixon, he was educated in Australia and at University College, London; and assumed the name of Denison by deed poll (1907). He was a member of the Australian Parliament (1901-05); and from 1926 to 1928 served as Commissioner for the Commonwealth of Australia to the United States. He was the head of Associated Newspapers, Ltd., of Sydney, and was knighted in 1923.

**Deschamps, Alphonse E.** Canadian Roman Catholic clergyman, auxiliary bishop of Montreal from 1925; died in Montreal, June 23, 1940; ordained in 1899; born in St. Genevieve, Que., in 1875.

**de Schweinitz, Paul.** American Moravian Bishop; died in Bethlehem, Pa., Feb. 8, 1940; born in Salem, N.C., Mar. 16, 1863. Ordained in 1886, he was secretary of the Missions of the Moravian Church in America from 1898 to 1930. He was consecrated bishop on Mar. 14, 1937.

**Des Graz, Sir Charles Louis.** British diplomat; died in Wimbledon, Eng., Oct. 22, 1940, born on Mar. 2, 1860. He held several diplomatic posts and was appointed minister to Serbia in 1914, a position he held throughout the World War. He continued as Great Britain's representative at Belgrade after the Yugoslav kingdom was formed, retiring in 1920.

**Devereux, Anthony J. A.** American poloist; died at Philadelphia, Pa., on Dec. 18, 1940, born thereat in 1878. He won many riding trophies, including the National Hunt Cup in 1910, played polo with the Philadelphia Fox Hunters from 1902 to 1914, was injured many times in riding mishaps and suffered a stroke when thrown from his mount in Unionville, Pa., in 1920. He was hospitalized continually from 1922 until his death.

**de Vries, Louis.** Dutch actor, died in Nice, France, Mar. 11, 1940. One of the foremost tragedians of the Netherlands, his greatest roles were as Pancras in *Schakels*, Abram Lehmann in *The Lehmann Family*, Shylock in *The Merchant of Venice*, and Marc Antony in *Julius Caesar*.

**Dial, Nathaniel Barksdale.** American ex-senator; died in Washington D.C., Dec. 11, 1940, born in Laurens Co., S.C., Apr. 24, 1862. He studied law at the University of Virginia, was admitted to the bar in 1883, was Mayor of Laurens (1887-91) and again in 1895, he organized and assumed the presidency of several industrial enterprises including banks, power companies, and mills for the manufacture of glass, oil, and cotton. A Democrat, he served as United States Senator for South Carolina from 1918 to 1925.

**Dieterich, William H.** American ex-senator; died in Springfield, Ill., Oct. 12, 1940, born in Cooperstown, Ill., Mar. 31, 1876. He was graduated from Northern Indiana Law School, was Illinois State representative (1917-21); United States Congressman-at-large (1931); and United States Senator from Illinois (1932-38). He was a Democrat.

**Dillard, James Hardy.** American educator, died in Charlottesville, Va., Aug. 2, 1940; born in Nansemond Co., Va., Oct. 24, 1856. He was graduated from Washington and Lee University in 1876, was professor of Latin at Tulane University (1891-1907); president of the Jeanes Foundation for the promotion of Negro rural education from 1907 to 1931, a member of the Southern Education Board since 1908 and the General Education Board since 1917. He was a trustee of the General Theological Seminary (1916-25) and rector of William and Mary College in 1917. Dr. Dillard was the recipient of the Theodore Roosevelt Medal for 1937 for his work in furthering understanding between the white and Negro races.

**Dodd, William Edward.** American historian, died in Round Hill, Va., Feb. 9, 1940; born in Clayton, N.C., Oct. 21, 1869. In 1908 he became professor of American history at the University of Chicago, resigning in 1933 to become American ambassador to Germany. An outspoken critic of Nazi ideology and foreign policy, he found his post uncongenial and resigned on Dec. 28, 1937. An authority on the history of the American South he wrote *Lincoln or Lee* (1928) and *The Old South, Struggle for Democracy* (vol. 1, 1937). During 1924-26 he was joint editor with Ray Stannard Baker of *The Public Papers of Woodrow Wilson*. His autobiographical work, *Ambassador Dodd's Diary 1933-1938*, edited by William E. Dodd, Jr., and Martha Dodd, was published in 1941.

**Dorpfeld, Wilhelm.** German archaeologist, honorary professor of archaeology at Jena university and former director of the German Archaeological Institute at Athens, died at Levkas, Greece, Apr. 26, 1940; born in 1856.

**Douglas, James.** English editor and author; died in Budleigh Salterton, Devonshire, Eng., Sept. 26, 1940; born in Belfast, Ireland, Feb. 9, 1867. He edited the *London Sunday Express* (1920-31).

**Douglass, Leon F.** American inventor; died in Calif.,

Sept. 7, 1940; born in Lincoln, Neb., 1869. While working as manager of a telephone company in Seward, Neb., he patented the first coin telephone (1888); in 1894 he invented the first spring phonograph motor and in 1900 was co-founder with Eldridge Johnson of the Victor Talking Machine Co., of which he became successively vice-president, general manager, and chairman of the board of directors, retiring in 1921. In the World War he devised a magnetic torpedo for use against German submarines. His inventions in connections with color and undersea photography revolutionized previous techniques.

**Dowell, Cassius C.** American Republican Congressman from Iowa from 1915, died in Washington, Feb. 4, 1940, born near Summerset, Ia., Feb. 29, 1864. He was chairman of the House roads committee.

**Dowling, John P., O.P.** Irish clergyman; died in Port of Spain, Trinidad, June 5, 1940; born in Breda, Ireland, June 23, 1860. He joined the Dominican Order in 1881 and was ordained a Roman Catholic priest in 1887. He was appointed superior of the Dominican Fathers in Trinidad in 1905 and in 1909, Archbishop and Metropolitan of Port of Spain.

**Dowling, John Wallace.** British administrator; died in Southern Rhodesia, Aug. 22, 1940, born in Glasgow, Scot., 1876. He was high commissioner for Southern Rhodesia from 1930 to 1934.

**Drossaerts, Arthur Jerome.** American Roman Catholic archbishop; died in Texas, Sept. 8, 1940; born in Breda, Netherlands, Sept. 11, 1862. Ordained a priest in Holland in 1889, he came to the United States two years later and was given a pastorate in Louisiana. In 1918 he was made bishop of San Antonio, Tex., and in 1926, when Pope Pius XI established the archdiocese of Texas, Bishop Drossaerts became Archbishop of San Antonio.

**Drouet, Bessie Clarke.** American spiritualist, died in New York City, N.Y., Aug. 27, 1940, born in Portsmouth, N.H., 1879. A friend of the late Arthur Conan Doyle and the late Sir Oliver Lodge, she was the author of *Station Astral*, a book dealing with psychic methods. She founded and presided over the American Student Foundation from its inception in 1934 until its demise in 1937.

**Dubuch, Lucien.** French journalist and essayist, dramatic critic for *Candide* and author of *Histoire générale illustrée du théâtre* (1931), born in 1882, died in 1940.

**Du Bois, Charles G.** American utility executive, died at New York City on Dec. 23, 1940, born thereat on Mar. 22, 1870. After his graduation from Dartmouth College in 1891, he went to work for the Western Electric Co. in New York City at \$10 a week and, except for a period of 11 years (1907-18) when he was controller of the American Telephone and Telegraph Co., remained with Western Electric through all of his business life, serving as president from 1919 to 1926 and as chairman of the board from 1921 to 1927.

**Duffield, Roy Farrel.** American Protestant Episcopal clergyman; died in Garden City, L.I., on Dec. 22, 1940; born in Block Island, R.I., on July 25, 1877. A graduate of Columbia University (1900) and General Theological Seminary (1903), he held the dual post of canon of the Cathedral of the Incarnation, Garden City, and archdeacon for Queens and Nassau of the Episcopal Diocese of Long Island from 1910 until his retirement in 1933.

**Dugan, Raymond Smith.** American astronomer; died in Bryn Mawr, Pa., Aug. 31, 1940, born in Montague, Mass., May 30, 1878. A graduate of Amherst College, he served as acting director of the observatory of the Syrian Protestant College, Beirut, Syria (1899-1902), assistant in the Astro-Physical Observatory at Heidelberg University (1902-04); instructor in astronomy at Princeton University in 1905, rising to Professor in 1920, a position he occupied at his death. Dr. Dugan's special field of study was that of eclipsing variable stars, commonly known as double stars—measuring changes in their brightness as a means of computing their size, shape, density, mass, orbit, and other information. He was co-author with Professors Henry Norris Russell and John Quincy Stewart of *Astronomy*, a textbook (1926).

**Dunlap, William B.** American General; died in Pittsburgh, Pa., Nov. 23, 1940, born in 1885. He went overseas as a captain in the World War, and rose to be the youngest colonel in the A.E.F. He was awarded the Distinguished Service Medal in July, 1939, President Roosevelt appointed him a brigadier general in the Pennsylvania National Guard. In civilian life, he was a State Representative (1921-23), Director of City Supplies, Pittsburgh (1931-34) and at the time of his death publicity man for the Carnegie-Illinois Steel Corporation.

**Dunn, William F.** American publisher, died in Monticello, Ill., Mar. 18, 1940; born in Sedalia, Mo., June 30, 1872. A newspaperman from 1893, he was associated with the *Chicago Post* from 1897 until his retirement in 1929, and was its president and publisher from 1925.

**Duret, Miguel Lanz.** Mexican editor and lawyer; died in Mexico City, Nov. 21, 1940; born in 1880. He was for 18 years president and general manager of *El Universal*,

Mexico City's leading morning newspaper; and at the time of his death was Professor of International Law at National University of Mexico Law School and a former president of the Mexican bar association.

**Dussaigne, Edmond.** French army officer; died in Lyons, France, Mar. 3, 1940. A former chief of staff of the Air Ministry, he was one of the seventy-one members or associates of the Cagouards indicted in an investigation of an alleged plot to overthrow the French Government in 1937. He was released on bail in June, 1938.

**Dusser de Barenne, Joannes G.** Dutch physiologist; died in Boston, June 9, 1940; born in Brielle, The Netherlands, June 6, 1885. Associated with the University of Utrecht from 1919 to 1930, he was Sterling professor of physiology at Yale University thereafter. He wrote several books on the functions of the central nervous system, and had recently done important research work on the brain.

**Duveen, Charles J.** American decorator; died in Yonkers, N.Y., July 21, 1940; born in Hull, Eng., 1871. A brother of Lord Joseph Duveen, noted British art connoisseur, and in his early life a member of the London firm of Duveen Brothers, Charles J. Duveen emigrated to America and for many years conducted an antique shop in Fifth Ave., and later at 52 East 52d St., New York, under the business name of "Charles of London." One of the greatest authorities on rare and antique furniture, Charles Duveen was also a recognized connoisseur of fine velvets, particularly reds and greens.

**Easterwood, Jr., William Edward.** American capitalist; died in Santa Monica, Calif., Aug. 24, 1940; born in Wills Point, Tex., Nov. 5, 1883. A banker and industrialist in Dallas, Tex., who had served as a captain in the Marines in the World War, Easterwood became national vice-commander of the American Legion in 1933. In 1930, he was financial supporter of the Dieudonne Costes and Maurice Bellonte airplane flight from Paris to New York to Dallas, donating a reward of \$25,000 to the two flyers. He founded several airfields, three of which bear his name.

**Echenique Gandarillas, José Miguel.** See SPANISH-AMERICAN LITERATURES under Chile.

**Edey, Birdsell Otis (Mrs. Frederick Edey).** American feminist; died in New York, Mar. 17, 1940; born in Bellport, L.I., June 25, 1872. Previously active in the woman suffrage movement, she became associated with the Girl Scouts of America in 1919 and served as president of the national council from 1930 to 1935 when she was named national commissioner.

**Egerton, Sir George.** British naval officer; died in Ringwood, Hants., Mar. 30, 1940, born Oct. 17, 1852. In the navy from 1866, he served on the Arctic Expedition (1875-76) and was Second Sea Lord of the Admiralty (1911-12) and Commander-in-Chief at Plymouth during 1913-16.

**Eisen, Gustavus Augustus.** American archaeologist and biologist; died in New York City, N.Y., Oct. 29, 1940; born in Stockholm, Sweden, Aug. 2, 1847. An honor student and graduate of the University of Upsala, Sweden, he received a grant from his alma mater and from the Swedish government to study marine zoology in California in 1873. By pointing out to the U.S. Department of Agriculture that the failure of California fig plantings was due to the fact that all the blossoms of the domestic trees were females, and that pollen from male flowers would have to be carried by a special species of Near-East wasp, if the trees were ever to bear fruit, Eisen was directly responsible for the cultivation of the \$20,000,000 California fig industry. He became an American citizen in 1887; and took part in many archaeological explorations from 1880 to 1915. A friend of Fehim Kouchakji, New York art dealer and owner of the Chalice of Antioch, reputed by many to be the Holy Grail sought by King Arthur's Knights, Dr. Eisen wrote *The Legends of the Holy Grail* (1940) and numerous other scientific works. A long campaign by Dr. Eisen for the conservation of California's Sequoia forests was followed by the establishment of Sequoia National Park in 1890.

**Elliott, Maxine (Jessie Dermot).** American actress, died in Juan Les Pins, France, Mar. 5, 1940; born in Rockland, Me., Feb. 5, 1871. She made her debut in 1890 but not until she appeared in *Her Own Way* in 1903 did she become a "star." On Dec. 30, 1908, she opened the Maxine Elliott Theatre in New York with *The Chaperon*. She appeared frequently on the London stage and enjoyed a success in *Joseph and His Brethren* there in 1913. Her last appearance on the stage was in *Trimmed in Scarlet* in New York in 1920. She was considered one of the most beautiful women of the American stage.

**Espalter, José.** Uruguayan statesman, died in Uruguay, Aug. 30, 1940, born in 1870. A former vice-president of Uruguay, he was president of the Uruguayan Senate at the time of his death. As Minister of Foreign Affairs, Dr. Espalter concluded a barter agreement with Germany (1935) by which the latter was to take 5000 tons of Uruguayan meat in return for German industrial goods.

**Estigarribia, José Félix.** Paraguayan president; died in an airplane accident between Altos and San Bernardino, Paraguay, Sept. 7, 1940; born in Caragatay, Jan. 21,

1888. A graduate of the Asunción Military Academy, he earned a military scholarship to the Ecole de Guerre, France, where he studied from 1924 to 1928, becoming chief of staff of the Paraguayan army immediately thereafter. He was promoted to commander-in-chief in the Chaco War, where he won notable successes; was exiled June 14, 1935; was recalled in 1937 when the government of Col. Rafael Franco toppled; was appointed Minister to the United States, participating in that capacity in the final adjustment of the Chaco dispute. Elected by a large majority, he took office as president of Paraguay on Aug. 15, 1939, a post which he developed into a virtual dictatorship. His foreign policy pivoted on increased friendship with the United States.

**Ettl, John.** American portrait sculptor; died in New York City on Dec. 22, 1940; born in Hungary in 1872. He came to the United States in 1898; received numerous sculptural commissions and invented the Ettl Enlarging Machine for increasing the size of sculptures. It received wide application in the United States and was used to enlarge the statue of Joan of Arc on Riverside Drive, New York City, and the pediment sculptures on the United States Supreme Court Building in Washington. His last completed sculptural work was a portrait bust of Franklin D. Roosevelt.

**Evans, Earle Wood.** American lawyer; died in New York City, July 30, 1940; born near Wellington, Kan., Feb. 20, 1873. A graduate of Garfield University, he was admitted to the Kansas Bar in 1894, identified himself with much important litigation; became a director of several corporations; and was attending a board meeting of the Atchison, Topeka, and Santa Fe Railway in New York City when he died. He was president of the American Bar Association in 1933 and 1934. Advocating stringent methods to rid the legal profession of crooks, he told the Kansas Bar Association in 1933: "The public and the newspapers feel that we ought to be responsible for the crooks, and I don't know but what they are right. Let's clean house. Who else is there who can do it?"

**Eve, Sir Harry Trelawney.** British jurist; died in Farnham, Surrey, Eng., Dec. 10, 1940, born in London, Oct. 13, 1856. A barrister since 1881, he was a member of Parliament from 1904 to 1907, when he was appointed judge of the Chancery Division of the High Court, one of the solemnest tribunals in England. He boasted that he had never visited St. Paul's Cathedral, the British Museum, or the National Gallery.

**Everitt, Byron Forbes.** American auto manufacturer; died in Detroit, Mich., Oct. 5, 1940; born in Ridgetown, Ont., Can., 1872. A carriage-maker by trade, he early became associated with Henry Ford and other automobile manufacturers; and with Walter O. Briggs, William E. Metzger, and Walter Flanders, produced the Maxwell, Flanders-20, Wayne, EMF, Everitt, and Rickenbacker cars.

**Eyde, Samuel.** Norwegian scientist and industrialist; death at Asgardstrand announced June 21, 1940; born in Norway, Oct. 29, 1866. In 1903, with Dr. K. Birkeland, he invented the method of extracting nitrogen from the air and using it in the manufacture of fertilizer and other products. In 1905 he founded the Norsk Hydro-Elektrik Kvelstofactiselskat which for many years dominated the hydroelectric and nitrate industry in Norway. He resigned in 1919. During 1920-23 he was Norwegian minister to Poland.

**Fabiet, Julian.** Argentine admiral, former chief of naval operations; died on Nov. 26, 1940; born in 1882.

**Fagnani, Charles P.** American theologian and educator; died in German-occupied France on Nov. 25, 1940; born in New York City in 1854, the son of Giuseppe Fagnani, portrait painter. He was a teacher in New York City's public schools; was afterward graduated from Union Theological Seminary, where he became an instructor in Hebrew (1892) and Professor of Old Testament Literature (1914-26). He was expelled from Germany in 1921 because of his anti-German stand during the World War.

**Fairbairn, James Valentine.** Australian cabinet minister; died in an airplane accident 8 miles from Canberra, Australia, Aug. 13, 1940; born in Wadhurst, Surrey, Eng., July 28, 1897. He became assistant minister of Defense on Apr. 26, 1939; and air minister and minister of civil aviation on Mar. 14, 1940.

**Faison, Samson Lane.** American general; died in Baltimore, Md., Oct. 17, 1940; born in Faison, N.C., Nov. 29, 1860. A graduate of the U.S. Military Academy (1883), he saw service in the Philippines, and in the World War as commander of 90th Division in France. He became a brigadier general on Aug. 5, 1917.

**Falk, Otto H.** American manufacturer; died in Milwaukee, Wis., May 21, 1940; born there, June 18, 1865. Associated with the Falk financial interests from 1885, he was vice-president of the Falk Co., manufacturers of steel casings, and in 1912 he became receiver of the Allis-Chalmers Co., manufacturers of heavy machinery. He served as president of the latter company during 1913-32 and was chairman of the board thereafter. Mr. Falk served in the Wisconsin National Guard during 1886-1911 and



*International*

CYRUS ADLER  
American Educator, 1863-1940



*International*

MANUEL AZAÑA  
Spanish ex-President, 1880-1940



*International*

ITALO BALBO  
Italian Aviator, 1896-1940



*International*

WILLIAM BROCKMAN BANAHAD  
American Congressman, 1874-1940



*International*

WILLIAM E. BORAH  
American Senator, 1865-1940



*International*

MRS. PATRICK CAMPBELL  
British Actress, 1895-1940



*International*

NEVILLE CHAMBERLAIN  
British Statesman, 1869-1940



*Wide World*

WALTER P. CHRYSLER  
American Manufacturer, 1875-1940



*International*

RUFUS CUTLER DAWES  
American Manufacturer, 1867-1940



*Wide World*

MAXINE ELLIOTT  
American Actress, 1871-1940



*International*

JOSÉ FELIX ESTIGARRIBIA  
Paraguayan President, 1882-1940



*Harris & Ewing*

WILLIAM PRESTON FEW  
American Politician, 1867-1940





*International*

**JOHN H. FINLEY**  
American Educator, 1863-1940



*International*

**F. SCOTT FITZGERALD**  
American Novelist, 1896-1940



*Wide World*

**DANIEL FROHMAN**  
American Producer, 1851-1940



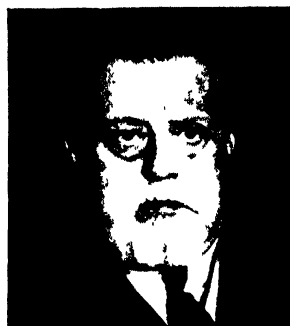
*International*

**VISCOUNT FURNESS**  
British Shipbuilder, 1883-1940



*International*

**HAMLIN GARLAND**  
American Writer, 1860-1940



*International*

**GIULIO GATTI-CASAZZA**  
Italian Opera Manager, 1869-1940



*International*

**EMMA GOLDMAN**  
American Anarchist, 1869-1940



*International*

**SIR WILLIAM GRENFELL**  
British Missionary, 1865-1940



*Acme*

**EDWARD S. HARKNESS**  
American Financier, 1874-1940



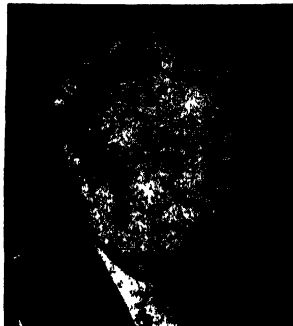
*International*

**DUBOSE HEYWARD**



*International*

**JAN KIBELIK**  
Swedish Merchant, 1860-1940



*International*

**SELMA LAGERLOF**  
Swedish Novelist, 1858-1940

was a member of the United States Volunteers during the Spanish-American War.

**Falkner, Roland Post.** American statistician and economist; died in New York City, Nov. 27, 1940; born in Bridgeport, Conn., Apr. 14, 1866. He was graduated from the Wharton School of Finance and Economy of the University of Pennsylvania (1885); was editor-in-chief of the *Annals of the American Academy of Political and Social Science* (1890-1900); Commissioner of Education, Puerto Rico (1904-07); Assistant Director of the Census (1911-12); editor and director of research, Alexander Hamilton Institute (1915-26); and chief statistician of the National Industrial Conference Board from 1925 until his death.

**Fantoli, Guadenzio.** Italian engineer; died in Milan, Jan. 16, 1940; born in 1867. Professor of hydraulic engineering at and director of the Milan Polytechnic Institute, after 1928 he was a Senator.

**Farman, Richard.** French aviator; died in Paris, Jan. 31, 1940; born there in 1876. With his brothers, Henri and Maurice, he did much to develop aviation, and on Jan. 13, 1908, he won a \$10,000 prize at Issy for having flown an airplane one kilometer in a prescribed circle.

**Faversham, William.** American actor, died in Bay Shore, L.I., N.Y., Apr. 7, 1940, born in London, England, Feb. 12, 1868. His American debut was made in 1887 and subsequently he became the leading matinee idol of his day. His greatest success was as Jim Carston in *The Squaw Man* in 1905.

**Ferris, Harry Burr.** American anatomist; died in New Haven, Conn., Oct. 12, 1940, born in Old Greenwich, Conn., May 21, 1865. He became a teacher at Yale shortly after his graduation from the university's medical school in 1890, was made a full professor in 1892; and headed the department of anatomy from 1895 until his retirement in 1933.

**Ferry, Désiré.** French politician; died in Paris, Jan. 12, 1940; born in Metz, Oct. 26, 1886. A member of the Chamber of Deputies from 1919, he was minister of marine (1924), minister of public health (1930). After 1933 he was director of *La Liberté*.

**Few, William Preston.** American educator, died in Durham, N.C., Oct. 16, 1940; born in Greenville, S.C., Dec. 29, 1867. A graduate of Wolford College (1889), Dr. Few began to teach English in Trinity College, Durham, N.C., in 1896, was dean of Trinity (1902-10) and president (1910-24). He was instrumental in influencing the decision of the late James B. Duke, tobacco manufacturer, to establish a \$40,000,000 trust fund and assign a large portion of it for the creation of Duke University, with Trinity a part of it. Dr. Few was president of Duke from its beginning in 1924 until his death.

**Findley, Alvin Irwin.** American editor; died in St. Petersburg, Fla., Dec. 12, 1940; born in Monmouth, Ill., June 29, 1859. He was editor-in-chief of *Iron Age* (1910-30).

**Finley, John H.** American educator and editor; died in New York, Mar. 7, 1940, born in Grand Ridge, Ill., Oct. 19, 1863. Educated at Knox College (A.B., 1887) and Johns Hopkins University, he was secretary of the State Charities Aid Association and editor of *Charities Review*, the first publication of its kind (1889-92); president of Knox College (1892-99); editor of *Harper's Weekly* (1899) during which year he aided in founding *World's Work*; professor of politics at Princeton University (1900-03); president of the College of the City of New York (1903-13), during which period he reorganized the College; commissioner of education for the State of New York and president of the University of the State of New York (1913-21) and as such emphasized the value of physical and military training; associate editor of *The New York Times* (1921-37), editor-in-chief of that paper from 1937 to Nov. 16, 1938, and editor emeritus thereafter. He was editor of *Nelson's Encyclopedia* and was the author of *French Schools in War Time* (1917), *A Pilgrim in Palestine* (1918), *The Debt Eternal* (1923), *The Mystery of the Mind's Desire* (1936), and *The Coming of the Scot*, published posthumously in April, 1940. The recipient of numerous honorary degrees and foreign decorations, Dr. Finley was active in many varied fields and was lecturer at the Sorbonne (1910-11), head of the American Red Cross in Palestine and the Near East (1918-19), and director of the Hall of Fame at New York University after 1938.

**Fisher, Herbert A. L.** British educator and historian; died in London, Apr. 17, 1940; born there, Mar. 21, 1865. A member of parliament during 1916-26, he was president of the Board of Education (1916-22) and as such introduced an education bill in August, 1917, urging the adoption of a national system of public education. Lowell Lecturer in 1909, and president of the British Academy (1928-32), after 1923 he was warden of New College, Oxford. An authority on Napoleon, his most important work was *A History of Europe* (3 vol., 1935).

**Fitzgerald, F. Scott.** American novelist; died in Hollywood, Calif., on Dec. 21, 1940; born in St. Paul, Minn., Sept. 24, 1896. He came of an old southern family. His great-grandfather's brother was Francis Scott Key; his

father's aunt was Mrs. Suratt, one of the conspirators hanged for the assassination of Abraham Lincoln. Young Fitzgerald attended Princeton University (1913-17), served as a lieutenant in the army in the World War; worked for an advertising agency in New York City and then, at the age of 23, published a tremendously successful novel called *This Side of Paradise* (1920). It depicted the noisy frivolities and frustrations of American youth in the period immediately following the World War. His other works were: *Flappers and Philosophers*, 1920; *The Beautiful and Damned*, 1921; *Tales of the Jazz Age*, 1922; *The Great Gatsby*, 1925; *All the Sad Young Men*, 1926; *Tender Is the Night*, 1934; *Taps at Reveille*, 1935.

**Fitzgerald, John G.** Canadian bacteriologist, professor of hygiene and preventive medicine and director of the Connaught Laboratories and School of Hygiene from 1913, and dean of the Faculty of Medicine (1932-37) at the University of Toronto; died in Toronto, June 20, 1940, born in Drayton, Ont., Dec. 9, 1882.

**Fleming, Adrian Sebastian.** American general and papermaker; died on Dec. 1, 1940; born in Midway, Ky., Dec. 6, 1872. A graduate of West Point (1895), who had seen service in the Philippines, he became a brigadier general in May, 1918, and commanded artillery units on the Western Front.

**Fleming, Arthur Henry.** American manufacturer and philanthropist; died in Pasadena, Calif., Aug. 11, 1940; born in Halton Co., Ont., Can., Apr. 3, 1856. He came to the United States in 1879 and eventually settled in California, where he became president and principal owner of many lumbering and mining companies. He financed the founding of California Institute of Technology, and donated huge sums for its early upkeep. In 1926 he donated 100,000 francs to the French government for the establishment of a pavilion and park in Compiègne forest as a shrine for the railway car in which the World War Armistice was signed.

**Forbes, Joseph G.** Canadian Roman Catholic clergyman, Archbishop of the Diocese of Ottawa from 1928; born in Ile Perrot, Canada, Aug. 10, 1865; ordained in 1888; died in Ottawa, May 22, 1940.

**Fortin, Miguel A.** See SPANISH-AMERICAN LITERATURES under *El Salvador*.

**Fowler, Alfred.** British astronomer; died in London, June 24, 1940; born in 1868. An authority on research dealing with the stellar, cometic, and solar spectra, he was a member of the British Government Eclipse Expeditions of 1893, 1896, 1900, 1905, and 1914, and for many years he was professor of Astrophysics at the Imperial College in South Kensington. From 1923 to 1934 he was Yarrow research professor of the Royal Society. President of the Royal Astronomical Society (1919-21) and president of the Institute of Physics (1935-37), he was awarded the Valz prize of the Paris Academy of Sciences (1913), the gold medal of the Royal Astronomical Society (1915), the Royal medal of the Royal Society (1918), the Henry Draper Gold Medal of the National Academy of Sciences, Washington (1920), and the Catherine Wolfe Bruce gold medal of the Astronomical Society of the Pacific (1934).

**Fox, John M., S.J.** American Roman Catholic clergyman, president of Holy Cross College, Worcester, Mass., 1929-33; died in Pomfret, Conn., Feb. 15, 1940; ordained in 1913; born in Dorchester, Mass., in 1880.

**Frank, Glenn.** American publicist, editor, and educator; died in an auto accident near Greenleaf, Wis., Sept. 15, 1940; born in Queen City, Mo., Oct. 1, 1887. He was graduated from Northwestern University (1912); was assistant to Dr. Abram W. Harris, president of Northwestern (1912-16); associated with Edward A. Filene, Boston merchant, in research and organization work in the field of social welfare (1916-19); editor, *The Century Magazine* (1919-25); and President of the University of Wisconsin from 1925 until he was removed by Governor LaFollette in 1937 on the ground of maladministration. He was killed, together with his son, while campaigning for the Republican nomination for U.S. Senator.

Dr. Frank's utterances and writings and controversies kept him almost constantly in the public's mind. As editor of *The Century Magazine*, his editorials and philosophical discourses were widely read and led directly to his appointment to the president's chair at Northwestern University. He had frequent tiffs with politicians in Wisconsin, particularly in relation to his unorthodox views on methods of education. He was removed by the Board of Regents on Jan. 7, 1937. His published books included: *The Politics of Industry* (1919); *An American Look at His World* (1923); *Thunder and Dawn* (1932); *America's Hour of Decision* (1934).

**Frank, Karl Georg.** American engineer and inventor; died in North Caldwell, N.J., Dec. 13, 1940; born in Sarstedt, Hanover, Germany, Mar. 5, 1872. He studied under Roentgen at the University of Munich; came to the United States in 1903; was the holder of numerous patents for inventions, mainly in wireless telegraphy; and he was the author of many pamphlets on technical aspects of electricity and optics.

**Fratellini, Paul.** Italian clown; died in Paris, France,

November, 1940; born in Sicily. He was one of three brothers who toured the world as the "Three Fratellinis." They were descendants of a long line of clowns.

Fraser, Spaulding. American lawyer; died in Asheville, N.C., Mar. 7, 1940; born in Brooklyn, N.Y., Oct. 7, 1881. Active in Republican politics, he was corporation counsel of Newark, N.J., from 1915 to 1917. Founder and dean of Mercer Beasley Law School in 1926, he continued as dean upon its merger with Newark University in 1936.

Frederick, Charles. Landgrave of Hesse; died in Kassel, Germany, May 29, 1940; born in Panker, Holstein, May 1, 1868. He saw service in the German Army during the World War and in 1918 was elected King of Finland by the Finnish Parliament but refused the throne.

Frederick William, Prince of Schleswig-Holstein-Glücksburg, killed in action, June, 1940; born in Frankfurt am Main, Dec. 29, 1909.

French, Hollis. American consulting engineer and author; died in Boston, Mass., Nov. 21, 1940; born in Boston, June 26, 1868. A graduate of Massachusetts Institute of Technology, he supervised the construction of many large power plants in New England; was the president of Robert Breck Brigham Hospital, Boston; and wrote books on early American furniture and silver, and a biography of Thatcher Magoun, Boston shipbuilder and sea captain, published in 1934.

Frohman, Daniel. American theatrical producer; died in New York City on Dec. 26, 1940; born in Sandusky, O., on Aug. 22, 1851. A brother of Charles and Gustave Frohman, also prominent figures in the theater, he worked as an office boy on the *New York Tribune* for several years beginning in 1866; was publicity agent for Calender's Original Georgia Minstrels (1874-79); manager of the Fifth Ave. Theater and the Madison Square Theater (1879-85); manager of the Lyceum Theater for many years, beginning in 1885, and president of the New Lyceum Theater Co. from 1902 until his death. He was a founder of the Actors Fund of America and its president from 1906 to 1940.

The actors and actresses who appeared on the stage under Frohman's management included Richard Mansfield, Maude Adams, Herbert Kecey, Henrietta Crossman, James K. Hackett, Georgia Cayvan, Isabel Irving, Henry Miller, Mary Mannering, and Miss Kendala. He was for many years associated with David Belasco, a relationship that began in 1879 at the Madison Square Theater. Frohman was long recognized as the dean of American theatrical producers. His autobiography entitled *Daniel Frohman Presents* was published in 1935. Frohman and Margaret Illington, the actress, were married in 1903. She divorced him on grounds of desertion in 1909 and some years later she married Major Edward Bowes.

Frugoni, Pietro. Italian general, died in Brescia, Italy, Sept. 10, 1940; born in 1850. He commanded the 2d and 5th Italian armies in the World War.

Fu Hsiao-on. Chinese public official; assassinated in Shanghai, China, Oct. 11, 1940; born in Ningpo, 1870. A prominent Chinese banker, he became Japan's puppet mayor of Shanghai on Oct. 10, 1938.

Fuller, Sir George Warburton. Australian statesman; died in Australia, July, 1940; born in Kiama, New South Wales, Jan. 22, 1861. He was premier of New South Wales from 1922 to 1925.

Furness, Viscount, Marmaduke Furness. British shipbuilder and iron and coal operator; died in Cap Ferrat, France, Oct. 7, 1940; born on Oct. 29, 1883. Son of Lord Christopher Furness, English farm laborer who amassed a fortune in the mercantile world, Viscount Furness was chairman of the Furness Shipbuilding Co.; the Cargo Fleet Iron Co.; the South Durham Steel and Iron Co.; Wearside Steel, Coal, and Coke Co.; Broomhill Collieries, Ltd., and was a director of several other large British concerns.

Fynn, Sir Percival. Rhodesian politician; minister of internal affairs from 1935; died in Salisbury, Southern Rhodesia, Apr. 25, 1940; born in Cape Colony in 1872.

Ganfield, William Arthur. American educator; died in Chicago, Ill., Oct. 18, 1940; born in Dubuque Co., Ia., Sept. 3, 1873. Ordained a Presbyterian minister in 1901, he served as president of Centre College, Danville, Ky. (1915-21) and of Carroll College, Waukesha, Wis. (1921-39). He ran for the U.S. Senate in Wisconsin against Robert M. La Follette in 1922 but was defeated.

García, Gñes. See SPANISH-AMERICAN LITERATURES under *Argentina*.

Garland, Hamlin. American writer, died in Hollywood, Calif., Mar. 4, 1940; born in West Salem, Wis., Sept. 14, 1860. Writing from 1890, his works included *Rose of Dutcher's Cooty* (1895), considered his best novel, *Ulysses Grant* (1898), *The Eagle's Heart* (1900), *The Captain of the Gray Horse Troop* (1902), *The Long Trail* (1907), *Boy Life on the Prairie* (1907), and *Other Main Traveled Roads* (1913), but it was not until the publication of *A Son of the Middle Border* (1917), the first volume of a trilogy which was largely autobiographical, that his position in American letters was secured. The second volume, *A Daughter of the Middle Border* (1921) re-

ceived the Pulitzer Prize; the third volume, was *Back Trailers of the Middle Border* (1928). One of the first Americans to write of the soil, his work attracted wide attention for its realistic, or as he preferred, veritist, approach to pioneering farm life. His later works were based largely on the diary he had kept for years and included *Roadside Meetings* (1930), *Companions of the Trail* (1931), *My Friendly Contemporaries* (1932), and *Afternoon Neighbors* (1934). His latest works were two books on psychical research, *Forty Years of Psychic Research* (1936) and *The Mystery of the Buried Crosses* (1939). In 1931 Mr. Garland received the Roosevelt Memorial Association medal for "distinguished service as a social historian."

Garofalo, Attilio. Italian general divisional commander in the World War; died in San Remo, Italy, Nov. 6, 1940; born in 1865.

Garvey, Marcus. Negro adventurer; died in London, June 10, 1940; born in Jamaica, B.W.I., in 1880. He first became known in the United States about 1914 with the formation of the Universal Negro Improvement Association. Subsequently he organized the Black Star Steamship Line and the Black Star Steamship Co. to be manned entirely by Negroes; the African Community League; the Negro Factories Corporation; the Black Cross Nurses, and the Universal African Legion. He set himself up as "Emperor of the Kingdom of Africa," although it was believed that he had never set foot on that continent. In 1922 he was arrested for using the mails to defraud and from 1925 to 1927 he was jailed in the Atlanta penitentiary. He was then deported to Jamaica, and thereafter slowly faded into obscurity. In New York in 1924 he called the Fourth Annual International Congress of Negro peoples of the World.

Garsón, Eugenio. See SPANISH-AMERICAN LITERATURES under *Uruguay*.

Gates, William. American archaeologist; died in Baltimore, Md., Apr. 24, 1940; born in Atlanta, Ga., in 1864. He was associated with Johns Hopkins University as a research associate in Mayan languages and history (1930-38), and was an outstanding authority on Mayan history, language, and culture. In 1931 he published *Outline Dictionary of Maya Glyphs*.

Gatti-Casazza, Giulio. Italian operatic manager; died in Ferrara, Italy, Sept. 2, 1940; born in Udine, Feb. 3, 1869. In 1893 he succeeded his father, Stefano, newly elected member of the Italian parliament, as head of the directors of the *Teatro Comunale di Ferrara*. He became director of the revived *La Scala* Opera House in Milan in 1898 and in that capacity was responsible for some startling innovations, particularly the introduction of German operas there for the first time and the starring of non-Italian singers, notably Chaliapin. There also for the first time he met Arturo Toscanini, musical director of *La Scala*. He was a warm friend of Giuseppe Verdi and always remembered the old master's advice to him in 1898. "The theater is intended to be full and not empty. That's something you must always remember."

He came to New York in 1908, succeeding Heinrich Conried as general manager of the Metropolitan Opera Company, a position he occupied until his retirement on Apr. 27, 1935. His first production here was Verdi's *Aida* on Nov. 16, 1908, with a cast including Emmy Destin, Louise Homer, Enrico Caruso, and Antonio Scotti. Toscanini conducted.

Gatti-Casazza did much to popularize music drama in the United States and encouraged the writing and presentation of American-made operas. In 1910 he produced Frederick S. Converse's *The Pipe of Desire*, the first American opera to be staged at the Metropolitan. Also, about that time he persuaded the directors to conduct an opera-writing contest among American composers, with \$10,000 as the first prize. The prize-winning work, Horatio William Parker's *Mona* was produced at the Metropolitan on Mar. 4, 1912.

The public response was lukewarm, however, and Italian, German, and French operas continued their command of the Metropolitan stage through all of Gatti-Casazza's tenure.

After the first two or three seasons, the Metropolitan began to make a profit, and the balance remained on the right side of the ledger until the 1930-31 season, when falling revenue was followed by drastic cuts in salaries (including the director's, self-imposed) and other expenditures.

In 1910 Mr. Gatti-Casazza married Frances Alda, operatic soprano from New Zealand, who had made her debut at *La Scala*. They were divorced in 1929. Shortly afterward he married Rosina Galli, former première danseuse and ballet mistress of the Metropolitan, who died on Apr. 30, 1940.

Gaunt, Sir Ernest Frederick. British naval officer; died in London, Apr. 20, 1940; born in Melbourne, Australia, Mar. 25, 1865. In the navy from 1878, he was a rear admiral commanding the 1st Battle Squadron at the Battle of Jutland, commander-in-chief in the East Indies (1917-19) and commander-in-chief of the Western Approaches

(1921-22). Promoted to admiral in 1924, he was retired in 1925.

**Gauthier, Joseph Alexandre Georges.** Roman Catholic archbishop; died in Montreal, Can., Aug. 31, 1940; born in Montreal, Oct. 9, 1871. A graduate of Montreal College, he was ordained a priest in 1894; became professor in the Grand Seminary in Montreal (1896); auxiliary bishop of Montreal (1912); archbishop coadjutor (1923) and archbishop (September, 1939). He was noted as a powerful preacher in both the French and English languages.

**Gibbs, George.** American engineer; died in New York, May 20, 1940; born in Chicago, Apr. 19, 1861. A leading authority on railroad engineering, he designed and patented the first practical all-steel railway car, and was chief engineer in charge of the design and construction of the Pennsylvania station in New York (1905-12) and chief engineer for electric traction for the Long Island Railroad after 1912. He was consulting engineer for the Interborough Rapid Transit Co., New York; the Pennsylvania Railroad, being in charge of the electrification of the road between New York and Washington; the Long Island Railroad, and other lines. A past president of the American Institute of Consulting Engineers and president at the Rome session of the International Railway Congress in 1922, he was awarded the Norman medal (1911) and the Wellington prize (1930) of the American Society of Civil Engineers.

**Gibson, Ernest Willard.** American lawyer; died in Washington, June 20, 1940; born in Londonderry, Vt., Dec. 29, 1871. A Republican in politics, he served in the 68th to 73d Congresses (1923-35) from the 2d Vermont District, and in 1933 was appointed to the U.S. Senate to fill a vacancy. He was elected Senator in 1934 and re-elected in 1938. He served on the naval affairs, commerce, civil service, library, and territories committees.

**Gilder, Robert Fletcher.** American journalist and archaeologist, he discovered in 1906 the Nebraska "Loess man," the oldest human remains found in America; died in Omaha, Neb., Mar. 7, 1940; born in Flushing, N.Y., Oct. 6, 1856.

**Gill, Eric.** British sculptor and wood engraver; died in Uxbridge, Eng., Nov. 18, 1940; born in Brighton, 1882. His principal works included a war memorial for Leeds University, which caused a great stir because the subject—the expulsion of the money changers from the temple—depicted them in top hats and frock coats.

**Gilmore, Melvin Randolph.** American ethnobotanist; died in Lincoln, Neb., July 25, 1940; born in Valley, Neb., Mar. 11, 1868. A graduate of Cotner College, Bethany, Neb. (1905), he was curator of the Nebraska Historical Museum (1911-16); curator, North Dakota Historical Society (1916-23); and curator of ethnology at the University of Michigan since 1931. In his studies of the American Indian, he spent much time actually living among the various tribes; and his books on the subject have commanded wide recognition.

**Gilmour, Sir John.** British politician, died in London, Mar. 30, 1940; born May 27, 1876. A Conservative Member of Parliament from 1910, he was Secretary for Scotland (1924-26) and Secretary of State for Scotland (1926-29); Minister of Agriculture and Fisheries (1931) and Home Secretary (1932-35). He was appointed Minister of Shipping in the Chamberlain cabinet in October, 1939, and as such controlled Britain's merchant fleet. He served as rector of Edinburgh University during 1926-29 and was Lord High Commissioner to the General Assembly of the Church of Scotland during 1938-39.

**Glenn, Mrs. John Mark (née Mary Willcox Brown).** American welfare leader; died in New York City, Nov. 3, 1940; born in Baltimore, Md., 1870. She was president of the National Council of the Church Mission Help (1919-37); president of the Family Welfare Association of America (1920-37). In 1915, she was president of the National Conference on Charities and Corrections, an office which her husband, John M. Glenn, held in 1901. She was executive secretary of the Henry Watson Children's Aid Society in Baltimore (1897-1900); and for two years thereafter, general secretary of the Charity Organization Society of Baltimore. Mr. Glenn, who survives, retired in 1931 as general director of the Russell Sage Foundation.

**Goenaga, Florentino.** See SPANISH-AMERICAN LITERATURES under Colombia.

**Goldberg, Sol H.** American inventor of the wrinkled hair pin, from which he made millions of dollars until long hair became scarce as a style among women; died in Chicago, Ill., on June 4, 1940; born in Cincinnati, O., 1887. "Irene Castle cost me \$2,000,000 when she bobbed her hair," he once remarked. However, he continued to make a handsome income manufacturing bobbie pins.

**Goldenweiser, Alexander.** American anthropologist and sociologist; died in Portland, Ore., July 6, 1940; born in Kiev, Russia, Jan. 29, 1880. He came to this country in 1900, studied at Harvard and Columbia Universities; lectured at Columbia (1910-19); and has taught sociology and anthropology at one time or another at Reed College,

Portland, and the universities of Oregon, Wisconsin, Washington, Buffalo, and Leland Stanford. One of his many books, *Early Civilisation* (1922), is a well-thumbed college textbook.

**Goldman, Emma.** American anarchist; died in Toronto, May 14, 1940, born in Kovno, Russia, June 27, 1869. In 1886 she emigrated to the United States. The Haymarket Square Riot in Chicago in 1886 aroused her sympathies and finally led her to support anarchism. After 1889 she was associated with Alexander Berkman and other anarchists in New York, and in 1893-94 she served a year in Blackwell's Island prison, New York, for inciting to riot. Upon her release she lectured in England and Scotland in 1895 and in the United States in 1897, 1899, and 1907-10. She was under suspicion for implication in the assassination of President McKinley in 1901 and after 1906 she co-operated in the publication of *Mother Earth*, an anarchist monthly. In 1919 Miss Goldman was deported to Russia and in the following year expressed a desire to return to the United States but was refused. After 1924 she was allowed to live in Germany on condition that she would abstain from propaganda. Subsequently she fled to England, and in 1926, having obtained British citizenship by marrying a Welsh miner, she went to Canada. In 1931 she went to the south of France to live and in 1934 received permission to visit the United States for ninety days on a lecture tour. During the Spanish Civil War she worked in London and Madrid for the loyalist cause, and finally returned to Canada. She wrote two books dealing with her disillusionment with the Soviet Government: *My Disillusionment in Russia* (1923-24) and *My Further Disillusionment in Russia* (1925). Her autobiography, *Living My Life*, appeared in 1931.

**Goler, George W.** American public health authority; died in Rochester, N.Y., Sept. 18, 1940; born in Brooklyn, N.Y., Aug. 24, 1864. A graduate of the University of Buffalo medical school (1889), he was Rochester Health Officer from 1896 to 1932, in which latter capacity he established the first municipal milk station and the first prenatal clinic in the nation. In 1926 he won a long fight to dose Rochester's water supply with iodine to combat adolescent goiter. The general public did not relish the idea of drinking iodine from household faucets; skepticism bred uneasiness; and in 1932 the issue resulted in Dr. Goler's resignation.

**Gomá y Tomás, Isidro Cardinal.** Spanish Roman Catholic primate; died in Pamplona, Spain, Aug. 22, 1940; born in La Riba, Tarragona province, Aug. 19, 1940. He became bishop of Tarazona in 1927 and archbishop of Toledo and primate of Spain in 1933. Pope Pius XI appointed him cardinal in 1935. During the Spanish Civil War he represented the Vatican as "provisional semi-official representative" to Burgos. He openly denounced governmental interference in ecclesiastical affairs; defied the Spanish Republic; and supported General Franco. He made his escape from Toledo to Pamplona three days before the government forces sacked his cathedral and home and killed some of his priests.

**Gomez, Alejandro.** Salvadoran general; died in El Salvador, Sept. 19, 1940; born in 1870.

**Goodrich, James Putnam.** American ex-governor; died in Winchester, Ind., Aug. 15, 1940; born in Winchester, Feb. 18, 1864. Educated at De Pauw University, Wabash College and the University of Notre Dame, he was admitted to the bar of Indiana in 1886; was active in Republican politics since that time, serving as Governor of Indiana (1917-21). Appointed a member of the Russian Relief Commission (1921), he made four trips to Russia. President Coolidge named him to the St. Lawrence Seaway Commission (1924) and President Hoover appointed him a member of the National Conservation Commission.

**Gordon, John Sloan.** Canadian artist; died in Hamilton, Ont., Can., Oct. 12, 1940; born in Brantford, Ont., 1868. He was the leader of the original impressionist movement in Canadian art. Among his works was the ceiling of the Congressional Library, Washington, D.C.

**Grant, Robert.** American author; died in Boston, May 19, 1940; born there, Jan. 24, 1852. He was chairman of the board of the Boston Water Commission during 1889-93, a judge of the Probate Court and Count of Insolvency for Suffolk Co., Mass., during 1893-1923, an overseer of Harvard University, 1895-1921, and a member of the Sacco-Vanzetti Commission (1927). He was a prolific writer of fiction dealing with marriage and divorce problems and in 1934 published his autobiography, *Fourscore—An Autobiography*.

**Graves, William S.** American army officer; died in Shrewsbury, N.J., Feb. 27, 1940; born in Mt. Calm, Tex., Mar. 27, 1865. In the U.S. Army from 1889, he commanded the American Expeditionary Forces in Siberia (1918-20), was promoted to major general in 1925, and at his retirement in 1928 was commander of the Panama Canal Department.

**Green, Thomas B.** American lecturer; died in Washington, D.C., Jan. 24, 1940; born in Harrisville, Pa., Dec. 27, 1857. Ordained a Protestant Episcopal minister in 1887, he held various pastorates, and was elected Bishop

of Iowa in 1898, which he declined. After 1903 he devoted himself to lecturing, and in 1910 began his interest in international peace. He lectured for the American Peace Society from 1913, and after 1918 was director of the national speakers' bureau of the American Red Cross. A prolific writer, his latest work was *The Man of Tomorrow* (1927).

**Greenway, Walter Burton.** American educator; died in Stanhope, N.J., on Dec. 22, 1940; born in Broylesville, Tenn., Aug. 18, 1876. A graduate of Princeton Theological Seminary, he was ordained a Presbyterian minister in 1900; held several pastorates; and was president of Beaver College for Women in Jenkintown, Pa., from 1928 to 1939.

**Grendal, Vladimir.** Russian general; died on Nov. 16, 1940; born in 1883. He was vice-chief of the Red Army artillery board; and in the Finnish war organized the storming of the Mannerheim line and the seizure of Vi-borg.

**Grenfell, Sir William Thomason.** British missionary, surgeon, and author; died in Charlotte, Vt., Oct. 9, 1940; born in Parkgate, Cheshire, Eng., Feb. 28, 1865. After studying at Oxford and London Hospital, he became a medical missionary among the fishermen of the North Atlantic, cruising for five years with them and sharing their hardships along the stretch between the Bay of Biscay and Iceland. A qualified master-mariner, he went to Labrador in 1892, established his headquarters at St. Anthony, on the northern shore of Newfoundland, and for 43 years was engaged in improving the health and living conditions of the inhabitants of Labrador and nearby regions. He built 5 hospitals, 7 nursing stations, 4 orphanage-boarding schools, co-operative stores, and started industrial, agricultural, and child welfare work along the coasts of Labrador and North Newfoundland. He was surgeon in charge of the hospital steamer *Strathcona II* in which he cruised annually along the Labrador coasts; he built a seamen's institute at St. John's, Newfoundland (1912); and owned and operated many boats, large and small, which carried provisions and medical supplies to the inhabitants of Labrador. Dr. Grenfell was the founder and superintendent of the International Grenfell Association, an organization which raised money and assisted in other ways in fostering the work of the Labrador Medical Mission.

In 1935 ill health forced Dr. Grenfell to retire from Labrador and he spent much of his time thereafter at his home at Charlotte, Vt., overlooking Lake Champlain. However, he still visited and kept in close touch with his Labrador stations and advised the various boards of the Grenfell Associations in New York, Boston, Ottawa, St. Johns, Nfld., and London. He received several honorary degrees from universities, and was the recipient of many decorations and awards for his missionary work. He was knighted in 1927. His wife, Lady Grenfell, died on Dec. 9, 1938. She was the former Anne MacClanahan of Lake Forest, Ill., a graduate of Bryn Mawr. They had two sons and a daughter.

During the World War, Dr. Grenfell went to France as a major in the Harvard Medical Unit.

His publications included *Adrift on an Ice Pan* (1909), *Off the Rocks* (1906), *Down to the Sea* (1911), *Down North on the Labrador* (1911), *Northern Neighbors* (1923), *Adventure of Life* (1912), *Immortality* (1912), *What Life Means to Me* (1910), *Tales of the Labrador* (1916), *Labrador Days* (1921), *Yourself and Your Body* (1925), *Labrador Looks at the Orient* (1928), *Forty Years for Labrador*, his autobiography, 1932, and the *Romance of Labrador*, 1933.

**Grevstad, Nicolay.** American editor; died in Chicago, Feb. 20, 1940; born in Norway, June 2, 1851. He was editor of *Skandinaven* during 1892-1911 and after 1930, and during 1911-15 he was envoy extraordinary and minister plenipotentiary to Paraguay and Uruguay from the United States.

**Groff, Charles G.** American business man; died in Greenwich, Conn., Oct. 24, 1940; born in Edgerton, O., Aug. 26, 1880. A former salesman, newspaperman, and general manager for Air Way Appliance Co. of Toledo, he was president of the Electrolux Corp. since 1933 and chairman of the board of the Servel, Inc., since 1934.

**Gronan, Hans von.** German army officer; died in Potsdam, Feb. 23, 1940; born at Alt-Schadow, Feb. 6, 1850. In the German army from 1869, he commanded the Fourth Reserve Corps in the campaign of August and September, 1914, and the 41st Army from 1915 to 1919.

**Guillaumat, Marie Louis Adolphe.** French general; died in Nantes, May 18, 1940; born in Bourgneuf, Jan. 4, 1863. During the World War he served as Commander of the 2d Army (1916), as commander-in-chief of the Allied forces in the East (1917-18), as military governor of Paris (1918), and as commander of the 5th Army. During 1924-30, with the exception of a few months in 1926 when he was minister of war, he commanded the Allied Forces in the Rhineland, and then retired.

**Guillot, Victor Juan.** See SPANISH-AMERICAN LITERATURES under *Argentina*.

**Guise, Duc de, Jean Pierre Clement Marie.** French pretender; died in Larache, Spanish Morocco, Aug. 25, 1940; born in Paris, France, Sept. 4, 1874. He was the great-grandson of Louis Philippe, only member of the House of Orleans ever to reign as King of France. The Duc de Guise succeeded in his claim by his son, Prince Henri de Guise, Prince of Orleans and Count of Paris.

**Guitart, Justino.** Spanish Roman Catholic clergyman, Bishop of Urgell and co-Prince of Andorra; died in Barcelona, Jan. 31, 1940; born in 1874.

**Gullett, Sir Henry Somer.** Australian cabinet minister; died in an airplane accident 8 miles from Canberra, Australia, Aug. 15, 1940; born in Harston, Victoria, Mar. 26, 1878. He was the official correspondent with the British and French armies in France during the World War in 1914; and became minister of external affairs and minister of information in the cabinet of Prime Minister Menzies in 1939.

**Gulliver, Julia Henrietta.** American educator; died in Eustis, Fla., July 26, 1940; born in Norwich, Conn., July 30, 1856. A graduate of Smith College, she began teaching philosophy and Biblical literature in 1890 at Rockford Female Seminary, predecessor of Rockford College, Illinois. She was president of the college from 1902 to 1919.

**Gunther, Robert Theodore.** British zoologist; died at Oxford, Mar. 9, 1940; born Aug. 23, 1869. In 1924 he became the first curator of the Lewis Evans Collection which became the Oxford Museum for the History of Science in 1935. He was a prolific writer on zoological and archaeological subjects.

**Gusman, David J.** See SPANISH-AMERICAN LITERATURES under *El Salvador*.

**Haddon, Alfred Cort.** British anthropologist; died in Cambridge, Apr. 20, 1940, born in London, May 24, 1855. He was lecturer in ethnology at Cambridge University (1900-09), and at London University (1904-09), and University Reader at Cambridge (1909-26). He made ethnological investigations in Torres Straits, New Guinea, and Sarawak, and was president of the anthropological section of the British Association for the Advancement of Science in 1902 and 1905.

**Hadfield, Sir Robert Abbott.** British metallurgist; died in London, Eng., Sept. 30, 1940; born in Sheffield, Nov. 29, 1858. He inherited Hadfield's, Ltd., one of the largest steel and munitions works in England; invented manganese steel, employed in helmets and armaments during the World War; and discovered a magnetic steel of high permeability, especially suited for use in dynamos and electric motors.

**Haggard, William David.** American surgeon; died in Palm Beach, Fla., Jan. 28, 1940; born in Nashville, Tenn., Sept. 28, 1872. He was professor of surgery and clinical surgery at Vanderbilt University Medical School from 1913, saw service in the World War, and was president both of the American College of Surgeons (1933) and of the American Medical Association (1925).

**Hainari, Tilmä.** Finnish feminist, died in Helsinki, Jan. 23, 1940; born in 1861. A leader in the peace movement and in social and child welfare work, she was president of the National Council of Women in Finland and was a deputy delegate to the League of Nations Assemblies (1927-30).

**Hainisch, Michael.** Austrian politician; died in Gloggnitz, Austria, Feb. 29, 1940, born in Aue, Aug. 15, 1858. A leading advocate of *Anschluss*, he was the first president of the Austrian Republic (1920-28) and was minister of commerce (1929-30). Thereafter he lived in retirement.

**Hamilton, Frederick William.** American educator; died in Boston, May 22, 1940; born in Portland, Me., Mar. 30, 1860. He entered the Universalist ministry in 1889 and after serving in several pastorates was appointed president of Tufts College in 1905. He resigned in 1913.

**Hamilton, James McLellan.** American educator; died in Bozeman, Mont., Sept. 23, 1940; born in Annapolis, Ill., Oct. 1, 1861. He studied at Union Christian College and Harvard University; was Professor of History and Economics at the University of Montana (1901-04) and president of Montana State College (1904-19).

**Hamlin, Clarence Clark.** American publisher and politician; died in Colorado Springs, Col., Oct. 29, 1940; born in Manchester, Ia., Jan. 7, 1868. In 1896, the year he moved to Colorado Springs, he was a delegate to the Republican National Convention, and he was a delegate to every subsequent convention except that of 1940. He bought the *Colorado Springs Evening Telegraph* in 1916 and the *Colorado Springs Gazette* in 1923.

**Hammond, Aubrey.** British artist; died in London, Mar. 19, 1940; born in Folkestone, Sept. 18, 1893. Known principally as a stage designer, he was a pioneer in the development of the modern technique of camouflage.

**Harada, Tasuku.** Japanese Christian educator; died in Kyoto, Japan, Feb. 22, 1940; born Nov. 10, 1863. He was president of Doshisha University in Kyoto from 1907 to 1919 when he was retired as professor emeritus, and during 1920-32 he was professor of Japanese History and Literature at the University of Hawaii. He lectured fre-

quently in America and in 1920 delivered the Lowell Lectures in Boston.

**Harcourt, Bertram E.** American jurist; died in New York City, Dec. 9, 1940; born in Lockport, N.Y., 1881. He worked in a law firm in Medina, N.Y., in 1896; was elected county judge and surrogate in 1925; and Supreme Court Justice in 1939, taking office on Jan. 1, 1940.

**Harden, Sir Arthur.** British biochemist; died in Bourne End, Bucks., June 17, 1940; born in Manchester in 1865. Emeritus professor of biochemistry at London University and late head of the Biochemical Department of Lister Institute, in 1929 he shared the Nobel Chemistry Award for his experimental work in the field of alcoholic fermentation. He was joint editor of the *Biochemical Journal* (1913-37) and in 1935 received the Davy Medal of the Royal Society.

**Harrington, Sir Charles Harrington.** British general; died in Cheltenham, Eng., Oct. 23, 1940; born in Chichester, May 31, 1872. An army officer since 1892, he was chief of staff with the Canadian forces for a time during the World War; commander-in-chief of the Allied forces in Constantinople from 1921 to 1923; and governor and commander-in-chief of Gibraltar from 1933 to 1938.

**Harkness, Edward Stephen.** American financier and philanthropist; died in New York, Jan. 29, 1940; born in Cleveland, Jan. 22, 1874. An inheritor of great wealth from the estate of his father, he was a director of several railroads, including the Southern Pacific and the New York Central. His philanthropies amounted to over \$100,000,000 and included such gifts as \$1,000,000 to the New York Public Library (1923), \$4,000,000 to the Columbia-Presbyterian Medical Center (1924), \$1,131,097 to Yale University (1924), \$1,000,000 to the College of Physicians and Surgeons (1926), \$1,250,000 to Union Theological Seminary (1926), \$1,000,000 to Western Reserve Medical Center, Cleveland (1927), \$1,000,000 to the Near East Relief (1928), \$11,392,000 to Harvard University (1928), \$2,500,000 to Columbia University (1929), \$5,428,821 to Yale University to start the new "quadrangle plan" (1930), \$7,000,000 to Phillips Exeter Academy (1930), \$10,000,000 for the establishment of the Pilgrim Trust for "the benefit of Britain" (1930), \$4,000,000 to Columbia University for a new library (1931), \$2,500,000 to the Columbia-Presbyterian Medical Center for an eye institute (1931), \$1,000,000 to the Department of Surgery, Columbia University (1931), \$3,000,000 to Lawrenceville School, New Jersey (1936), and \$8,000,000 to the Commonwealth Fund (1937). In his will, he left his estate in trust to his wife and on her death one-half of the remainder was to go to the Commonwealth Fund, one-quarter to the Presbyterian Hospital, and the remaining quarter was to be divided among ten institutions.

**Harper, Robert Newton.** American banker; died in Washington, D.C., Sept. 23, 1940; born in Leesburg, Va., Jan. 31, 1861. A pharmacist in Washington, D.C. (1896-1916), he was also founder of the banking firm of Harper and Co., which was merged into the District National Bank with Mr. Harper as president. In recent years he was treasurer of the Democratic Congressional Campaign Committee.

**Harrington, Francis Clark.** American government official, died in New London, Conn., Sept. 30, 1940; born in Bristol, Va., Sept. 10, 1887. He was graduated from West Point in 1909, being No. 2 man of his class, and served in the World War as an instructor of engineers. In 1935 Colonel Harrington received a leave of absence from the army to become assistant administrator of the Works Progress Administration. He succeeded Harry L. Hopkins as WPA administrator in December, 1938. It was Colonel Harrington's boast that he had never voted in his life and that he was completely free from political affiliations.

**Harrison, (William) Preston.** American art patron; died in Los Angeles, June 28, 1940; born in Chicago, Ill., Apr. 12, 1869. Interested in real estate from 1889, he was editor and publisher of the *Chicago Times* (1891-95) and thereafter travelled extensively. In 1918 he founded the Mr. & Mrs. William Preston Harrison Gallery of American Art in Los Angeles and in 1926 established the Gallery of Modern French Art, both later becoming part of the Los Angeles Museum. He was an active supporter of the Los Angeles Museum, the Huntington Library and Art Gallery, and the Art Institute of Chicago.

**Hartwell, John Augustus.** American surgeon; died in Oakdale, L.I., Nov. 30, 1940; born in Sussex, N.J., Sept. 27, 1869. He received his bachelor of philosophy degree (1889) and his medical degree (1892) from Yale University; practiced in New York City; and was president of the New York Academy of Medicine (1929-33) and director of it from 1934 to 1939. In 1939 he was appointed associate director of the American Society for the Control of Cancer.

**Harvey, Sir John Musgrave.** Australian clergyman and jurist; died in Australia, June 13, 1940; born in Hampstead, London, Eng., Dec. 22, 1865. He was acting chief justice of New South Wales (1933-34) and chancellor of the diocese of Sydney (1934).

**Haynes, Frederick J.** American industrialist; died in Detroit, May 3, 1940; born in Cooperstown, N.Y., in 1871. A worker in the automobile industry from its beginning, he joined Dodge Brothers in 1912 and in 1920 was elected president and general manager of the company, becoming chairman of the board of directors in 1925. In 1929 he joined Durant Motors, Inc., as president, and in 1930 returned to the H. H. Franklin Manufacturing Company, for which he had worked in his youth, as vice-president. He retired in 1931.

**Hays, Harold M.** American ear specialist; died in Scarsdale, N.Y., Aug. 20, 1940; born in Rochester, N.Y., Sept. 26, 1880. He was a brother of Arthur Garfield Hays, attorney. A graduate of Columbia University's College of Physicians and Surgeons, he was founder, president, and director of the New York League for the Hard of Hearing.

**Head, Sir Henry.** British neurologist; died near Reading, Eng., Oct. 9, 1940, born on Aug. 4, 1861. Since 1900 a fellow of the Royal College of Physicians, he made notable contributions to the science of neurology. His published works included: *Studies in Neurology*, 2 vols., 1919; and *Aphasia and Kindred Disorders*, 2 vols., 1926.

**Healy, Francis Joseph.** American Roman Catholic clergyman and editor; died in Brooklyn, N.Y., Dec. 10, 1940; born in Worcester, Mass., 1883. A graduate of Holy Cross College and St. John's Seminary, Brooklyn, he was ordained May 19, 1909. Since 1921 he served as editor-in-chief of the *Tablet*, official publication of the Roman Catholic Diocese of Brooklyn.

**Heidenstam, Carl G. V. von.** Swedish poet; died in Stockholm, May 20, 1940; born in Olshammar, July 6, 1859. After studying art, he turned to a literary career, his chief works being *Vallfart och Vandringsar* (1888), *Hans Alienus* (1892), *Karolinerne*, *Dikter* (1895), *Folkungatiden* (1905), *Svenskarna och deras höfdingar* (1909), and *Nya dikter* (1914; 1924) which won him the reputation of being the greatest Swedish lyricist. A member of the Swedish Academy, he received the Nobel prize for literature in 1916 and the Henrik Steffens prize in 1938.

**Heinke, George E.** American Republican Congressman, elected to the 76th Congress from Nebraska on Nov. 8, 1938; died in Morrilton, Ark., Jan. 2, 1940; born near Dunbar, Neb., July 22, 1882.

**Heming, Arthur.** Canadian artist; died in Hamilton, Ont., Can., Oct. 30, 1940; born in Paris, Ont., Jan. 17, 1870. He was noted for his paintings of Canada's north and woodlands, pictures that were done in three tones only—black, white, and yellow—because Mr. Heming was color blind until he reached the age of 60. His work since that time was also widely praised.

**Henke, Alfred.** German aviator, killed while on a test flight, somewhere in Germany, Apr. 22, 1940. On Aug. 10-11, 1938, he piloted the *Brandenburg* in the first non-stop flight from Berlin to New York, also breaking non-stop distance records for the east-west crossing. He made the eastward crossing from New York to Berlin, Aug. 13-14, 1938.

**Hering, Hermann S.** American Christian Science leader and lecturer from 1897; died in Chestnut Hill, Mass., May 14, 1940; born in Philadelphia, Aug. 24, 1864.

**Hernandez Bustos, Benito.** Colombian diplomat, died in an airplane accident near Bucaramanga, Colombia, Feb. 27, 1940. He had served as ambassador to France and Great Britain and had served in several Colombian cabinets.

**Herts, Emanuel.** American lawyer and authority on Abraham Lincoln; died in New York, May 23, 1940; born in Butka, Austria, Sept. 2, 1870. He wrote *Abraham Lincoln—A New Portrait* (1931) and *The Hidden Lincoln* (1938).

**Heyward, DuBose.** American writer; died in Tryon, N.C., June 16, 1940, born in Charleston, S.C., Aug. 31, 1885. His first publication was *Carolana Chansons* (1922), written in collaboration with Hervey Allen. This was followed by *Skylines and Horizons* (1924), and in 1925 his novel *Porgy* brought him to the attention of the critics. With his wife he dramatized the novel and it was produced in New York in 1927. It was also the basis of the opera *Porgy and Bess* written in collaboration with George Gershwin and produced in 1935. Other of Mr. Heyward's works were the novels *Ansel* (1926); *Mambo's Daughters* (1929) dramatized and produced in 1938; *Peter Ashley* (1932); *Lost Morning* (1936), and *Star Spangled Virgin* (1939); also a short story *Half Pint Flask* (1929) and *Jasbo Brown and Selected Poems* (1931). He was regarded as one of the foremost chroniclers of American Negro life.

**Hickey, Thomas F.** American Roman Catholic archbishop; died in Rochester, N.Y., Dec. 10, 1940; born in Rochester, Feb. 4, 1861. Educated at St. Joseph's Theological Seminary, Troy, N.Y., he was ordained a priest on Mar. 5, 1884; served as a curate in Geneva and Moravia, N.Y., and as rector of St. Patrick's Cathedral, Rochester; bishop coadjutor of Buffalo, 1905; and bishop from 1909 to 1928, retiring because of ill health. He has since held the inactive post of Archbishop of Viminacium, conferred on him by Pope Pius XI.

**Hill, Howard O.** American educator; died in Chicago, June 25, 1940; born in St. Louis, Mo., Dec. 20, 1878. A teacher from 1907, he was head of the department of the social sciences at the University of Chicago High School (1917-35), at the College of Arts and Sciences after 1935, and assistant professor after 1924 at the University. A prolific writer, his works include textbooks on social science, literature, and economics.

**Hill, William J. (Billy).** American song writer and author of *The Last Round-up*; died in Boston on Dec. 24, 1940; born there on July 14, 1899. He studied violin at the New England Conservatory of Music as a protégé of Dr. Karl Muck, intending to become a member of the Boston Symphony Orchestra, an ambition which he afterward modified somewhat. At the age of 16 he left home and roamed the country in knockabout style, working at such various jobs as band leader, doorman, dishwasher, timekeeper, and cowboy. In 1936 he told a Congressional committee, inquiring into the operations of the copyright law that he had been living penniless in Greenwich Village, with the gas shut off, the rent unpaid, and maternity hospitals refusing admission to his wife, when *The Last Round-up* brought him fame and luxury. Some of his other musical creations were: *Empty Saddles, Wagon Wheels; There's a Cabin in the Pines; The Old Spinning Wheel; Have You Ever Been Lonely?; They Cut Down the Old Pine Tree; Sleepy Head; and In a Chapel in the Moonlight*. Some of Hill's songs received the praise of Pietro Mascagni, the Italian operatic composer.

**Hiltinger, Alburis C.** American industrial designer; died in Lyons, N.J., July 14, 1940; born in Marathon, N.Y., 1847. He served in the Civil War as a private with the 185th New York Infantry, and in 1874, while working for the old Crump Press Co., of Montclair, N.J., he designed the first successful four-color printing press used in the United States.

**Hinsdale, William Graham.** American physician, educator, and authority on Indian and Eskimo culture; died in Syracuse, N.Y., July 15, 1940; born in Princeton, N.J., 1862. He excavated numerous sites of Indian villages and discovered extensive remains of an ancient New York State Eskimo culture.

**Hobson, John Atkinson.** British economist, died in London, Apr. 1, 1940; born in Derby, July 6, 1858. A leader of the welfare school of economic thought, he was a prolific writer. His works included *Problems of Poverty* (1891), *The Problem of the Unemployed* (1896), *Imperialism* (1902, revised, 1938), *The Science of Wealth* (1911), *Taxation in the New State* (1919), *Problems of a New World* (1921), *Rationalisation and Unemployment* (1930), and *Confessions of an Economic Heretic* (1938).

**Hollander, Jacob H.** American economist; died in Baltimore, July 9, 1940, born there, July 23, 1871. Associated with Johns Hopkins University from 1900, he served as professor of political economy from 1925. Active in government affairs, he was a special commissioner to revise the laws relating to taxation in Porto Rico (1900) and introduced the present revenue system (Hollander law) of the island. He was financial adviser to the Dominican Republic (1908-10) and served as chairman and member of the board of referees in the Cleveland Garment Industry (1921-32). President of the American Economic Association (1921), he was a prolific writer on economic subjects, his later works being *Economic Liberalism* (1925) and *Want and Plenty* (1932).

**Holloway, Mrs. Ella Virginia Houck.** American crusader; died in Baltimore, Md., Nov. 30, 1940; born in 1862. She organized a campaign to have the *Star-Spangled Banner* officially designated as the national anthem, and a bill to that effect was passed by Congress on Mar. 3, 1931.

**Holm, Gustav Frederik.** Danish explorer; died in Copenhagen, Mar. 12, 1940; born there in 1849. A member of the Royal Greenland Commission after 1896 he became distinguished for his explorations, especially of the east coast of Greenland. During his career he discovered 11 hitherto unknown Eskimo communities and five great ice fjords. In 1925 he published *De islandske Kursforshrifters Svalbarde*.

**Holmes, William Trumbull.** American educator; died in New York City, N.Y., July 28, 1940; born in New York City, 1866. A Congressional minister since 1897, he served from 1913 to 1933 as president of Tougaloo College, Miss., an institution for higher education among Negroes.

**Honeycutt, Francis Webster.** American general; died in an airplane accident near Woodbine, Ga., Sept. 20, 1940; born in San Francisco, Calif., May 26, 1883. A graduate of West Point (1904), he advanced through the grades, becoming brigadier general June 1, 1938. He was made commandant of Fort Bragg, N.C., on Sept. 13, 1940.

**Honeywell, Harry.** American aeronaut; died in San Antonio, Tex., Feb. 10, 1940; born in Cleveland, Sept. 19, 1871. A participant in nearly 600 balloon flights, both national and international, he won the National Balloon Races of 1912, 1916, and 1920.

**Hooper, Franklin Henry.** American editor; died near Saranac Lake, N.Y., Aug. 14, 1940; born in Worcester,

Mass., Jan. 28, 1862. After graduating from Harvard University (1883), he joined the staff of the Century Co., publishers, and was afterward editor of the Encyclopaedia Britannica from 1899 to 1938, becoming editor-in-chief in 1932 and editor emeritus in 1938. He was editor of *The World Today* from 1933 to 1938.

**Hopkins, Louis Bertram.** American educator; died in Hanover, N.H., Aug. 10, 1940; born in Hopkinton, N.H., Aug. 11, 1881. Educated at Dartmouth College, he was personnel director of Northwestern University (1922-26) and president of Wabash College since that time. He was a brother of Dr. Ernest Martin Hopkins, president of Dartmouth College.

**Horlick, William.** American manufacturer, chairman of the board of directors and treasurer of the Horlick Malted Milk Co.; died in Racine, Wis., Apr. 1, 1940; born in Chicago, Dec. 12, 1875. He helped finance Admiral Byrd's polar trips, Amelia Earhart's flights, and Amundsen's Arctic ventures.

**Horne, Viscount, Robert Stevenson Horne.** British ex-cabinet minister and financier; died in Surrey, Eng., Sept. 3, 1940; born in Slamannam, Stirlingshire, Scot., Feb. 28, 1871. He was Minister of Labor (1919); President of the Board of Trade (1920-21); Chancellor of the Exchequer (1921-22), and a member of the House of Commons for 17 years. A leading figure in the business world, he was chairman of the Great Western Railway.

**Horner, Henry.** American governor; died in Winnetka, suburb of Chicago, Ill., Oct. 6, 1940; born in Chicago, Nov. 30, 1878. He was the son of Solomon A. Levy and Dilah Horner Levy and took his mother's family name when his parents separated by mutual agreement in 1882. A graduate of the law department of Lake Forest University, he began legal practice with Frank Whitney, whose father had been a friend of Abraham Lincoln. Horner's consuming interest in the life of Abraham Lincoln and the nucleus of his Lincoln library—consisting eventually of some 6000 volumes—date from his association with Whitney. A Democrat, he was elected probate judge of Cook County in 1914; was re-elected four times; and had been on the bench 18 years when he resigned to become Governor in 1932. He polled a vote of 1,930,330 votes in 1932, outdistancing President Roosevelt, who headed the ticket. Governor Horner's plurality was considerably less in 1936, however, due in part, it was believed, to a bitter primary fight between himself and the forces of the Kelly-Nash machine.

**Houston, David Franklin.** American ex-cabinet officer and insurance executive; died in New York City, N.Y., Sept. 2, 1940; born in Monroe, Union Co., N.C., Feb. 17, 1866. He was graduated from South Carolina University (1887); was superintendent of schools at Spartanburg, S.C. (1888); president of the Agricultural and Mechanical College of Texas (1902-05), president of the University of Texas (1905-08); chancellor of Washington University, St. Louis (1908-13), Secretary of Agriculture (1913-20); and Secretary of the Treasury (1920-21). After leaving public life he was associated with the American Telephone and Telegraph Co.; the Bell Telephone Securities Co.; and was president of the Mutual Life Insurance Co. from 1927 to Jan. 1, 1940, when he became chairman of the board of trustees.

As Secretary of Agriculture, Mr. Houston helped to organize the Federal Reserve Bank system, and was one of the creators of the Federal Farm Loan Board. During the 1912 campaign he had been Mr. Wilson's confidential adviser on tariff and currency problems. He succeeded Carter Glass as Secretary of the Treasury in 1920 and in this latter capacity he developed measures for handling the floating debt and for retiring the Victory Loan and he also framed a program for tax revision that included repeal of the excess-profits tax. He was the author of *Eight Years With Wilson's Cabinet*, a two-volume work published in 1926.

**Howe, Frederic Clemson.** American lawyer and economist; died in Oak Bluffs, Mass., Aug. 3, 1940; born in Meadville, Pa., Nov. 21, 1867. After graduating from Allegheny College (1889), he attended Johns Hopkins University, where he first met Woodrow Wilson, then a professor. He held minor political and educational posts in Ohio; was United States Commissioner of Immigration, Port of New York (1914-19); a representative at the Paris Peace Conference (1919), attending as a special expert on the Eastern Mediterranean; and was associated with various liberal movements, including the La Follette presidential campaign of 1924. In July, 1933, he was appointed consumer's counsel of the Agricultural Adjustment Administration; and in February, 1935, he was appointed a special assistant to Henry A. Wallace, Secretary of Agriculture. In 1937 he took an extended leave to act as economic adviser to President Quezon of the Philippines. He was founder of the People's Music League and the Drama League of America; and was the author of many books on economic subjects, including the *Confessions of a Reformer*.

**Hughes, William.** A Canadian soldier and penologist; died in Ottawa, June 1, 1940; born in Durham Co., Ont., June 2, 1863. Prior to the World War he was Inspector



of Penitentiaries; after service overseas, where he became a brigadier general, he was appointed Superintendent of Penitentiaries. He retired in 1932.

**Humphrey, Burt Jay.** American jurist; died at Jamaica Estates, Queens, L.I., Dec. 11, 1940; born in Speedsville, N.Y., Apr. 23, 1866. He was admitted to the bar in Binghamton, N.Y., in 1890, and sometime afterward settled in Jamaica, L.I. A Democrat, he was elected county judge in 1903 and was re-elected four times. He was Supreme Court Justice from 1925 to 1936.

**Hunter-Weston, Sir Aylmer.** British soldier; died in West Kilbride, England, Mar. 18, 1940; born on Sept. 23, 1864. In the army from 1884, he commanded the 29th Division at Gallipoli Peninsula (1915) and the 8th Army Corps (1915-19). He served as a Conservative Member of Parliament from 1916 to 1935.

**Hutchison, Ronald Macdonald.** See TATE, HARRY.  
**Hutton, Maurice.** Canadian educator; died in Toronto, Apr. 5, 1940; born in Manchester, England, in 1856. Associated with the University of Toronto from 1887, he was professor of Greek and principal (1901-28) of University College and was acting president of the University in 1906-7 and in 1925. He retired in 1928.

**Ibuka, Kajinosuke.** Japanese clergyman; died in Japan, June 24, 1940; born there in 1854. Converted to Christianity in 1873, he was one of the founders of the Church of Christ in Japan, the major Protestant group in that country.

**Inculceti, Ion.** Rumanian statesman; died on Nov. 19, 1940; born in Rezeni prov., Lapusna, Bessarabia, 1885. He was president of the autonomous Bessarabian Republic between the Russian revolution in 1917 and the unification of Bessarabia with Rumania in 1918.

**Ingersoll, Raymond Vall.** American lawyer, died in Brooklyn, N.Y., Feb. 24, 1940; born in Corning, N.Y., Apr. 3, 1875. Interested in civic affairs, he had served in many capacities and in 1933 was elected president of the borough of Brooklyn, N.Y., on the Fusion ticket and was re-elected in 1937.

**Ionescu, Nae.** Rumanian educator; died in Bucharest, Mar. 15, 1940, born in 1890. He was professor of logic and metaphysics at Bucharest University, director of the daily *Cuvântul* (*The Word*) and former leader of the Fascist Iron Guard.

**Irias, Julian.** Nicaraguan statesman; died on Nov. 20, 1940; born in 1873. He was President ad interim in 1936 following the resignation of Dr. Juan B. Sacasa, serving until the election of Anastasio Somoza. He was in public life for 40 years.

**Irvine, Benjamin F.** American editor, editor of the *Oregon Daily Journal* (1919-37) and thereafter emeritus; died in Portland, May 1, 1940; born near Seio, Ore., in 1863.

**Jabotinsky, Vladimir.** British Zion Revision leader, author, and soldier; died in Hunter, N.Y., Aug. 3, 1940, born in Odessa, Russia, 1880. He was a delegate from Russia to the Sixth Zionist Congress at Basle in 1903; was active in the World Zionist Organization until he split with its leader, Dr. Chaim Weizmann; and was leader of the New Zionist Organization since its founding in 1935. He headed a Jewish legion of 15,000 soldiers in the British army in the World War and fought in the near East.

**Jacoby, George W.** American neurologist; died in New York City, N.Y., Sept. 11, 1940; born in St. Louis, Mo., Sept. 1856. He was president of the American Neurological Association in 1915 and of the New York Neurological Society from 1888 to 1890.

**Jenkins, Thomas Lincoln.** American general and surgeon; died in Crawford, Me., July 29, 1940; born in Chelsea, Mass., 1867. A graduate of Harvard Medical School, he served in the Spanish-American War and the Mexican Border Campaign before going to France in the World War as senior surgical officer in the A.E.F. He was retired from the Medical Corps in 1930 with the rank of brigadier general.

**Jiménez Mena, Nicolás.** See SPANISH-AMERICAN LITERATURES UNDER ECUADOR.

**Joel, Jack Barnato.** British financier; died in St. Albans, Hertfordshire, Eng., Nov. 13, 1940; born on Sept. 29, 1862. Chairman of the Johannesburg Consolidated Investment Co. and head of several gold and diamond mines in South Africa, he was a famous horse breeder and captured the Epsom Derby in 1911 with *Swanstar*.

**Johnson, Arthur Newhall.** American civil engineer; died in Baltimore, Md., July 11, 1940; born in Lynn, Mass., Nov. 11, 1870. A graduate of Harvard University and a recognized authority on hard-surface road construction, he held official positions at different times in the highway departments of New York, Massachusetts, Maryland, Illinois, and with the U.S. Bureau of Public Roads. He was dean of the University of Maryland College of Engineering from 1920 to 1936 and dean emeritus since that time.

**Johnston, John A.** American army officer; died in Washington, Jan. 5, 1940; born in Allegheny, Pa., Feb. 22, 1858. In the army from 1879, he retired in 1903 with the rank of brigadier general and served as a District of Columbia commissioner during 1903-06. In 1917 he volun-

teered for active war service and commanded the Thirty-Fourth Division in France.

**Jones, Jerome.** American labor leader and editor; died in Atlanta, Ga., Sept. 24, 1940; born in Nashville, Tenn., 1853. He was at one time president of the Georgia Federation of Labor and served as editor of the *Atlanta Journal of Labor* from 1902 until his death.

**Jones, Norman L.** American jurist; died in Jacksonville, Ill., Nov. 15, 1940; born in Patterson, Ill., Sept. 19, 1870. A lawyer since 1896, he served on the bench in various Illinois courts for 25 years; was Supreme Court Justice since 1931 and Chief Justice since June, 1940. He was unsuccessful Democratic candidate for governor in 1924.

**Joseph, Mary, (née Hurley).** American Roman Catholic mother superior and educator; died in Scranton, Pa., Dec. 4, 1940; born in Susquehanna, Pa. She was president of Marywood College, Scranton, Pa., and mother superior of the Sisters of the Immaculate Heart of Mary since 1931.

**Josephson, Walter S.** American manufacturer, founder of the dry ice industry and president of the Dry Ice Corporation of America from 1923 until 1928; died in Hollis, L.I., N.Y., Mar. 7, 1940; born in Roseburg, Ore., in 1889.

**Joslyn, Sarah E. (Mrs. George A.).** American philanthropist; died in Omaha, Neb., Feb. 28, 1940; born in Waitsfield, Vt., Apr. 14, 1851 (?). In 1928 she gave \$4,600,000 to establish the Joslyn Memorial in Omaha, a fine arts building opened in 1931.

**Joyce, Ernest E. M.** British Arctic explorer; died in London, May 2, 1940; born in 1875. He served with Robert F. Scott (1901-04) with Sir Ernest Shackleton (1907-09), and during 1914-17 laid depots for the proposed, but unfulfilled Shackleton expedition across the Antarctic Ocean from Weddell Sea to Ross Sea.

**Kander, Mrs. Simon (née Lissie Black).** American social worker; died in Milwaukee, Wis., July 25, 1940, born in Milwaukee, 1852. She was the author of *The Settlement Cookbook*, first published in 1900, designed to aid poor mothers provide better meals for their families. The book was reprinted 22 times with a total sales-revenue of \$75,000, which Mrs. Kander donated to the Milwaukee Jewish Center, of which she was founder.

**Kantorowicz, Herman.** German lawyer and historian, died in Cambridge, England, Feb. 12, 1940; born in Poznan, Poland, Nov. 18, 1877. A professor at Freiburg University during 1913-17 and at Kiel University during 1929-33, he was dismissed in 1933 upon the accession of the Nazis to power. Thereafter he taught in the United States and in England. At his death he was director of research in law at Cambridge University and lecturer at all Souls College, Oxford. His most important work was *Der Geist der englischen Politik* (1929; Eng. ed., *The Spirit of British Policy*, 1932; Amer. ed., 1933).

**Karn, Frederick James.** British musical educator, conductor, organist, and composer; died in Cranleigh, Surrey, Eng., December, 1940; born in Leatherhead, Surrey, Aug. 29, 1862. He was long principal of the London College of Music.

**Kearton, Cherry.** British naturalist, author, and photographer; died in London, Eng., Sept. 27, 1940; born in Thwaite Swaledale, Yorkshire, July 8, 1871. He made the first aerial photograph of London, in 1905, from a dirigible. His motion pictures of African wild life were exhibited in New York in 1913, with Ex-President Theodore Roosevelt (who had met Kearton in Africa) sharing the stage with the photographer.

**Keith, Dora Wheeler (Mrs. Boudinot Keith).** American portrait painter; died in New York City on Dec. 27, 1940; born in Jamaica, N.Y., Mar. 12, 1857. She studied at the Art Students League in New York and the Julian Academy in Paris. Her portrait of Samuel L. Clemens hangs in the Mark Twain Memorial Home in Hartford, Conn., and her work is also represented in the Brooklyn Institute of Arts and Sciences and the Boston Public Library.

**Kellogg, Frederick William.** American newspaper publisher; died at sea en route from Hawaii to Japan, Sept. 5, 1940; born in Norwalk, O., Dec. 7, 1866. He was advertising manager of the *Detroit News* (1887-94) and of the Scripps-McKee League (1895-1899); and publisher of the *Omaha Daily News* (1899). In association with L. V. Ashbaugh and B. D. Butler, he established the *St. Paul Daily News* in 1900, the *Minneapolis Daily News* in 1902 and the *San Francisco Call* in 1913. He sold the *Call* in 1919 to become part owner and general manager of the *Los Angeles Evening Express*. He was also president of Kellogg Newspapers, Inc., which operated 15 West Coast newspapers.

**Kelly, Michael.** Roman Catholic Archbishop of Sydney, N.S.W., from 1911; died in Sydney, Mar. 8, 1940; born in Waterford, Ireland, Feb. 13, 1850.

**Kenlon, John.** American fire chief; died in Englewood Cliffs, N.J., May 30, 1940; born in County Louth, Ireland in 1860. A member of the New York City Fire Department from 1887, he was chief of the department from 1911 to 1931, when he retired. During his tenure he established the Fire College and became its first president and made

many improvements in the Department. He attended 40,000 fires. He published *Fires and Fire Fighters* (1913) and *Fourteen Years a Sailor* (1923).

**Keppeler, Frederick L.** American architect and industrialist; died in White Plains, N.Y., July 30, 1940; born in Stuttgart, Germany, Sept. 14, 1862. A descendant of Johannes Keppeler, noted German astronomer, he came to the United States as a boy; practiced architecture in Chicago for several years and in 1912 founded the Keppeler Glass Construction Co. in New York City. His firm was the first in this country to employ glass in the construction of building walls and floors.

**Kerr, Duncan J(ohn).** American railway executive; died in Spokane, Wash., Oct. 8, 1940; born in Glasgow, Scot., Dec. 3, 1883. A graduate of Glasgow University, he came to the United States in 1904 and got a job as a rodman with the Pennsylvania Railroad. He stayed in the business 36 years, held technical and executive positions with several companies and was president of the Lehigh Valley Railroad from 1937 to 1939, retiring because of ill health.

**Kerzhentsev, Platon.** Soviet politician; died in Moscow, June 3, 1940; born in 1881. A member of the Bolshevik party from 1904, he was ambassador to Sweden (1921-23), and to Italy (1925-26), and after 1928 an official of the Central Committee of the Communist Party. After 1933 he was president of the All-Union Broadcasting Committee, and during 1936-38 was chairman of the All-Union Committee for Arts. He wrote several books on Lenin.

**Kilner, Walter Glenn.** American general; died in Washington, D.C., Aug. 30, 1940; born in Shelby, N.Y., July 8, 1888. He was graduated from West Point in 1912 and was a lieutenant in the army's 1st Aero Squadron, attached to Gen. John J. Pershing's punitive expedition into Mexico in 1916. He served in France in the World War as an army flying instructor. He was assistant chief of the Air Corps when he retired on Nov. 30, 1939. President Roosevelt appointed him the following day to succeed Colonel Lindbergh on the National Advisory Committee for Aeronautics.

**Kimball, Wilbur R.** American inventor; died in New York City, July 29, 1940; born in Lynn, Mass., 1863. He invented and built an eight-propeller helicopter that astonished the world in May and June, 1909, by rising up in the air like a mythological chariot and bouncing along the earth two or three times before cracking up at Morris Park in New York City. In the course of his life, Mr. Kimball obtained many important electrical and aeronautical patents.

**Kirby, Fred Morgan.** American merchant; died in Glen Summit near Wilkes-Barre, Pa., Oct. 16, 1940; born in Brownville, N.Y., Oct. 30, 1861. At the age of 15 he clerked alongside of Frank W. and Charles S. Woolworth in the general store of Moore and Smith at Watertown, N.Y. In 1884 he started a string of five-and-ten cent stores in partnership with Charles S. Woolworth. He bought out his partner in 1887; and eventually (in 1912) merged the company—consisting of 96 stores—with similar chains to form the F. W. Woolworth Co., of which he became vice-president.

**Klauber, Rosina.** American pianist, died on May 11, 1940; born in Budapest, Nov. 1, 1861. A pupil of Liszt, she played in concert from 1900 to 1910 when she became head of the piano department of the Institute of Musical Art, New York, later taken over by the Juilliard School of Music. She retired in 1930.

**Kloekner, Peter.** German industrialist; died in Essen, Germany, Oct. 5, 1940; born in 1864. Founder of the Kloekner Iron Trading Co., he was virtually stripped of his possessions—including 81,000,000 tons of ore, ten blast furnaces, a steel plant, and two rolling mills in Lorraine—by the terms of the Versailles treaty. After the World War, he formed the Kloekner Werke, a combination of coal and steel companies. Little had been heard of him, however, since the Nazification of Germany.

**Knopf, Sigard Adolphus.** American physician; died in New York City, N.Y., July 15, 1940; born in Halle-on-the-Salle, Germany, Nov. 27, 1857. He was graduated from Bellevue Medical College (1888) and settled permanently in New York City in 1896. He was professor of phthisiotherapy at the New York Post-Graduate Medical School and Hospital (1908-20); was the founder of the New York and the National Tuberculosis Associations; and was the recipient of several awards for his work in combating tuberculosis.

**Kohler, Walter J.** American manufacturer, president of Kohler Co., from 1905 to 1937, and thereafter chairman of the board; died in Kohler, Wis., Apr. 21, 1940; born in Sheboygan, Wis., Mar. 3, 1875. He was elected governor of Wisconsin on the Republican ticket for the term 1929-30.

**Koroshets, Anton.** Yugoslavian Roman Catholic clergyman and statesman; died in Belgrade, Yugoslavia, Dec. 14, 1940; born in 1872. He headed the Slovene Catholic party; was at one time Minister to the Vatican; held several cabinet posts; and was Premier of Yugoslavia from July 27 to Dec. 30, 1928.

**Kotze, Sir John G.** South African jurist; died in Leeuwenhof, Cape Town, Apr. 1, 1940; born there, Nov. 5, 1849. He was chief justice of the South African Republic (1881-98), and subsequently a judge of the South African Supreme Court from 1904, becoming in 1922 judge of the Appellate Division of the Union of South Africa. He retired in 1927.

**Kress, Claude Washington.** American merchant; died in New York City, N.Y., Nov. 18, 1940; born in Slatington, Pa., Apr. 4, 1876. With his brother, Samuel H. Kress, he was co-founder of a mercantile business in 1893 at Nanticoke, Pa., which developed into S. H. Kress and Co., operators of some 240 five-and-twenty-five cent stores in the United States and Hawaii. He was vice-president of the company (1916-25) and president (1925-39). He was trustee of the Harvard Graduate School of Business Administration, to which he donated the Kress Library of Business and Economics. With his brothers, Samuel H. and Rush H. Kress, he contributed toward the erection of Kress Hall on the grounds of the Warm Springs Foundation at Warm Springs, Ga.

**Kubelik, Jan.** Czech violinist; died in Prague, Bohemia, Dec. 5, 1940; born in Michle, near Prague, July 5, 1880. He began the study of music at the age of six; attended the Prague Conservatoire; made his first concert tour in 1898; played in the United States many times, the first in 1901, the last in 1935. He was said to have made and spent \$3,000,000. Each of his fingers was insured for \$23,500; his Stradivarius violin for \$125,000. In 1921 he was shipwrecked traveling from Ostend, Belgium, to London, and before getting into a lifeboat he put a life preserver around his violin. He was married in 1903 to Countess Marianne Czaky, daughter of the ex-president of the Hungarian Senate. Their daughter, Anita, is a well-known violinist and their son Rafael is a noted composer and orchestra conductor.

**Kyte, George William.** Canadian legislator and government official; died in St. Peters, N.S., Can., Nov. 16, 1940; born in St. Peters, July 10, 1864. He served as a Liberal member of the House of Commons for many years, and was a member of the International Joint Commission since 1928.

**Ladeuze, Paulin.** Belgian ecclesiastic, Titular bishop of Tiberius from 1926 and professor of Scripture and Early Christian Literature (1898-1940) and Rector (1909-40) of Louvain University; died in Brussels, Feb. 10, 1940; born in 1870. He was successful in preventing the inscription "Destroyed by German Fury; restored by American Generosity" being placed on the restored Library.

**Lagerlöf, Selma.** Swedish novelist, died in Märbacka, Mar. 16, 1940; born there, Nov. 20, 1858. Her first novel, *Gosta Berling's Saga*, long considered one of her best works, appeared in 1891. Her best known works compose the trilogy *The Ring of the Downsholds—The General's Ring* (1925), *Charlotte Lovensköld* (1925) and *Anna Svärd* (1928). In 1909, after publishing *From a Swedish Homestead* (1899), *Queens of Kungahalla and Other Sketches* (1899), *Jerusalem* (1901-03), *Legends of Christ* (1904), *The Girl from the Marsh Croft* (1908), she was awarded the Nobel Prize for literature. Her later works included *From My Childhood* (1930-32), *Harvest* (1933), and *The Diary of Selma Lagerlöf* (1937). She visited the United States in 1924 as a delegate to the Women's Congress in Washington.

**Laidlaw, Sir Patrick P.** British scientist; died in London, Mar. 20, 1940; born Sept. 26, 1881. He discovered the virus-cause of distemper in dogs and identified for the first time the virus-cause of influenza. He received the Royal Medal in 1933, was knighted in 1935, and made director of the department of experimental pathology and deputy director of the National Institute for Medical Research in 1936.

**Laines, Juan J.** See SPANISH-AMERICAN LITERATURE under *El Salvador*.

**Lake, Sir Percy Henry Noel.** British general; died on Nov. 16, 1940; born in Tenby, Wales, June 29, 1855. Joining the British army as a subaltern at the age of 18, he rose through the ranks; was Quartermaster-General in Canada (1893-98); chief of the Canadian General Staff (1905-08); Inspector-General (1908-10); and Commander-in-Chief of the Mesopotamian Expeditionary Force in the World War.

**Lamington, 2d Baron, Charles Wallace Alexander Napier Oochrane Baillie.** British politician; died in England, September, 1940; born on July 29, 1860. He served as Governor of Queensland, Australia (1895-1901); and Governor of Bombay (1903-07); and at the time of his death was President of the East India Association. He was wounded in the hand on Mar. 13, 1940, at Caxton Hall, London, when an Indian assassin killed Sir Michael O'Dwyer, a former lieutenant-governor in India.

**Lamport, Arthur Mathew.** American investment banker, philanthropist, and economist; died in New York City, N.Y., Nov. 8, 1940; born in Franklin Falls, N.Y., Nov. 21, 1883. A graduate of the College of the City of New York, he entered the banking business; was president of A. M. Lamport and Co. (1923-36); and senior partner

since that time. He was national treasurer of the United Palestine Appeal.

**Langdale, John William.** American clergyman; died in Brooklyn, N.Y., Dec. 10, 1940; born in Newcastle, Eng., Aug. 14, 1874. A graduate of Wesleyan University, Middletown, Conn., he held several pastorates in the east including the New York Avenue M. E. Church, Brooklyn, from which he resigned in 1925 to become book editor of the Methodist Episcopal Church and editor in chief of *Religion in Life*, a Methodist quarterly. He was the author of *Citizenship and Moral Reform*, published in 1918.

**Lansbury, George.** British labor leader, died in London, May 7, 1940; born in Suffolk, Feb. 21, 1859. A printer by trade, and later in the lumber business, he was elected to Parliament as a Labor candidate from the East End of London in 1910, but resigned in 1912 to work for woman suffrage. He was re-elected in 1922 and served as First Commissioner of Works in the cabinet of Ramsay MacDonald during 1929-31. He aided in founding the national Labor paper, *The Daily Herald* in 1912 and for many years was its editor. He wrote *What I saw in Russia* (1920), *My Life; My England* (1934); *Looking Backwards—and Forwards* (1935), and *My Quest for Peace* (1938) as well as many pamphlets on social questions.

**Latham, Orval B.** American educator; died in Iowa City, Ia., July 9, 1940; born in Boone, Ia., Apr. 13, 1890. A teacher from 1911, he was professor of education (1924-26) and director of teacher training (1926-27) at Ohio University, and president of the Iowa State Teachers College after 1928.

**Lavedan, Henri Leon Emile.** French author; died in France, August, 1940; born in Orleans, April 9, 1859. His first long play was *Une Famille*, produced at the Comédie Française in 1891. Five of his later plays were produced here by Otis Skinner—*Le Duel*, *Le Bon Temps*, *Sve*, *Le Gout du Vice*, and *Service*. Lavedan was a regular contributor of Parisian periodicals.

**Lawford, Ernest.** English character actor; died in New York City on Dec. 27, 1940; born in England, 1870. He made his first London appearance at St. James's Theater on Feb. 24, 1890, as Le Beau with Lily Langtry in *As You Like It*; played many notable roles since that time; and was identified almost continuously with the New York stage since 1903. His last appearance was in *The Brown Danube* in the spring of 1939.

**Lee, John Clarence.** American Universalist clergyman and educator; died in Cambridge, Mass., Sept. 16, 1940; born in Woodstock, Vt., Oct. 15, 1856. He was graduated in 1876 from St. Lawrence University, of which his father was the first president; became professor of homiletics (1884) and later president of Lombard College, Galesburg, Ill. He was president of St. Lawrence University from 1896 to 1900, and pastor of Philadelphia Church from 1900 to 1920, when he was called to the mother church of the Universalists in Gloucester, Mass.

**Lessing, Bruno.** See **BLOCK, RUDOLPH.**

**Levene, Phoebus Aaron (Theodore).** American biochemist; died in New York City, N.Y., Sept. 6, 1940; born in Sagor, Russia, Feb. 25, 1869. Educated at the Imperial Military Medical Academy, St. Petersburg and at Columbia University, he was chemist at the Saranac Laboratory for the Study of Tuberculosis (1900-02); Herter lecturer in pathological chemistry at New York University (1905-06) and member of the Rockefeller Institute for Medical Research from 1907 to 1939. He won wide recognition in the field of biochemistry and was the recipient of the William Gibbs Medal (1931) and the William H. Nichols Medal (1938) for his chemical discoveries.

**Lever, Asbury F.** American politician; died near Columbia, S.C., Apr. 28, 1940; born in Spring Hill, S.C., Jan. 5, 1875. Elected to the 57th Congress from South Carolina in 1901, he was re-elected to the 58th to 66th Congresses (1903-21), resigning on Aug. 1, 1919 to join the Federal Farm Loan Board. He was co-author of the Smith-Lever Farm Act.

**Levin, Abraham Louis.** American physician and inventor; died in Louisiana, Sept. 15, 1940; born in Poland, 1881. A professor at the Louisiana State University Medical Center, Dr. Levin was noted for his invention of the Levin stomach tube, used in the treatment of gastro-enterological diseases.

**Lewis, Albert Buell.** American anthropologist; died in Chicago, Ill., Oct. 10, 1940; born in Clifton, O., June 21, 1867. Educated at the University of Wooster, Ohio, he taught anthropology at the Universities of Chicago and Nebraska (1894-1908); was assistant curator of Melanesian ethnology for the Field Museum (1908-37); and curator since 1937. He was head of the Joseph N. Field South Pacific Expedition of 1909-13.

**Lewis, Francis Park.** American oculist; died in Brookhaven, L.I., Sept. 10, 1940; born in Hamilton, Ont., Can., May 19, 1855. Educated in London, Berlin, and Vienna, he practiced medicine in Buffalo, N.Y., from 1876 until his death. He was a founder and vice-president of the National Society for the Prevention of Blindness and the International Association for Prevention of Blindness; editor of *The American Journal of Ophthalmology*

and the author of several books on the protection of eyesight.

**Lide, Jonas.** American painter, died in New York, Jan. 10, 1940; born in Moss, Norway, Apr. 29, 1880. Known for his sea- and landscapes, his work is found in museums throughout the United States and he was awarded many prizes, including the Saltus medal (1936) and the Orbig prize (1937) of the National Academy of Design. He served as president of the latter institution during 1934-39.

**Lillard, George W.** American educator; died in Hartford, Conn., Oct. 24, 1940; born in Washington, Va., 1884. A graduate of Georgetown Law School and a former investigator for the U.S. Department of Justice, he founded the Hartford College of Law in 1916. During the World War he headed a staff of 13 FBI men assigned to investigate anti-war activities in Connecticut.

**Lindley, Ernest Hiram.** American educator; died while en route from Shanghai, China, to San Francisco, Calif., Aug. 21, 1940; born in Paoli, Ind., Oct. 2, 1869. Educated at Indiana University, he was a teacher (1893-1902) and Professor of Philosophy there (1902-17); president of the University of Idaho (1917-20); and chancellor of Kansas University from 1920 to 1939, except for an exciting three weeks beginning Dec. 26, 1924, when he was removed by Gov. Jonathan M. Davis and reinstated by Gov. Ben. S. Paulen. He was chancellor emeritus at the time of his death.

**Lippincott, Joshua Bertram.** American publisher, president (1911-26), and chairman of the board after 1926 of J. B. Lippincott Co.; died in Philadelphia, Jan. 19, 1940; born in Huntingdon Valley, Pa., Aug. 24, 1857.

**Lisman, Frederick J.** American investment banker, president (1895-1930), and chairman of the board of directors thereafter of F. J. Lisman & Co.; died in Manhasset, L.I., N.Y., Feb. 14, 1940; born in Budingem, Germany, July 21, 1865. He was an expert on railroad finance.

**Livermore, Jesse Lauristan.** American stock market operator; died by suicide in New York City, N.Y., Nov. 28, 1940; born in West Acton, Mass., 1877. He began his financial career in 1894 as a board boy, at \$6 a week, for the brokerage house of Paine, Weber and Co., in Boston; took to speculating on his own account, and went to New York with \$25,000 in 1902, where he established himself in Wall Street. He made and lost four fortunes. In 1934 he went into his last bankruptcy, listing \$2,259,212 in liabilities. He was married three times.

**Llewellyn, Sir David Richard.** Welsh coal operator and sportsman; died in Aberdare, Glamorganshire, Wales, Dec. 15, 1940; born in Aberdare, Mar. 9, 1879. He was chairman of the Welsh Associated Collieries from 1930 until his death.

**Lodge, Sir Oliver (Joseph).** British physicist, inventor, and spiritualist; died in Amesbury, Wiltshire, Eng., Aug. 22, 1940, born in Penkhill, Staffordshire, June 12, 1851. He attended Newport (Salop) Grammar School, and his father intended him to enter the family pottery business, a vocation for which the son showed no affection. While on a visit to London, he heard a series of lectures by Tyndall, became interested in elementary chemistry, matriculated at Wedgwood Institute and then took a winter's course (1872) at the South Kensington Chemical Laboratory. By working at odd jobs, he was able to continue his studies through the University of London and the University College, London. In 1875, in collaboration with his teacher, Prof. Carey Foster, he published several papers on the flow of electricity in plane conductors, which attracted wide scientific notice. In June, 1877, he published a paper on electrical measurements and subsequently brought out a research on the standard of electro-motive force, taking for this purpose the Daniell cell. Later he produced a mathematical theory of intermittent currents in the induction balance. He conducted a series of experiments that did much to confirm Maxwell's electromagnetic theory of light. He became professor of physics and mathematics in the University College, Liverpool, in 1881; Romanes lecturer at Oxford in 1903; and principal of Birmingham University from 1900 to 1919.

After about 1910 Sir Oliver publicly embraced spiritualism, although his interest in the subject first manifested itself seriously in 1889. He wrote and lectured at great length on the topic, attended seances, and claimed to have been in communication with the dead. After his son's death in the World War he wrote *Raymond, or Life and Death*, a memoir with an account of supernatural communications believed to have been received from his son. When Sir Oliver was 80, he announced that he would communicate with the world after his death and prepared for that important eventuality by placing a sealed document in the custody of the English Society of Psychical Research, saying that his message from the beyond would correspond with what he had recorded in the document. Among the better known published works of Sir Oliver were:

*Lightning Conductors and Lightning Guards; Life and Matter; Modern Views of Matter; The Substance of Faith; Man and the Universe; The Ether of Space; Atoms and Rays*, 1924; *Why I Believe in Personal Immortality*, 1928; *Phantom Walls*, 1928; *The Reality of a Spiritual World*,

1930; *Beyond Physics*, 1930; and *Past Years*, an autobiography, 1931.

**Loeb, Fritz.** German soldier; death "in the air" announced on June 25, 1940; born in 1895. He served as chief of raw materials and foreign exchange for the execution of the German four-year plan from 1934-38 and was instrumental in building up Germany's air forces. He was made a major general in the Air Force in 1938.

**Loefgren, Eliel.** Swedish lawyer, Minister of Foreign Affairs (1926-28) and Swedish representative on the League of Nations (1922-30); died in Stockholm, Apr. 8, 1940; born in Pitea in 1862.

**Lolay, Alfred.** French orientalist and historian; died in Ceffond, Haute-Marne, France, June, 1940; born in Ambrières, Marne, Feb. 28, 1857. He was a leader of the modernist movement in the Roman Catholic Church. Educated at the Seminary of Châlons-sur-Marne, he was ordained a priest and taught at the Catholic Institute from 1881 to 1893. His unorthodox views led to his excommunication in 1908. He was professor of religious history at the College of France from 1909 to 1932, and professor emeritus since that time. He wrote numerous books including *Les origines du Nouveau Testament*, 1936.

**Longman, Sir Hubert H.** British publisher, a partner in the firm of Longmans, Green & Co., from 1880 to 1933; died in London, Mar. 18, 1940; born Nov. 29, 1856.

**Loram, Charles T.** South African educator; died in Ithaca, N.Y., July 8, 1940; born in Pietermaritzburg, South Africa, May 10, 1879. Active in South African educational fields from 1896, he came to the United States in 1931 as Sterling professor of education at Yale University and after 1933 he served also as director of studies, department of culture contacts and race relations at the Graduate School. He wrote *Education of the South African Native* (1919).

**Loree, Leonor Fresnel.** American railroad executive; died in Bowood, N.J., Sept. 6, 1940; born in Fulton City, Ill., Apr. 23, 1858. He was graduated from Rutgers College in 1877, went to work as a survey engineer for the Pennsylvania Railroad and rose to a vice-presidency of the road's Western lines in 1901. In June, 1901, he resigned from the Pennsylvania system to become president of the Baltimore and Ohio Railroad, where he remained until Jan. 1, 1904. He then became president of the Rock Island Co. of New Jersey at a salary of \$75,000 a year, but resigned within nine months following a clash with controlling financial interests, although he compelled the company to pay him his full salary for five years, under contract. In 1907 when Edward H. Harriman bought the Delaware and Hudson Railroad, he made Loree president, a position he held for 31 years until his retirement at the age of 80 on Mar. 30, 1938. He was president of the New York State Chamber of Commerce from 1928 to 1930.

**Lorillard, Pierre.** American tobacco capitalist; died in Tuxedo Park, N.Y., Aug. 6, 1940; born in New York City, N.Y., Jan. 28, 1860. He did not attend college, but entered the P. Lorillard Co. as a young man and eventually succeeded his father as president of the company and as treasurer of the Continental Tobacco Co., an affiliate. When the American Tobacco Co., which had no connection with the present company of the same name, was formed out of the Lorillard properties, he became treasurer. He remained in that capacity until the company was dissolved by the government under the anti-trust laws. The company was then reorganized and passed out of the ownership of the Lorillard family. Mr. Lorillard, like his father, was a sports enthusiast and worked tirelessly to keep Tuxedo Park, N.Y., the exclusive society colony his father founded it to be.

**Lothian, 11th Marquess of, Philip Henry Kerr.** British statesman; died in Washington, D.C., Dec. 12, 1940; born on Apr. 18, 1882. Through his mother, Lady Anne Fitzalan Howard, daughter of the fourteenth Duke of Norfolk, he was a member of one of England's most prominent Roman Catholic families; was educated at Oratory School, Birmingham, and at New College, Oxford. He was the son of Maj. Gen. Lord Ralph Kerr, third son of the seventh Lord Lothian, and received his title on the death of his cousin, the tenth Marquess of Lothian on Mar. 16, 1930. In later life, Lord Lothian gave up the religious faith of his childhood and became a Christian Scientist, a subject on which he wrote many articles.

From 1905 to 1908 young Kerr worked in the administration of Lord Milner, governor of the Transvaal; later he was editor of *The State*, a South African political newspaper, and of *The Round Table*, a scholarly London journal that spoke frequently for the liberal imperialists. He was private secretary to Lloyd George (1916-21) and as such was the World War Premier's principal adviser on foreign affairs; was director of United Newspapers, Ltd., (1921); secretary of the Rhodes Trust (1925-39), a post that brought him to the United States 14 times and into 44 of the States of the Union. He became Parliamentary Under-Secretary of the India Office in 1931 and chairman of the Indian Franchise Committee two years later. His service in the House of Lords was marked by a tendency to believe that Adolf Hitler was fundamentally a man of peace

and good will who was merely trying to rectify the errors of the Versailles Treaty.

He became Ambassador to the United States on Aug. 30, 1939, succeeding Sir Ronald Lindsay. Four days later his country was at war, and his post thereafter was one of the most difficult diplomatic assignments in the world, requiring sharp thinking and acting and tact of the smoothest quality. The evening before he died an associate of his at the embassy read to a Baltimore audience a dramatic appeal for greater material aid to Great Britain, written by Lord Lothian some days before. American response to the plea was instantaneous and the tempo of American aid was in consequence accelerated.

**Louis-Dreyfus, Louis.** French Senator and financier, died in Cannes, France, Nov. 10, 1940. He headed the Dreyfus family bank in Paris, one of the wealthiest private banks in the world.

**Lowman, Seymour.** American lawyer and banker; died in Elmira, N.Y., Mar. 13, 1940; born near Chemung, N.Y., Oct. 7, 1868. Active in Republican politics he served in the New York State Legislature and during 1925-26 he was lieutenant governor. From Aug. 1, 1927 to Mar. 15, 1933, he was assistant secretary of the U.S. Treasury in charge of prohibition enforcement, customs, and Coast Guard.

**Luisi, Luisa.** See SPANISH-AMERICAN LITERATURES under *Uruguay*.

**Luland, John C.** American inventor; died in Newark, N.J., on Dec. 23, 1940; born in London, Eng., 1853. From 1872 to 1939 he was employed in a steel plant at Harrison, N.J. originally owned by Benjamin Atha but now a part of the Crucible Steel Co. of America. An inventor of processes in the heat treatment of steel, he developed a shell that was capable of penetrating "Krupp" armor plate.

**Lundeen, Ernest.** American senator; died in an airplane accident near Lovettsville, Va., Aug. 31, 1940; born in Beresford, S.D., Aug. 4, 1878. A graduate of Carlton College and the University of Minnesota, he practiced law in Minneapolis, joined the La Follette wing of the Republican party, and was a member of the U.S. House of Representatives from 1917 to 1919. He distinguished himself in Washington by opposing America's entry into the World War, by voting against the 1917 conscription act, and by fighting against American entry into the League of Nations. As a Congressman, he went to France in an official capacity during the World War, but was refused permission to tour the front. In 1919 he was run out of Ortonville, Minn., in a locked refrigerator car after he had attempted to make a speech. He reappeared in Congress as a Farmer-Laborite (1933-37) and in 1936 was elected to the U.S. Senate. He was an isolationist all his life and opposed the selective service act of 1940.

**Lyon, George F.** American jurist; died in Binghamton, N.Y., May 21, 1940; born in Barker, N.Y., July 13, 1849. He served on the New York Supreme Court bench from Jan. 1, 1896, until his retirement upon reaching the age limit in 1920. Thereafter he was an official referee of the Third Judicial Department.

**McCarl, John Raymond.** American ex-comptroller general; died in Washington, D.C., Aug. 2, 1940; born near Des Moines, Ia., Nov. 27, 1879. A graduate of the University of Nebraska (1903), he practiced law for some years; was private secretary to Sen. George W. Norris (1914-18) and executive secretary of the National Republican Congressional Campaign Committee (1918-21). He served as Comptroller General by appointment of President Harding from 1921, when the office was created by Congress, until his term expired in 1936. Popularly known as the "watchdog of the Treasury," he effected huge savings in governmental expenditures, and applied his blue-pencil to big and small items alike, with an impartiality that brought him many enemies and many friends. On one occasion he refused to let the government pay \$150 for a lunch bought by a Federal employee because, he said: "There is nowhere in Virginia where one can buy a lunch worth \$1.50."

**McClellan, George Brinton.** American educator; died in Washington, D.C., Nov. 30, 1940; born in Dresden, Germany, Nov. 23, 1865, the son of Gen. George B. McClellan of Civil War fame. He was graduated from Princeton University in 1886, worked as a reporter on several New York newspapers, in which capacity he became a friend of Richard Croker, leader of Tammany Hall; was treasurer of the Brooklyn Bridge when it was operated under a toll system (1889-92); president of the Board of Aldermen of New York City (1893-94); Democratic member of the U.S. House of Representatives (1895-1903); Democratic Mayor of New York (1903-09); lecturer at Princeton (1908-12) and professor of economic history there from 1912 to 1931.

McClellan's relations with Tammany Hall were cordial until he began to clean the municipal government of graft and the city itself of gambling. Under his administration the Catskill water supply was made available to the city, at a cost of \$120,000,000; the Williamsburgh, Manhattan, and Queensborough bridges were added to the Brooklyn Bridge to link Manhattan with Long Island; two subway

tunnels to Brooklyn and three to New Jersey were built by private companies; and municipal ferries were put in operation.

**MacDonald, Edward Mortimer.** Canadian lawyer; died in Pictou, N.S., May 25, 1940; born there, Aug. 16, 1865. A Liberal Member of Parliament from Pictou Co., Nova Scotia from 1904 to 1925, he became minister of National Defense of Canada (1923-26) and minister without portfolio in 1923. In 1924 he represented Canada at the League of Nations. He retired in 1926 and in 1938 published *Reminiscences Political and Personal*.

**McGarrah, Gates W.** American banker; died in New York City, N.Y., Nov. 5, 1940; born in Monroe, N.Y., 1863. After finishing high school he got his first job sweeping the sidewalk in front of the Goshen (N.Y.) National Bank (1881); held minor positions with the New York Produce Exchange Bank (1883-98); became cashier of the Manufacturers National Bank (1898) and president (1902) and remained at the head of the company after it was merged into the Mechanics National Bank. When the Chase National Bank absorbed the Mechanics in 1926 he was made chairman of the executive committee. From 1923 to 1926 he was a director of the New York Federal Reserve Bank, and in 1927 became chairman of the Federal Reserve Board in New York City. In 1930 he was appointed president and chairman of the board of the Bank for International Settlements at Basle, Switzerland, a position he held for three years, in a period marked by frequent international financial crises.

**McGuire, William Anthony.** American writer; died in Calif., Sept. 16, 1940; born in Chicago, Ill., July 9, 1887. He was the author of many successful plays produced in New York City, including: *The Walls of Wall Street* (1908); *The Heights* (with Frank Keenan) in 1910; *The Divorce Question* (1912); *Everyman's Castle* and *The Man Without a Country* (1916); *A Good Bad Woman*, *In and Out of Bed*, and *Mary Be Careful* (1919); *Frivolities of 1920*, *Six Cylinder Love* (1921). During the next few years he was associated with Ziegfeld in writing and producing the *Follies*; but he also composed *It's a Boy*; *Ten Gods*; *Twelve Miles Out*; *If I Were Rich*; *Tral Divorce*; and (with Guy Bolton) *Rosalie*, 1927. Since 1930 he was engaged in scenario writing for the motion pictures and in this connection penned some of the greatest screen hits of recent years, including *The Great Ziegfeld*.

**MacLachlan, Alexander.** Canadian educator; died in Kingston, Ont., Can., Sept. 8, 1940; born in Erin, Peel Co., Ont., 1859. A graduate of Union Theological Seminary, New York, he went to Smyrna, Turkey, in 1897 for the American Board of Commissioners for Foreign Missions and there founded a school which in 1903 was chartered as the International College. He was a technical military prisoner during the World War, was wounded by brigands in 1922, and was said to have installed the first electric lighting plant in Turkey.

**McRae, James H.** American soldier; died in Berkeley, Calif., May 1, 1940; born in Lumber City, Ga., Dec. 24, 1863. In the army from 1886 he was promoted through the ranks to major general in the regular army in 1922 and served in the Indian campaigns, the Spanish-American War, the Philippine Insurrection, and in the World War, during which he commanded the 78th Division and took part in the St. Mihiel and the Meuse-Argonne offensives. He retired in 1927.

**Maher, Peter.** Irish pugilist; died in Baltimore, Md., July 22, 1940; born in Galway, Ireland, Mar. 16, 1869. Beginning as a prize-fighter about 1882, he won the welter, middle, and heavy weight championship of England and Ireland; boxed an exhibition bout with John L. Sullivan in Dublin; came to the United States in 1891 and was knocked unconscious by such dilettantes as Bob Fitzsimmons, Joe Choynski, Tom Sharkey, and Al (The Real) McCoy.

**Mamluk, Hans J.** German dental leader; died in New York City, N.Y., Nov. 11, 1940; born in Silesia, Germany, 1875. Formerly head of the dental school of the University of Berlin and for 20 years editor of one of Germany's leading dental publications, his researches resulted in many improvements in technique, notably the so-called "Mamluk fixation" for tightening loose teeth. Following the production in Switzerland in 1937 of Friedrich Wolf's play, *Professor Mamluk*, depicting the persecution of a Jewish surgeon in Germany, Dr. Mamluk fell from Nazi grace, although he disclaimed any responsibility, directly or indirectly, for the drama. He arrived in the United States on Apr. 16, 1937, when Wolf's play was being produced in New York City.

**Mansell-Moullin, Charles William.** British surgeon; died in London, Eng., Nov. 10, 1940; born in October, 1851. He was Hunterian Professor and Vice-President of the Royal College of Surgeons of England, and Examiner in Surgery at the Universities of Oxford, Cambridge, and Glasgow. An acknowledged authority on cancer, he wrote many treatises and books, including *The Biology of Tumours*.

**Mao Tse Tung.** Chinese Communist, reported died on May 4, 1940. The leader of the Chinese Communist party

he was active in that organization from 1920 and in 1924 became the first president of the All Peasants' Union. He commanded a Red army in the uprising at Nanchang on Aug. 1, 1927, and thereafter fought with the Kuomintang. However, he joined the Kuomintang in 1937 to fight the Japanese invasion and was political head of the border regional government at Yen-an, Shensi.

**March, Harry A.** American physician; died in Canton, O., June 10, 1940; born in New Franklin, O., in 1876. The "father of professional football," in 1924 he organized the New York Football Giants and served as the club's president during 1928-33. He was the first president of the American Professional Football League (1935-36).

**Marchesi, Blanche** (Blanche Baronne Anson Oacamist). French opera and concert singer; died in London, Eng., Dec. 15, 1940; born in Paris, France, Apr. 4, 1863. The daughter of Salvatore Castrone Marchesi of Palermo and the former Matilde Graumann, both noted singers, she made her operatic debut as Bruennhilde in *Die Walkure* at the Prague Opera House in 1900. She toured the United States in 1899 and 1909, and was a special favorite of Queen Victoria, by whom she was twice decorated. In 1927 she gave a hint to the British royal family that "if they took more interest in music, things in the musical world in England would be better," adding: "Society people are like monkeys, and if the King showed a greater desire for music everyone would follow suit." Her reminiscences, *A Singer's Pilgrimage*, was published in 1923.

**Maria, Princess.** Greek noblewoman, sister of the late King Constantine, aunt of King George II and aunt of Marina, Duchess of Kent, died on Dec. 13, 1940; born in Athens, Greece, Feb. 20, 1876. She was the daughter of Prince William of Denmark who as George I was King of Greece from 1863 until his assassination in 1913. Her first husband, Georges Michailovitch, Grand Duke of Imperial Russia, whom she married in 1900, was killed by Bolsheviks in 1919. Her brother, King Constantine, ruled Greece from 1913 to 1917 and from 1920 to 1922. In 1922, Princess Maria married a retired Greek admiral, Pericles Ioannides. Princess Xenia, a daughter of Princess Maria by her first marriage, was married in 1921 to William B. Leeds, Jr., of New York. They were divorced in 1930.

**Markham, Edwin.** American poet; died in Westerleigh, S.I., N.Y., Mar. 7, 1940; born in Oregon City, Ore., Apr. 23, 1852. His parents settled in California in 1857 and his young manhood was spent in farming. He attended San Jose Normal School and became a school teacher. In 1899 his poem, *The Man with the Hoe*, won world-wide attention and he devoted the remainder of his life to literature. His other works include *Lincoln*, and *Other Poems* (1901), *The Children in Bondage* (1909), *The Shoes of Happiness and Other Poems* (1915), *California the Wonderful* (1915), *Gates of Paradise* (1920), *The Ballad of the Galloway Bird* (1926), *New Poems—Eighty Songs as Eighty* (1932), *The Star of Araby* (1937). In addition he edited *Foundation Stones of Success* (4th ed., 1925), *The Book of Poetry* (2 vol., 1927), covering 1000 years of European and American poetry; *California in Song and Story* (1930), and *Poetry of Youth* (1935), an anthology. He was awarded the prize of the *Poetry Review* of London for the best poem on Edgar Allen Poe in 1928 for his poem *Israfel*, and in 1929 he was co-winner with nine others of a prize for a new competition for a national anthem, his contribution being *New America*. In 1938 he had recordings made of his interpretations of his principal poems entitled *Edwin Markham, Himself*.

**Marler, Sir Herbert.** Canadian diplomat, died in Montreal, Jan. 31, 1940; born there, Mar. 7, 1876. Privy Councillor and a member of the Cabinet in 1925, in 1929 he was named envoy extraordinary and minister plenipotentiary in respect to the Dominion of Canada in Japan. He was appointed minister to the United States in 1936 but resigned in 1939 because of ill health.

**Martel, Damien de.** French diplomatist; died in Paris Jan. 21, 1940; born in 1878. In the diplomatic service from 1901, he was ambassador to Tokyo during 1929-33 and High Commissioner for Lebanon and Syria during 1933-38.

**Martin, Edgar Stanley.** American editor, educator, and Boy Scout official; died in East Orange, N.J., Aug. 9, 1940; born in Gorham, N.Y., Mar. 8, 1873. A school teacher by profession, he joined the Boy Scout movement in 1910; was a paid organizer for many years; editor of the official magazine *Scouting* since 1927; and national director of publications since 1931.

**Marvin, Harry N.** American inventor; died near Sarasota, Fla., Jan. 12, 1940; born in Jordan, N.Y., in 1863. An associate of Thomas Edison, he was a founder of the Biograph Co., and the Motion Picture Patents Co., retiring in 1912. His inventions dealt with motion pictures and radio, the latest one being an automatic radio-tuning system.

**Masferrer, Alberto.** See SPANISH-AMERICAN LITERATURES under *El Salvador*.

**Mason, William Harris.** American legal editor; died on Sept. 11, 1940; born in Kansas City, Mo., 1872. As president since 1925 of the Mason Publishing Co., St. Paul,

Minn., he edited numerous law books including *Mason on Negligence*, a recognized authority on the subject.

**Matthews, Harold H.** Canadian soldier; died in Ottawa, May 12, 1940; born in Lower Harford, England, in 1877. In the Canadian army from 1910 he saw service during the World War, and in 1938 was appointed adjutant general of the Canadian Defense Forces with the rank of major general.

**Mayo, Katherine.** American author and reformer; died in Bedford Hills, N.Y., Oct. 9, 1940; born in Ridgeway, Pa., 1867. She was educated in private schools in Cambridge and Boston, Mass., and then lived in Dutch Guiana for eight years with her father, a mining engineer. In 1910 she assisted Oswald Garrison Villard in the preparation of his book *John Brown* and she also helped Horace White of the *New York Evening Post* on his *Life of Lyman Trumbull*. In 1927 she published *Mother India*, a book dealing with social and economic conditions in that country, in which she reported that girls were sold in marriage at the age of 3, became wives at 12, and mothers at 13 or sooner. Sales of the book reached fantastic proportions; and the allegations were followed by reforms in India, although the author was burned in effigy in various parts of that country.

**Michelin, Edouard.** French inventor and tire manufacturer; died in Orcines, France, Aug. 25, 1940; born in 1856. With his brother, André, he established the Michelin Tire Co. in 1888, which was the first company to apply pneumatic tires to motor-driven vehicles. In 1931 their only American factory, at New Brunswick, N.J., closed after operating 23 years.

**Miller, Alexander Oppeland.** American Methodist clergyman and editor; died in Little Rock, Ark., Nov. 9, 1940; born in McKeesport, Pa., May 17, 1861. He studied at Central College in Missouri and was president and professor of Latin and philosophy (1888-1902) at the Neosho (Mo.) Collegiate Institute (which later, as Hendrix College, was moved to Conway, Ark.); professor of history and economics, Central College (1902-04); president of Hendrix College for the second time (1910-13); president of Oklahoma Methodist College (1913-14); and editor of the *Arkansas Methodist* since that time.

**Miller, Webb.** American journalist; killed in a fall from a railroad train in London, May 7, 1940; born near Pokagon, Mich., in 1892. A newspaper reporter from 1912, he joined the United Press in 1916 and covered the World War, the Peace conferences, the Riff revolt (1925), the Ethiopian campaign (1935), the Spanish War, the Finnish War (1939), and was preparing to go to Norway. In 1936 he published *I Found No Peace*, a book of reminiscences.

**Miro, Ricardo.** See SPANISH-AMERICAN LITERATURES under *Panamá*.

**Mix, Tom.** American cowboy-actor; died in an auto accident near Florence, Ariz., Oct. 12, 1940; born in Mix Run, near Dubois, Clearfield Co., Pa., Jan. 6, 1880. He had an exciting career both in and out of the movies: was a cowboy in Texas, Arizona, Wyoming, and Montana; served in the U.S. Army in the Philippines, the Spanish-American War and in the Boxer trouble in China; fought with the British in the Boer War; did patrol and police duty with the Texas Rangers; was foreman of the Miller Brothers' 101 Ranch, Bixas, Okla. (1906-09); won several national riding and roping contests; was a star circus performer; and since 1910 was one of the most spectacular cowboy-heroes of the screen.

**Modjeski, Ralph.** American engineer; died in Los Angeles, June 26, 1940; born in Cracow, Poland, Jan. 27, 1861, the son of Helen Modjeska, the famous actress. He came to the United States with his mother in 1876; was educated in France, and by 1892 was established as a consulting engineer on bridge design. Among the many bridges with which his name is associated are the McKinley Bridge, St. Louis; Broadway Bridge, Portland, Ore.; the Quebec Bridge over the St. Lawrence River at Quebec, the longest truss-span bridge in the world; Delaware River Bridge, Philadelphia; Huey P. Long Bridge over the Mississippi at New Orleans; the Iowa-Illinois Memorial Bridge, and the Calvert St. Bridge, Washington. He also was chairman of the board of consulting engineers on the Trans-Bay Bridge, San Francisco. His work brought him the John Scott medal (1924); the John Fritz medal (1930) for "notable achievements as an engineer of great bridges, combining the principles of strength and beauty," and the Washington Award (1931). He retired in 1935.

**Moore, Thomas Albert.** Canadian clergyman; died in Toronto, Mar. 31, 1940; born in Acton, Ont., June 29, 1860. Ordained a Methodist in 1880, he played a leading part in the union of the Methodist, Presbyterian, and Congregational churches in Canada in 1925 and was named secretary of the General Council of the United Church. He retired in 1934.

**Mora, F(rancis) Luis.** American artist; died in New York, June 5, 1940; born in Montevideo, Uruguay, July 27, 1874. Good examples of his work are "The Letter," "The American Gladiators," "After the Bull Fight," "The Cruise of the Ellira." His later works include the portrait of President Harding in the White House (1930), post

office murals in Clarksville, Tenn., and Catasauqua, Pa., and the painting "Our Christian Era" for the Dun & Bradstreet office at the New York World's Fair (1939). He was awarded the 1st Hallgarten prize, National Academy of Design (1905) and the Carnegie prize of the National Academy (1930).

**Morgan, Truman Spencer.** American publisher; died in New York City, Dec. 21, 1940; born in Rockton, Ill., in 1868. From 1902 to 1920 he was treasurer, and from 1920 until his death he was president, of the F. W. Dodge Corp., publishers of trade journals.

**Morris, Lewis.** American ex-naval captain and surgeon; died in New York City, N.Y., Nov. 15, 1940; born in Caen, France, Jan. 26, 1867. A great-great grandson of Lewis Morris, a signer of the Declaration of Independence, he lived in Europe until he was 12; studied medicine at the University of Maryland; and was a U.S. naval surgeon for 28 years. His ancestors founded Morrisania, now a part of The Bronx, N.Y.

**Mosiman, Samuel K.** American educator, president of Bluffton College, Ohio, from 1909 to 1935 when he was retired as emeritus; died in Bluffton, O., Jan. 24, 1940; born in Middletown, O., Dec. 17, 1867.

**Moton, Robert R.** American Negro educator; died in Capahosic, Va., May 31, 1940; born in Amelia Co., Va., Aug. 26, 1867. He was commandant at Hampton Institute from 1890 to 1916 when he was elected to succeed Booker T. Washington as its president. He retired in 1935. Active in Negro affairs, he was awarded the Harmon Award in Race Relations (1930) and the Spingarn Medal (1932). His autobiography, *Finding a Way Out*, appeared in 1920 and in 1929 he published *What the Negro Thinks*.

**Motta, Giuseppe.** Swiss politician; died in Berne, Jan. 22, 1940; born in Airolo, Dec. 29, 1871. A member of the Federal Council from 1912, he was elected president of the republic in 1915, 1920, 1927, 1932, and 1937. At his death he was chief of the Swiss Political Department.

**Mountain, Arthur Reginald.** British insurance executive; died on Aug. 20, 1940; born on July 22, 1877. He became chairman of Lloyd's, London, in 1929, having been associated with the famous firm of underwriters since 1903.

**Mundy, Talbot Odetwynd.** Anglo-American author; died in Bradenton Beach, Fla., Aug. 5, 1940; born in London, Eng., Apr. 23, 1879. He was educated at Rugby; worked his way on ships to far-away places, lived in India, Africa, and Australia; and came to the United States in 1911. Among his many novels of adventure was *King of the Khyber Rifles*, published in 1916, and more recently converted into a motion picture called *The Black Watch*, with Victor MacLagen.

**Murphy, Frederick E.** American newspaper publisher, president of the Minnesota Tribune Co., publishers of *The Minneapolis Tribune* and the *Minneapolis Times-Tribune*, after 1921; died in New York, Feb. 14, 1940; born in Troy, Wis., Dec. 5, 1872. He was an advocate of crop rotation, diversified agriculture, and the importance of dairying and served as a delegate to the World Wheat Conference (1933) and the International Wheat Advisory Committee of the International Monetary and Economic Conference, Rome (1934).

**Murray, J. Harold.** American actor, vocalist, and business executive; died in Killingworth, Conn., Dec. 11, 1940; born in South Berwick, Me., Feb. 17, 1891. He appeared in vaudeville (1918-20), and then from 1921 to 1935 played as a baritone in an almost unbroken series of New York City musical comedies, including *Caroline* (1923); *China Rose* (1925); and *Rio Rita* (1927-29). He retired in 1936 to become president of the New England Brewing Co.

**Murray, Sir (John) Hubert (Plunkett).** Australian politician; died in Samarai, February, 1940; born in Sydney, Dec. 29, 1861. He was lieutenant governor and chief judicial officer of Papua from 1906, and was the first governor of the first Australian dependency.

**Myers, Jerome.** American artist; died in New York, June 19, 1940; born in Petersburg, Va., Mar. 20, 1867. Known for his scenes of New York City, his work is found in the Metropolitan Museum of Art, the Brooklyn Museum, the Chicago Art Museum, and the Whitney Museum of American Art. He received the Carnegie prize (1936) and the Altman prize (1937) as well as the Isador gold medal (1938) of the National Academy of Design. An exhibition of his drawings was held in New York, Mar. 20, 1940. His autobiography, *Artist in Manhattan*, also was published on that date.

**Mysoore, Maharaja of, Sir Shri Krishnaraja Wadiyar Bahadur.** Indian ruler; died on Aug. 3, 1940; born on June 4, 1884. His personal fortune was estimated at \$400,000,000. He ascended the throne in 1895; was a polo and tennis player and a good violinist. A devout Hindu, he refused for years to visit Europe because to cross water would lower his caste; in 1936, however, his curiosity overcame his scruples and he undertook a trip to Europe, taking with him special food, special water, and a special chef.

**Nagel, Charles.** American lawyer, Secretary of Commerce and Labor in the cabinet of President Taft (1909-



13); died in St. Louis, Mo., Jan. 5, 1940; born in Colorado Co., Tex., Aug. 9, 1849.

**Navarro, Mary Anderson de (Mrs. Antonio).** American actress; died in Broadway, Wore., England, May 29, 1940; born in Sacramento, Calif., July 28, 1859. On the stage from 1875, she appeared as Juliet in *Romeo and Juliet*; Lady Macbeth in *Macbeth*; Julia in *The Hunchback*; Galatea in *Pygmalion and Galatea*; Desdemona in *Othello*; Rosalind in *As You Like It*; and in *The Winter's Tale*. She retired because of ill health in 1889 and in the following year was married to Mr. de Navarro who died in 1932. She did not appear on the stage again until 1916 when in aid of war charities she was seen in *Comedy and Tragedy*; *Pygmalion and Galatea*; and in the balcony scene from *Romeo and Juliet*. With Robert Hichins she dramatized his *The Garden of Allah* (1911) and she was the author of *A Few Memories* (1896) and *A Few More Memories* (1936). She was considered one of the foremost actresses of the American stage.

**Neal, Thomas.** American manufacturer; died in Detroit, Mich., Oct. 6, 1940; born in Corunna, Ont., Can., Sept. 27, 1858. At the age of 15 he went to work as an oiler in a Detroit pin factory; was a founder (1884) and official of the Acme White Lead and Color Works, retiring in 1921; was connected with the General Motors Corp. (1910-15), serving as president and chairman of the board.

**Neill, Paul.** American newspaperman; died on Mar. 9, 1940; born in Joplin, Mo., Apr. 16, 1892. Beginning as a reporter in 1917, he edited the *Yakima Morning Herald* from 1921 to 1938, and the *Yakima Daily Republican* thereafter.

**Newton, Alfred Edward.** American bibliophile and essayist; died in Philadelphia, Pa., Sept. 29, 1940; born in Philadelphia, Aug. 26, 1863. A recognized authority on Dr. Samuel Johnson he was elected president of the Johnson Society of Great Britain in 1930, the first American to be so honored. In 1935-36 he was Rosenbach lecture fellow in bibliography at the University of Pennsylvania. His library of 10,000 books contained many rare volumes, including the Earl of Carvost's copy of the first folio of Shakespeare, for which Newton paid \$62,000 in 1927. He was the author of several books including *The Amenities of Book-Collecting and Kindred Affinities* (1918); *A Magnificent Farce* (1931); *Dr. Johnson*, a play (1933); and *End Paper* (1935). In the electrical business since 1895, he was president of the Cutter Electrical and Manufacturing Co. and chairman of its successor, the I-T-E Circuit Breaker Co.

**Nichols, John W.** American Protestant Episcopal bishop; died in Palo Alto, Calif., Sept. 10, 1940; born in Hartford, Conn., 1878. A graduate of Trinity College and the Divinity School of the Pacific, he served as a missionary in China and was consecrated suffragan bishop of Shanghai on Nov. 1, 1934. His father, William F. Nichols, was Episcopal bishop of California from 1890 to 1924.

**Nipkow, Paul Gottlieb.** German inventor, died in Berlin, Germany, Aug. 24, 1940; born in Lauenburg, Aug. 22, 1860. His invention in 1884 of the "Nipkow disk," or electrical telescope, played an indispensable part in the early development of television.

**Nixon, Lewis.** American naval architect and former leader of Tammany Hall; died in Long Branch, N.J., on Sept. 23, 1940; born in Leesburg, Va., Apr. 7, 1861. A graduate of the U.S. Naval Academy (1882), he studied also at the Royal Naval College, England, where he was a classmate of King Edward VII.; designed the American battleships Oregon, Indiana, and Massachusetts in 1890; organized and headed the Crescent Shipyard, Elizabeth, N.J., where he built 100 vessels including submarines; was president of Lewis Nixon's Shipyards (1895-1904); and leader of Tammany Hall, New York City, from November, 1901, to May, 1902. Later he worked for Czar Nicholas II of Russia as designer of ships for the Russian Navy. At the time of his death he was head of the Nixon Nitration Co. and the Raritan Sand Co. of Nixon, N.J.

**Noble, Gladwyn Kingsley.** American curator, biologist, and explorer; died in Englewood, N.J., Dec. 9, 1940; born in Yonkers, N.Y., Sept. 30, 1894. He was graduated from Harvard University (1917) and was a member of scientific expeditions to Guadeloupe, Newfoundland, Peru, and Santo Domingo. In 1924 he became curator of herpetology and in 1928 curator of experimental biology at the American Museum of Natural History. His zoological findings, as published in the newspapers from time to time, made interesting reading. He contradicted Charles Darwin to the extent of maintaining that color, in the animal kingdom, is used to terrorize other males rather than lure the opposite sex. At other times he spoke of Santo Domingo frogs that bark like dogs and squeal like pigs; of snakes with thermometers who locate their prey by temperature; of fish that spawn on dry land and of certain glandular aberrations which produce dinosaurs. He presented a noteworthy exhibit at the museum of scenes from life as they appear through the eyes of some of our common animals.

**Noonan, Thomas F.** American jurist; died in New York City, Dec. 6, 1940; born there on June 16, 1877. A holder

of minor judicial assignments since 1910, he was appointed New York State Supreme Court Justice in 1936 and elected for the full 14-year term in 1937.

**Norris, James Flack.** American chemist; died in Boston, Mass., Aug. 3, 1940; born in Baltimore, Md., Jan. 20, 1871. He was graduated from Johns Hopkins University in 1892; was professor of chemistry at Simmons College (1904-15); and professor of organic chemistry at Massachusetts Institute of Technology since 1916. In 1925-26 he was president of the American Chemical Society. During the World War he was a lieutenant colonel in the U.S. Army in charge of the Chemical Warfare Service, with headquarters in England.

**Northrup, Edwin Fitch.** American electrothermic engineer; died in Princeton, N.J., Apr. 29, 1940; born in Syracuse, N.Y., Feb. 23, 1866. He received his Ph.D. from Johns Hopkins in 1895 and in the following year was professor of physics at the University of Texas when he became associated with Prof. H. A. Rowland. Subsequently he became chief engineer with the Rowland Printing Telegraph Co., and in 1903 became a member of the firm of Leeds & Northrup Co., manufacturers of electrical instruments. From 1910 to 1920 he was a member of the physics faculty at Princeton University, and thereafter was vice-president and technical adviser to the Ajax Electrothermic Corporation, Trenton, N.J. His work in electrical research brought him the Edward Longstreth medal in 1912, the Elliott Cresson medal in 1916, and the Edward Goodrich Acheson gold medal and \$1000 in 1931. He invented the Ajax-Northrup high frequency induction furnace and held over 100 patents on high-temperature measurement instruments. He wrote *Methods of Measuring Electrical Resistance* (1912), *Laws of Physical Science* (1917), and *Zero to Eighty* (1937).

**Northumberland, 9th Duke of, Henry George Alan Percy.** British peer, killed in action in France, June, 1940; born July 15, 1912. He had served as parliamentary secretary to Lord Privy Seal (1935) and to the Secretary of State for Air (1936).

**O'Connor, Sir Terence.** British lawyer and politician; died in London, May 7, 1940; born in Bridgnorth in 1891. After service in the World War he was called to the bar in 1919, and in 1924 was elected a Unionist Member of Parliament from Luton, and in 1930 from Central Nottingham. After 1936 he was Solicitor General.

**Onetti, Carlos Maria.** See SPANISH-AMERICAN LITERATURES under *Argentina*.

**Osborn, Henry L.** American zoologist; died in St. Paul, Minn., Jan. 2, 1940; born in Newark, N.J., July 5, 1857. Associated with Hamline University, St. Paul, Minn., from 1887, he was professor of biology, dean of the faculty (1918-31), acting president (1923; 1932-35). He was retired as emeritus in 1935.

**Osborne, Oliver Thomas.** American physician; died in New Haven, Conn., Nov. 11, 1940; born in New Haven, Nov. 14, 1862. He was graduated from the Yale Medical School in 1884; returned to teach there in 1891; was professor of therapeutics from 1911 to 1925, and emeritus thereafter. An arduous worker in the fight against tuberculosis, he was chairman of the New Haven County Anti-Tuberculosis Association—now the Gaylor Farm Association of Wallingford, Conn.—from its creation in 1902 until his death; was a founder of the American Tuberculosis Association in 1904; and was instrumental in bringing about legislation for the care of tubercular persons.

**Owens, Robert Bowle.** American electrical engineer; died in Sykesville, Md., Nov. 1, 1940, born in Anne Arundel Co., Md., Oct. 29, 1870. He was graduated from Columbia University in 1891; was professor of electrical and steam engineering at Nebraska University (1891-98) and of electrical engineering at McGill University (1898-1909). From 1910 to 1924, with the exception of the war years, when he was a major in the signal corps, he was secretary of the Franklin Institute, Philadelphia. He is known especially for his discovery of the Alpha ray and for his invention of an electromagnetic system for guiding ships and airplanes, a differentiating machine, and an electric accelerometer.

**Pace, Charles A.** American educator, lawyer, and banker; died in New York City, N.Y., Dec. 12, 1940; born in Ohio, 1869. In 1906, with his brother, Homer S. Pace, he founded the firm of Pace and Pace, organizers and managers of a chain of business schools. The New York branch was incorporated in 1933 under the name of the Pace Institute.

**Paget, Sir Ralph S.** British diplomat; died at St. Raphael, France, May 11, 1940; born Nov. 26, 1864. In the diplomatic service from 1888, he was British minister to Denmark (1916-18) and first Ambassador to Brazil (1918-20), when he retired.

**Paine, Robert F.** American newspaper editor; died on Aug. 29, 1940; born in Cleveland, O., Mar. 8, 1856. He was reporter (1879-82) and editor (1882-1902) on the *Cleveland Penny Press*; general manager of the Scripps-McRae Press Association (1897-1905), which afterward became the United Press Association; and was later editorial secretary of the Scripps papers, chief editorial writer



for the Newspaper Enterprise Association, and manager of the *Paine Service*.

**Palmblad, Harry Victor Emmanuel**. American educator; died in Siloam Springs, Ark., Mar. 17, 1940; born in Skövde, Sweden, Apr. 27, 1882. He came to the United States at the age of 16; was graduated from Columbia University (1907); held various teaching positions; was professor of modern languages, Carthage College (1917-20); professor of French and German, Phillips University (1920-37), and professor of French and German and head of the modern language department of John Brown University from 1938 until his death. He was the author of many learned works including the volume *Strindberg's Conception of History* (1927) and contributed the annual review of Scandinavian literature to *THE NEW INTERNATIONAL YEAR BOOK* since 1913.

**Parker, Henry Wise**. British admiral; died in Devon, Eng., Aug. 1, 1940; born on June 15, 1875. He entered the navy in 1889; became rear admiral (1925), and admiral (1933). He commanded the warship *Benbow* at the battle of Jutland.

**Pastermack, Josef A.** American musician; died in Chicago, Apr. 29, 1940; born in Czenstochowa, Poland, in 1881. He was solo viola player in the Metropolitan Opera orchestra for a time and subsequently conductor of that orchestra, the Philadelphia Philharmonic, and the Boston "Pops" Orchestra. From 1916 to 1928 he was chief musical director of the Victor Talking Machine Co., and thereafter was engaged in radio work.

**Patrick, Mary M.** American educator; president of the American College for Girls in Constantinople from 1890 until her retirement as emerita in 1924; died in Palo Alto, Calif. Feb. 25, 1940; born in Canterbury, N.H., Mar. 10, 1850. Her latest book was *A Bosphorus Adventure* (1934).

**Pearl, Raymond**. American biologist; died in Hershey, Pa., Nov. 17, 1940; born in Farmington, N.H., June 3, 1879. A graduate of Dartmouth College (1899), he headed the department of biology at the Maine Agricultural Experiment Station from 1907 to 1918; was director of the Institute for Biological Research at Johns Hopkins University (1925-30); and professor of biology at the medical school since 1923. He wrote many treatises and books on scientific subjects, including the one-volume *Natural History of Population* (1939). In his book *Alcohol and Longevity* (1926), Dr. Pearl provoked a lively controversy by indicating that moderation in some cases was more effective than total abstinence in prolonging life.

**Pedro Alcantara Luis Felipe**, pretender to the throne of Brazil; died in Petropolis, Brazil, Jan. 29, 1940; born there, Oct. 15, 1875.

**Peirse, Sir Richard Henry**. British admiral; died near Bath, Eng., July 10, 1940; born in York, Sept. 4, 1860. He joined the navy in 1873, rose through the ranks, and commanded the Allied naval forces on the Suez Canal in the first two years of the World War.

**Peixotto, Ernest Clifford**. American artist and writer; died in New York City, N.Y., Dec. 6, 1940; born in San Francisco, Calif., Oct. 15, 1869. He studied art at the Academie Julian in Paris; was for awhile a magazine and book illustrator and did the pictures for Theodore Roosevelt's *Life of Cromwell*; and attracted wide attention with his *La Mort d'Arthur*, a mural painting executed for the Public Library of Cleveland in 1911. He served as art instructor in the A.E.F. in France in a headquarters which later (1923) developed into the Fontainebleau School of Fine Arts. He was the creator of many noteworthy murals; the author of several books on travel; and a member of the New York City Art Commission from 1935 until Jan. 18, 1940.

**Perkins, James Handasyd**. American banker; died in Mount Kisco, N.Y., July 12, 1940; born in Milton, Mass., Jan. 11, 1876. He was graduated from Harvard University in 1898 and worked for five years with Walter Baker and Co., chocolate manufacturers; was vice-president of the American Trust Co. of Boston (1905-08); vice-president of the National Commercial Bank of Albany (1908) and president (1912-14), resigning to serve as vice-president of the National City Bank (1914-19). In the World War he had charge of all American Red Cross organizations in France. He was president of the Farmers' Loan and Trust Co. from 1921 until its affiliation with the National City Bank, and thereafter a director of the latter bank and chairman of its board of directors since 1933.

**Perla, David**. American pathologist; died in New York, June 14, 1940; born there July 13, 1900. One of the leading investigators and writers on the mechanism of immunity to infection in the human body, he had worked at Montefiore Hospital, New York, from 1927 as associate pathologist and immunologist. In March, 1940, he announced a method for the prevention and treatment of surgical shock which had been developed at the Hospital. The experimentation on, development, and results of the new technique were published in the *Proceedings of the Society of Experimental Biology and Medicine*. He published, with his wife, *The Spleen and Its Relation to Resistance* (1935).

**Peynado, Jacinto B.** Dominican politician, president of the Dominican Republic after 1938; died in Ciudad Trujillo, Mar. 7, 1940; born Feb. 15, 1878.

**Phillips, Sir Ivor**. British general; died on Aug. 15, 1940; born on Sept. 9, 1861. He was the son of Canon Sir J. Erasmus Phillips, 12th baronet of Picton, and direct descendant of Sir Aaron ap Rhys, who accompanied Richard I to the Holy Land in 1190 and fought with conspicuous gallantry against the Saracens. He was educated at Felsted School and Staff College; entered the army in 1883 and was decorated for bravery in China, India, and Europe during his long military career. As major general, he commanded the 38th Welsh Division in France in 1915-16. He was a Liberal member of Parliament from Southampton (1906-22) and Parliamentary Secretary to the Ministry of Munitions of War (1915).

**Phillimore, Sir Richard Fortescue**. British admiral; died in November, 1940; born on Dec. 23, 1864. He was commander of the cruiser *Inflexible* in the battle of the Falkland Islands, Dec. 8, 1914, and in the bombardment of the Dardanelles in 1915. During 1916-18 he was commander of Britain's First Battle Cruiser Squadron.

**Phillips, Charles J.** American philatelist; died in New York, June 2, 1940, born in Birmingham, Eng., May 16, 1863. Owner of Stanley Gibbons & Co., from 1890 to 1922, when he settled in New York, he was one of the foremost stamp dealers in the world. He was the author of *Stamp Collecting* (1936).

**Pierce, Henry H.** American lawyer; died in New York, Mar. 18, 1940; born in Portland, Me., Nov. 7, 1875. A trustee of Bowdoin College, in 1929 he gave \$181,500 to the college to endow a chair in English known as the Pierce Professorship.

**Pierce, Lyman L.** American institutional financier; died on July 20, 1940; born in Stockton, N.Y., May 14, 1868. A Y.M.C.A. worker since his graduation from the University of Minnesota in 1892, he became national director of the war campaigns of the Red Cross in 1916, a position he held until the end of the World War. Since that time he has been identified with fund-raising campaigns for numerous colleges, institutions, and charities.

**Pierce, Wallace E.** American Republican Congressman, elected to the 76th Congress from the 31st New York Congressional District in 1938; died in Washington, D.C., Jan. 3, 1940, born in Black Brook, N.Y., Dec. 9, 1881.

**Pinto, Miguel**. See SPANISH-AMERICAN LITERATURES under *El Salvador*.

**Pintor, Pietro**. Italian general; died in an airplane accident en route from Turin, Italy, to Rome, Dec. 7, 1940; born in 1880. He was a veteran of the World War, the Libyan War, 1926-28, and the Ethiopian War, 1935-36, and at the time of his death was head of the Italian section of the Armistice Commission growing out of France's military capitulation in June, 1940.

**Pittman, Key**. American senator; died in Reno, Nev., Nov. 10, 1940; born in Vicksburg, Miss., Sept. 19, 1872. He was the son of William Buckner Pittman, an attorney, and Catherine Key Pittman, a descendant of Francis Scott Key. After taking a law degree at the Southwestern Presbyterian University in Clarksville, Tenn., he settled in Seattle, Wash., in 1892; but went to Alaska in search of gold in 1898; returning to the United States in 1901 and taking up residence at Tonopah, Nev., where he later became president of the First National Bank. In 1900 he was married to Miss Mimosa June Gates of Eureka, Calif. He was elected United States Senator on the Democratic ticket in 1916, 1922, 1928, and 1934; was secretary of the platform committee of the Democratic National Convention in 1924 and chairman of the same committee in 1928. In 1933, on the death of Sen. Thomas Walsh of Montana, he became chairman of the powerful Foreign Affairs Committee, a post he held until his death. In this last position he was frequently a mouthpiece for President Roosevelt. He was an outspoken foe of Hitler, Mussolini, and the military clique in Japan and toward the end of his career was an ardent interventionist.

**Pizzi, Emilio**. Italian composer; died in Milan, Italy, Nov. 27, 1940. He was the composer of several operas, one of which, *Gabriella*, written for Adelina Patti, was staged in Boston in 1893.

**Poblete Escudero, Egidio**. See SPANISH-AMERICAN LITERATURES under *Chile*.

**Folschek, Victor H.** American newspaperman; died in Great Neck, L.I., June 11, 1940; born in Chicago, Aug. 24, 1876. Associated with the Hearst publications from 1899 to 1919, he was publisher of *The Sun* and *The Evening Sun*, New York (1919-20). He rejoined the Hearst interests in 1922 as editor and member of the executive council, and thereafter was manager of the Hearst Sunday newspapers (1928-30), member of the general management of the Hearst Newspapers after 1931, and business manager of *The American Weekly* (1937-38). He retired in 1939.

**Pollak, Walter Hellprin**. American lawyer; died in New York City, N.Y., Oct. 2, 1940; born in Summit, N.J., June 4, 1887. He was graduated from Harvard University in 1907; was special assistant to the U.S. Attorney Gen-

eral in the prosecution of Nicky Arnstein, leader of a bond-theft ring, in 1923-24; was special master in the Interborough Rapid Transit Co. receivership in 1936; attorney to Robert Moses, Moreland Act Commissioner, in his investigation of the defunct City Trust Co., which failed on Feb. 11, 1929, with liabilities of \$7,000,000. He played a prominent role in many important legal matters and twice obtained review of the Scottsboro trials by the United States Supreme Court, in 1932 and 1935.

Poore, Benjamin Andrew. American general; died on Aug. 27, 1940; born in Centre, Ala., June 22, 1863. He was graduated from West Point in 1886; was appointed a brigadier general in 1917 and assigned to the Seventh Brigade of the Fourth Division which saw action at Chateau-Thierry, the Aisne-Marne offensive, St. Mihiel, and the Meuse-Argonne. He became a major general in 1925, and retired in 1927.

Poore, Henry Rankin. American artist and author; died in Orange, N.J., Aug. 15, 1940; born in Newark, N.J., Mar. 21, 1859. He studied under Peter Moran at the Pennsylvania Academy of Fine Arts, under Luminais and Bougereau in Paris, and at the National Academy of Design in New York. Best known for his animal and hunting scenes, he was awarded prizes by the National Academy of Design, the American Art Association and many other art groups, and his work has been shown at expositions in Buffalo, St. Louis, Buenos Aires, Panama, and New Zealand.

Post, William S. American architect; died in Bernardsville, N.J., July 8, 1940; born in New York, May 10, 1866. A partner in George B. Post & Sons until 1930 when he retired, his best-known works are the New York Stock Exchange, with which he collaborated with his father; several buildings of the College of the City of New York; the Wisconsin State Capitol, and many hotels.

Potter, William W. American jurist; died in Lansing, Mich., July 21, 1940; born in Maple Grove Township, Barry Co., Mich., Aug. 1, 1869. Admitted to the bar in 1894, he was active in Republican politics, was appointed Michigan Supreme Court Justice in 1928, and was thrice elected since that time.

Fritchard, Stuart. American tuberculosis expert; died in Battle Creek, Mich., Aug. 4, 1940; born in Auburn, Ont., Can., Mar. 31, 1882. He received his medical degree from the University of Toronto in 1905; was in charge of the chest department of the Battle Creek Sanitarium (1913-30) and president and general director of the W. K. Kellogg Foundation at Battle Creek since that time. He was a delegate to The Hague (1932) and Rome (1928) conventions on pulmonary diseases and tuberculosis; and president of the National Tuberculosis Association during 1933-34.

Pugsley, Charles W. American agriculturist and educator; died in Omaha, Neb., on Dec. 17, 1940; born in Woodbine, Ia., 1878. A graduate of the University of Nebraska, he was editor of *The Nebraska Farmer* (1918-22); Assistant Secretary of Agriculture (1921-23); and president of South Dakota State College of Agriculture from 1923 until his death.

Pusey, William Allen. American dermatologist; died in Chicago, Ill., Aug. 29, 1940; born in Elizabethtown, Ky., Dec. 1, 1865. He was graduated from the medical college of New York University in 1888; was professor of dermatology at the University of Illinois from 1894 to 1915; president of the American Medical Association (1924); and the author of numerous scientific books including a *History of Syphilis*, published in 1933.

Putnam, James W. American educator, died in Indianapolis, Ind., Jan. 23, 1940; born in Hersman, Ill., Jan. 18, 1865. Associated with Butler University from 1909 as professor of economics, he served as president during 1934-39, when he retired.

Putti, Vittorio. Italian orthopedist; died on Nov. 1, 1940; born in Bologna, Italy, 1880. He was the inventor of a combination X-ray machine and motion picture camera used to photograph the human heart and the digestive system at work, the originator of a technique of improving crippled legs by lengthening them, and the inventor of a device to prevent hip dislocation among infants. He was dean of the medical school of the University of Bologna.

Quinn, Daniel Joseph, S.J. American Roman Catholic clergyman; died in New York, Mar. 9, 1940; born there, May 12, 1864. He entered the Society of Jesus in 1888, was ordained in 1899, and during 1906-11 was president of Fordham University in New York City. Thereafter he was engaged in mission and parish work.

Ragon, Heartall. American jurist; died in Fort Smith, Ark., Sept. 15, 1940; born in Dublin, Ark., Mar. 20, 1885. A lawyer by profession, he served in the Arkansas House of Representatives (1911-13) and as district prosecuting attorney (1916-20). He was a Democratic member of the U.S. House of Representatives from 1923 to 1933, resigning to accept appointment by President Roosevelt as Federal Judge of the Western District of Arkansas. In Congress he was regarded as an expert on tax matters.

Rajawongse, Admiral Phya. Thailand (Siam) diplomat, minister to France (1934-35) and to Great Britain

thereafter; died in London, Feb. 22, 1940; born in 1886. Reese, Charles Lee. American chemist; died in Ponte Verde, Fla., Apr. 12, 1940; born in Baltimore, Md., Nov. 4, 1862. After teaching from 1886 to 1900, he entered the field of industrial chemistry and in 1902 joined the E. I. du Pont de Nemours Powder Co. He retired in 1931. A leader in his field he was president of the American Chemical Society in 1934.

Reisner, Christian Fiehlthorne. American Methodist clergyman, died in New York City, N.Y., July 17, 1940; born in Atchison, Kan., June 3, 1872. He worked on the *Atchison Daily Champion* as a reporter in 1893; was graduated from Boston University Theology School in 1896; became pastor of Grace M. E. Church, New York City, in 1910 and of Chelsea Church, also in New York, in 1920. It was this latter church that Dr. Reisner developed into Broadway Temple, his last charge. It had been his intention to build a skyscraper church, with apartments, community center, swimming pool, basketball courts, and other recreational facilities built around the church, all at a cost of \$6,000,000. Some \$3,000,000 was raised and used to erect a tower and two 12-story apartment houses and a partially completed social center, but the 44-story building remained a dream. A master of showmanship, Dr. Reisner publicized and advertised his religious waves in many novel ways. He dramatized the Gospel in motion pictures projected from the pulpit; in sermons preached in costume, including the regalia of Washington and Jeremiah the Prophet; in sermons preached from a pulpit of snow; in services in which the congregation whistled from their hymnbooks.

Revel, Bernard. American educator; died in New York City, N.Y., Dec. 12, 1940; born in Kovno, Lithuania, Sept. 17, 1885. He was graduated from New York University in 1909; and was president of Rabbi Isaac Elchanan Theological Seminary, New York City (1915-28) and of Yeshiva College from that time on. He founded the Talmudic Academy in New York in 1916 and was associate editor of *Osar Israel*, the Hebrew Encyclopedia.

Revueltas, Silvestre. Mexican composer; died in Mexico City, Mex., Oct. 4, 1940; born in 1900. He toured the United States as a concert violinist before he was 20 and in 1919 played first violin with the Chicago Symphony Orchestra. He wrote several musical compositions including the songs for the Mexican film, *The Wave*.

Reynolds, George McClelland. American banker; died in Pasadena, Calif., Feb. 26, 1940; born in Panama, Ia., Jan. 15, 1865. In the banking business from 1888, he became president and director of the Continental National Bank of Chicago in 1906. He continued in these offices after the consolidation of this bank with the Commercial National Bank of Chicago in 1910. In 1921 he became president of the board of directors and continued as such after the consolidation of this and other banks into the Continental National Bank and Trust Co., in 1927. Two years later a merger of this bank and the Illinois Merchants Trust Co. led to the formation of the Continental Illinois Bank and Trust Co., of which he was chairman of the executive committee. He retired Jan. 13, 1933.

Rhoads, Thomas L. American colonel and surgeon, died in Boyertown, Pa., Aug. 20, 1940; born in Philadelphia, Pa., Apr. 10, 1870. A graduate of Jefferson Medical College (1893), he entered the army as a contract surgeon in 1898; and served as military aide to Presidents Taft and Wilson and personal physician to the former. During the World War he was chief surgeon of the 1st Army, American Expeditionary Forces.

Rice, John Hodgen. American army officer; died in Pelham Manor, N.Y., Jan. 7, 1940; born in St. Louis, Mo., Jan. 6, 1870. In the Army from 1893, he was appointed chief of the ordnance office of the American Expeditionary Forces in 1918. After the War he continued in the Ordnance Department and retired July 1, 1921, with the rank of brigadier general.

Richman, Charles J. American actor; died in Bronx, N.Y., Dec. 1, 1940; born in Chicago, Ill., Jan. 12, 1870. After a brief experience in a semi-amateur stock company, he made his first important stage appearance in New York in the play *Margaret Fleming* (1894) and thereafter for 42 years he was one of America's leading actors, at one time playing opposite Lily Langtry in *Coisip*. He was with Augustin Daly's company from 1896 until 1899; acted under the management of Charles Frohman during 1901-05 and with William A. Brady sometime afterward; played in the silent motion picture *The Battle Cry of Peace* opposite Hudson Maximi; returned to the New York stage in many subsequent leading roles until 1936 when he left the stage for Hollywood. Since then he has appeared in several well-known films, notably *In Old Kentucky* and *The Life of Emile Zola*.

Richmond, Charles Alexander. American educator; died in Washington, D.C., July 12, 1940; born in New York City, N.Y., Jan. 7, 1862. He was a graduate of Princeton University (1883) and Princeton Theological Seminary (1885); pastor of the Madison Avenue Presbyterian Church, Albany, N.Y. (1894-1909); and president of Union College, Schenectady, and chancellor of Union

University from 1909 until his retirement in 1929. He inclined toward moderate progressivism in education; and was a perennial defender of the volatile young. A sportsman himself, he had this to utter about football: "The contribution of a college to the nation is not measured by its football record; nevertheless it is a good thing to know how to play the game well. Every man should have at least one drop of sporting blood in his veins." In 1891 he married Miss Sarah Cooper Locke of Buffalo, granddaughter of the philosopher, John Locke.

**Ridgely, Henry.** American lawyer and banker; died in Dover, Del., July 13, 1940; born in Dover, Jan. 19, 1869. He was educated at Wesley Collegiate Institute and the University of Pennsylvania law school; lost his eyesight in his late twenties; was president of the Delaware State Board of Education (1914-16, 1935-36, and 1939-40); president of the Farmers Bank of Delaware from 1917 until his death; and president of the Delaware State Bar Association (1938-40). He wrote the Delaware legislative statutes relating to public libraries, agriculture, estate tax, registration, and elections.

**Riggs, Austen Fox.** American neuropsychiatrist; died in Stockbridge, Mass., Mar. 5, 1940; born in Germany, Dec. 12, 1876. He served on the faculties of Columbia University and Vassar and Williams Colleges, and in 1919 founded the Austen Riggs Foundation, Inc., for the free treatment of psychoneurotic patients without means.

**Riggs, Lawrason.** American general; died in Baltimore, Md., Nov. 21, 1940; born in New York City, 1861. He was graduated from Princeton University (1883) and the University of Maryland law school (1886); commanded the State militia at the time of the 1904 fire and was president of Peabody Institute from 1917 to 1937.

**Rihani, Amoun.** Arab lecturer, poet, and publicist; died in Freike, Lebanese Republic, Sept. 16, 1940; born in Freike, 1877. He came to New York City in 1889, clerked in his father's store in Washington Street; became a naturalized citizen in 1903; and translated into English *The Quatrains* and *The Luzzumiyat* of the Arab poet-philosopher, Abu'l-Ala. He wrote several descriptive books about Arabia, lived most of his life after 1900 in Lebanon and, as spokesman for the Arabs, urged limitation of Jewish immigration to Palestine and advocated a national government, instead of a mandate, in the Holy Land.

**Robinson, Walter.** American soldier, Adjutant General of the New York National Guard with the rank of Major-General after 1934; died in New York, Jan. 25, 1940; born in Auburn, N.Y., Apr. 11, 1879.

**Rodman, Hugh.** American naval officer; died in Washington, June 7, 1940; born in Frankfort, Ky., Jan. 6, 1859. In the navy from 1880, he was promoted through the ranks to rear admiral on May 23, 1917, to admiral on July 1, 1919, and was retired on Jan. 6, 1923. He saw service in the Spanish-American War (1898), was superintendent of transportation at the Panama Canal and director of the Panama Railroad Co. (1914-15), commanded the *New York* (1915-16); was a member of the General Board of the Navy Department (1916-17), and in September, 1917 was given command of Division Three of the Atlantic Fleet. In November he was appointed commander of the 9th Division of the battleship force and with it served in the British Grand Fleet. For a year, he was commander of the 6th Battle Squadron of the British Grand Fleet in the North Sea. On July 1, 1919 he was named commander-in-chief of the Pacific Fleet, and at the time of his retirement was commandant of the Fifth Naval District at Hampton Roads, Va. He was a delegate from the United States at the coronation of King George VI in May, 1938. He wrote *Yarns of a Kentucky Admiral* (1929).

**Rodriguez, Nicolas.** Mexican general and Fascist leader; died in Juarez, Mexico, Aug. 10, 1940, born in 1897. In March, 1934, he organized the Gold Shirts, Mexican fascist organization; was exiled by President Cardenas on Aug. 11, 1936, but permitted to return to his mother's home, Aug. 4, 1940, where he died of aplastic anemia. In 1937 he was sentenced to 16 months in prison and fined \$5000 in Federal Court in Los Angeles for violation of the neutrality laws of the United States by fostering a revolution in Mexico.

**Roemer, John Lincoln.** American educator; died in St. Louis, Mo., Aug. 9, 1940; born in Wheeling, W. Va., May 2, 1865. Graduated from West Virginia University (1889) and Western Theological Seminary, Pittsburgh, Pa. (1892), he was ordained a Presbyterian minister (1892), served several pastorates, and was president of Lindenwood College for Women, St. Charles, Mo., from 1914 until his death.

**Rogers, Brskine Clark.** American jurist; died in Glens Falls, N.Y., Nov. 3, 1940; born in Sandy Hill (now Hudson Falls), N.Y., Sept. 17, 1878. A graduate of Union College and Albany Law School, he was a New York State Supreme Court Justice from 1928 to 1940.

**Rogers, Norman McLeod.** Canadian politician; died in an airplane crash near Newtonville, Ont., June 10, 1940; born in Amherst, N.S., July 25, 1894. After service during the World War, he was called to the bar in 1924,

served as professor of history at Acadia University (1922-27), and entered politics as secretary to Prime Minister Mackenzie King (1927-29). Thereafter he was professor of political science at Queen's University (1929-35) when he was elected to Parliament. He served as minister of Labor for Canada after 1935 and in September, 1939 was appointed minister of National Defense.

**Roper, J. Charles.** Canadian Anglican clergyman; died in Toronto, Jan. 26, 1940; born in Frant, Sussex, Nov. 8, 1858. Ordained in 1882, he was Bishop of Columbia (1912-15), Bishop of Ottawa (1915-33), and thereafter Archbishop of Ottawa and Metropolitan of Ontario.

**Rosewater, Victor.** American publisher, politician, and journalist; died in Philadelphia, Pa., July 12, 1940; born in Omaha, Nebr., Feb. 13, 1871. He was graduated from Columbia University in 1891. Beginning as a reporter on the *Omaha Bee* in 1893, he became editor in 1906 and publisher in 1917, retiring in 1920. In 1912 he was chairman of the Republican National Committee. He wrote several books including *History of Co-operative News Gathering in the United States* (1930).

**Rosny, J. H. (Joseph Henri Honoré Boët).** French author; died in Paris, Feb. 14, 1940; born in Brussels in 1856. His early work was not written in collaboration, but from 1891 until 1910 he and his brother collaborated under the same name. Thereafter he wrote under the name of *J. H. Rosny, dit. Le bilatéral* (1886) is considered his masterpiece. President of the Académie Goncourt from 1926, his later works included *La Sauvage Aventure* (1935), *Dans le Calme et dans la Tempête* (1936), and *Un banquier* (1937).

**Ross, Sir Edward Denison.** British orientalist; died in Istanbul, Turkey, Sept. 20, 1940; born in Stepney, Eng., June 6, 1871. A master of 30 languages, he was principal of the Madrasah, the Mohammedan college at Calcutta, India, from 1901 to 1911, and director of the School of Oriental Studies and Professor of Persian at the University of London from 1911 to 1937. He wrote a score or more of books, principally on Indo-Iranian culture and lectured in the United States at Princeton and Northwestern Universities during 1931.

**Rostrom, Sir Arthur Henry.** British maritime captain; died in Chippenham, Eng., Nov. 4, 1940; born in Bolton, Lancashire, May 14, 1869. He followed the sea since the age of 16 and was in command of the Cunard liner *Carpathia* in April, 1912, when it rescued 700 survivors from the *S. S. Titanic*, one hour and a half after the stricken vessel had gone under. He commanded the *Mauritania* from 1915 to 1926 and the *Berengaria* from 1928 to 1931, and in the latter assignment he was also Commodore of the Cunard Fleet.

**Rothermere, Lord, Harold Sidney Harnsworth.** British newspaper proprietor; died in Hamilton, Bermuda, Nov. 26, 1940; born in London, Eng., Apr. 26, 1868, the second son of Alfred Harnsworth, barrister and member of the Middle Temple. With his older brother, Alfred Jr., he founded a newspaper called *Antvors* which soon commanded a circulation of 80,000; and with the profits thus derived they acquired the *London Evening News* (Aug. 31, 1894). Under their direction, the *News* skyrocketed to prosperity, more than 600,000 copies a day were sold and the two brothers founded or acquired a string of newspapers, including *The Daily Mirror*, which they created in 1905. In this vast newspaper empire, Harold Harnsworth concentrated on the financial, while his brother devoted himself to the journalistic, side of the business. Harold became Lord Rothermere in 1914 and served as British Air Minister in the World War. In his latter years he was a strong believer in friendship with Germany, albeit Hitler, and Mussolini. He sought to improve the political and economic position of Hungary through revision of the Treaty of Trianon, which, he contended, subjugated several million Hungarians to nations of inferior culture. A book published in 1933 by Dr. Josef Schiller indicated that Lord Rothermere had been suggested as a king for Hungary and that Lord Rothermere had expressed a willingness to wear the crown. Lord Rothermere published his version of the episode in a book called *My Campaign for Hungary* (1939). He was reputed to be the second richest man in England, the Duke of Westminster alone exceeding him in wealth.

**Rowan, Charles A.** American industrialist; died on Sept. 13, 1940; born in Pittsburgh, Pa., Sept. 27, 1874. He went to the Westinghouse Air Brake Co. in 1903 as assistant auditor; was named controller in 1919 and chairman in 1936.

**Ruiz y Rodriguez, Manuel Damata.** Cuban Roman Catholic clergyman, Archbishop of Havana from 1925; died in Havana, Jan. 3, 1940; born in Corralillo, Cuba, in 1875.

**Rumpler, Edmund.** German airplane and automobile construction engineer; died in a Mecklenburg summer resort, Germany, Sept. 9, 1940; born in Vienna, Austria, Jan. 4, 1872. An engineer by profession, he built the first German motorcar for the Brand and Lhullier Machine Factories in 1897; later headed the Rumpler Works of Johannisthal, Augsburg, and Berlin, manufacturers of air-

planes. In 1911 he produced the "Taube" plane that made the first flight from Munich to Berlin. During the World War he constructed hundreds of high-speed "Taube" planes, often referred to as "Doves," for the German armies and at the end of the war was manufacturing them at the rate of 1400 per year.

**Rusby, Henry Hurd.** American botanist and explorer; died in Sarasota, Fla., Nov. 18, 1940; born in Franklin, N.J., Apr. 26, 1855. An avid botanist from early childhood, he sold his private herbarium to Parke, Davis and Co., Detroit drug manufacturers, as a means of financing his matriculation at the New York University medical school, from which he was graduated in 1884. Previously and subsequently he headed plant-collecting expeditions to various western States and to South America. He was professor of botany, physiology, and materia medica at Columbia University's department of pharmacy (1888-1930) and dean of the faculty (1905-30).

**Russell, William.** British physician and author; died on Aug. 12, 1940; born on the Isle of Man, 1852. He was at one time president of the Royal College of Physicians, and first editor of *The Scottish Medical and Surgical Journal*; and at the time of his death, emeritus professor of clinical medicine at Edinburgh University. He was awarded the Cartwright Prize of Columbia University in 1885 and was the author of noted medical books including *Investigations Into Some Morbid Cardiac Conditions* (1886); *Arterial Hypertonus, Sclerosis and Blood Pressure* (1907); *The Sphygmometer* (1921); *The Stomach and the Abdomen* (1921); *Old Beliefs and New Knowledge* (1932).

**Rutland, 9th Duke of, John Henry Montague.** *Manners.* British medieval art expert; died in Grantham, Linc., Apr. 21, 1940; born Sept. 21, 1886. Owner of historic Haddon Hall, he was an honorary member of the Royal Institute of British Architects and a member of the Royal Commission on Historical Manuscripts.

**Ryan, Allan A.** American financier; died in San Francisco, Calif., Nov. 26, 1940, born on May 5, 1880. A son of Thomas Fortune Ryan, he became a member of the New York Stock Exchange; and in March, 1920, when Stutz was selling around \$113 per share, he cornered the stock and resold it to brokers, who were caught short, at \$550 a share, netting a profit to himself of \$1,650,000. He went bankrupt in 1922 listing liabilities of \$18,000,000 and assets of \$16. In October, 1917, he opposed his father's haste in re-marrying 13 days after the younger Ryan's mother died; the breach widened with the years; and in 1928, when his father's will was filed, the younger Ryan found his inheritance to consist of one pair of pearl shirt studs.

**Ryan, Paul A.** American statistician, chief analyst of the American Gas Association since 1927; died in New York City on Dec. 25, 1940; born on Feb. 21, 1900. A graduate of the Massachusetts Institute of Technology (1923) and the Harvard School of Business Administration (1926) he became a member of the economics research staff of the latter institution; and was for awhile chief statistician of the American Telephone and Telegraph Co., preparing forecasts of general business and economic conditions. He was a contributing editor to *THE NEW INTERNATIONAL YEAR BOOK*.

**Sabin, Alvah Horton.** American chemist and engineer; died in Flushing, Queens, N.Y., July 10, 1940, born in Norfolk, N.Y., Apr. 9, 1851. He was graduated from Bowdoin College in 1876; was professor of chemistry at the University of Vermont (1880-86); Vermont State Chemist (1882-86); president of the American Milk Sugar Co. (1885-87) and lecturer at New York University (1896-1925). In 1883 he invented a process for extracting lactose from whey.

**Sabry, Hassan, Pasha.** Egyptian statesman; died in Cairo, Egypt, Nov. 14, 1940; born in 1879. A maternal uncle of King Farouk, he was Egyptian minister to London (1934-35); minister of communications, commerce, and industry (1936); minister of war (1939) and premier of Egypt since June 27, 1940, succeeding Ali Maher Pasha. In his foreign policy, he was pro-British.

**Saionji, Prince Kimmochi.** Japanese statesman, died in Okitsu, Japan, Nov. 24, 1940; born in Kyoto, 1849. A patrician by birth and culture, he lived in Paris from 1869 to 1890; studied the parliamentary system of government in Europe and America; became vice-president of the House of Peers (1893); minister of education (1894-96 and again in 1898); president of the privy council (1903) and leader of the Seiyukai party; premier from 1905 to 1907 and from 1910 to 1912. As premier he effected the nationalization of Japanese railroads and in other ways modernized the economy of the country. The Emperor Meiji made him one of the Genro, or Elder Statesmen, who, without any constitutional powers, exercised a somewhat hidden power behind the various governments. As the last of the Elder Statesmen, he was a chief adviser to the Japanese Emperor until old age curtailed his activities in 1936. He was generally regarded as responsible for Japan's withdrawal from the League of Nations.

**Sandefur, Jefferson Davis.** American educator, president of Simmons College (now Hardin-Simmons Univer-

sity), Abilene, Tex., from July, 1909; died in Abilene, Tex., Mar. 22, 1940; born in Sharp Co., Ark., Mar. 13, 1868.

**San Miguel, Antonio.** Cuban railway executive; died near Havana, Cuba, Aug. 9, 1940; born in Spain, 1852. He was for many years editor and publisher of *La Lucha*, a vigorous newspaper under the Gomez regime; president of the Guantanamo and Western Railroad and director of the Havana Electric Co. He was kidnapped June 5, 1935, by men disguised as soldiers, who demanded \$286,000 in ransom money, but released him on his promise to pay.

**Sargent, Fred Wesley.** American lawyer, president of the Chicago & North Western Railway Co. and of the Chicago, St. Paul, Minneapolis & Omaha Railway Co. from 1925 to 1939; died in Evanston, Ill., Feb. 4, 1940; born in Akron, O., May 26, 1876. In 1933 he was awarded the Rosenthal Foundation medal.

**Savage, Michael Joseph.** New Zealand politician, died in Wellington, Mar. 26, 1940; born in Victoria, Australia, Mar. 7, 1872. Leader of the New Zealand Labor Party from 1923, when that Party came into power in 1935 he became Prime Minister. In addition he held the posts of minister of external affairs, native minister, minister for Cook Islands, minister in charge of the native trust, legislative, electoral, audit, and high commissioner's departments. Because his ministry established the 40-hour week, initiated fixed prices for the farmer, and launched an enormous public works drive and national housing plan it became known as the New Zealand "New Deal." See *NEW ZEALAND UNDER HISTORY*.

**Schereschewsky, Joseph Williams.** American physician; died in West Harwich, Mass., July 9, 1940; born in Peiping, China, Mar. 6, 1873. He was graduated from Dartmouth Medical School in 1899 and served in the U.S. Public Health Service from that time until his death, becoming chief medical director in 1930. A noted authority on cancer, he founded the Cancer Research Center at Harvard University and conducted a series of experiments which he said tended to show that transplanted cancer had been cured in some mice by the use of short radio waves.

**Schilder, Paul Ferdinand.** Austrian psychiatrist; died in New York City, N.Y., Dec. 8, 1940; born in Vienna, Austria, Feb. 15, 1886. He was educated at the Universities of Vienna and Halle, came to the United States in 1929, and since that time was clinical director of the psychiatric division of Bellevue Hospital and research professor of psychiatry at New York University. He provoked a mild controversy in 1936 by declaring that Lewis Carroll's *Alice in Wonderland* was "full of oral sadistic trends of cannibalism" and that its suitability as child literature was "extremely questionable." He also deplored the "unwholesome instability of space" manifested in "the stretching and shrinkage of Alice." He was the author of several books on psychiatry including *Psychotherapy*, published in 1938.

**Schoff, Hannah Kent (Mrs. Frederic Schoff).** American social worker, died in Philadelphia, Pa., Dec. 10, 1940; born in Upper Darby, Pa., 1853. She was founder of the Pennsylvania Congress of Mothers and its president from 1899 to 1902; vice-president (1897-1902) and president (1902-20) of the National Congress of Mothers, now known as the National Congress of Parents and Teachers.

**Schroder, Baron Bruno.** British international banker; died in Englefield Green, Surrey, Eng. Dec. 10, 1940; born in Hamburg, Germany, Mar. 14, 1867. In 1895 he joined the London banking firm of J. Henry Schroder and Co., founded by his grandfather in 1804. He organized the J. Henry Schroder Banking Corp. of New York in 1923 and served as chairman of the board of that company until his death.

**Scott, Arthur Carroll.** American surgeon; died on Oct. 27, 1940; born in Gainesville, Tex., July 12, 1865. He was a founder of the Scott and White Hospital, Temple, Tex., in 1904, and president of the institution since that time. He was especially known for his use of the hot (cautery) knife in the removal of cancer and developed the "shadow" test in diagnosis of cancer of the breast.

**Scriven, George P.** American army officer; died in Southern Pines, S.C., Mar. 7, 1940; born in Philadelphia, Feb. 21, 1854. In the army from 1878, he retired as chief signal officer of the army with the rank of brigadier general on Feb. 3, 1917. He was recalled to service during the World War and again retired in 1918.

**Scudder, Janet.** American sculptor; died in Rockport, Mass., June 9, 1940; born in Terre Haute, Ind., Oct. 27, 1873. Known for her medallions and relief portraits and especially for her fountains, notable examples of her work are the "Frog Fountain" in the Metropolitan Museum, New York, and the "Fighting Boy Fountain" in the Chicago Art Institute. Her paintings were exhibited in New York in 1933. She wrote *Modeling My Life* (1925).

**Seaman, Henry Bowman.** American engineer; died in Brooklyn, N.Y., Oct. 24, 1940; born in New York City, N.Y., Jan. 20, 1861. A graduate of Swarthmore College (1881), he was engaged for many years in bridge construction and grade crossing elimination for railroads, and was chief engineer for the New York Public Service Commis-

sion from 1907 to 1910. In the building of the Fourth Avenue subway, Brooklyn, N.Y., he applied the pneumatic riveting hammer, the first time it had been so used in field work.

**Seger, Charles Bronson.** American railway executive; died near Lynchburg, Va., Nov. 11, 1940; born in New Orleans, La., Aug. 29, 1867. He began as an office boy in the Louisiana and Texas Railway and Steamship Co.; was vice-president and controller of the Union Pacific Railroad (1913-18); president (1918-19) and thereafter a director until 1929. He was president of the U.S. Rubber Co. (1918-21) and chairman of the board (1921-29).

**Seger, George N.** American congressman; died in Washington, D.C., Aug. 26, 1940; born in New York City, Jan. 4, 1866. A Republican, he served as Mayor of Passaic, N.J., from 1911 to 1919 and thereafter was a member of the U.S. House of Representatives.

**Sellman, Charles Gabriel.** British anthropologist; died in Oxford, Eng., Sept. 19, 1940; born in 1873. He was Hunterian Professor and Arris and Gale lecturer at the Royal College of Surgeons; Lloyd-Roberts lecturer at the Royal College of Physicians; professor emeritus of ethnology at the University of London; and the author of noted scientific works including *The Races of Africa* (1930).

**Seligberg, Alice L.** American welfare worker and Zionist leader; died in New York City, N.Y., Aug. 27, 1940; born in New York City, Aug. 8, 1873. She was graduated from Barnard College in 1895; was one of the founders in 1912, with Henrietta Szold, of Hadassah, the Women's Zionist Organization of America; was founder and president from 1913 to 1918 of Fellowship House in New York City; organizer and executive in 1917 of the American Zionist Medical Unit which sent a hospital ship in Miss Seligberg's charge to Palestine in 1918 equipped with a medical corps and 400 tons of medical supplies, and established hospitals at Jerusalem, Jaffa, Tiberias, Safed, and Haifa.

**Seymour, Jr., James M.** American consulting engineer and inventor; died in Newark, N.J., Sept. 2, 1940; born in Newark, 1860. A graduate of Newark High School and tutored in engineering by private teachers, he was associated with Thomas A. Edison in the development of the incandescent lamp, phonograph, and carbon telephone transmitter; supervised the installation of telephone systems in four European countries; and in 1884, at the request of the Russian Czar, he strung wires from the St. Petersburg Opera House to the palace 21 miles away so that the royal family could listen to the opera over the telephone. After 1900 he maintained an office in Newark and specialized in ventilation problems.

**Shanks, David Carey.** American soldier; died in Washington, Apr. 10, 1940; born in Salem, Va., Apr. 6, 1861. In the army from 1884, he was promoted to major general on May 7, 1921, and retired Jan. 17, 1925. During the World War he was commander of the Port of Embarkation, Hoboken, N.J. (1917-18). In 1927 he published *As They Passed Through the Port*.

**Sharp, Harry C.** American public health official; died in Lyons, N.J., Oct. 31, 1940; born in Charleston, Ind., 1871. He was graduated from the University of Louisville, Ky., in 1893; and in 1899 devised a method of sterilization of defectives which subsequently was adopted in several States. Since 1931 he was chief medical officer of the U.S. Veterans' Administration Hospital at Lyons, N.J.

**Shaw, Louis Agassiz.** American inventor and respirator expert; died in Boston, Mass., Aug. 27, 1940; born in Chestnut Hill, Mass., 1886. A graduate of Harvard University in 1909 and afterward a member of the faculty there, he collaborated with Professor Philip Drinker, also of Harvard, in the development of the Drinker respirator, described as the nearest approach to the natural method of human breathing yet devised. In 1931 he received the John Scott medal awarded annually for the invention "most conducive to the comfort, welfare, and happiness of mankind."

**Sherman, Frederic Fairchild.** American art collector, writer, and publisher; died in Westport, Conn., Oct. 23, 1940; born in Peekskill, N.Y., 1874. He was publisher of the magazine *Art in America*, a quarterly, since 1913, and the author of several books on the subject.

**Shinn, Millicent Washburn.** American psychologist and author; died in Niles, Calif., Aug. 14, 1940; born in Niles, Apr. 15, 1888. She was graduated from the University of California (1880); was editor of *The Overland Monthly* (1883-94), in which position she was said to be the first to recognize the talent of Jack London basing her studies on the behavior of her brother's child, she published *The Biography of a Baby* in 1907, a book which received lavish praise from many educators and philosophers, including Herbert Spencer, and eventually became a standard college textbook. She was also the author of *Development of the Senses in the First Three Years of Childhood* (1907) and *Notes on the Development of a Child* (1894-99).

**Shoup, Oliver Henry.** American industrialist and ex-governor; died in Santa Monica, Calif., Sept. 30, 1940; born in Champaign Co., Ill., Dec. 13, 1869. He was edu-

cated at Colorado College; became first president of the Midwest Oil Co. and associated with other industrial concerns; and served as Republican governor of Colorado from 1919 to 1923.

**Sidebotham, Herbert.** British journalist; died in London, Mar. 19, 1940; born in Manchester, Dec. 21, 1872. He was on the staff of the *Manchester Guardian* (1895-1918), the *London Times* (1918-21), the *London Daily Chronicle* (1922-23), and thereafter he wrote for the *Sunday Times* and the *Daily Sketch*. His latest work was *Great Britain and Palestine* (1937).

**Silva Villdöola, Carlos.** See SPANISH-AMERICAN LITERATURES under *Chile*.

**Silzer, George Sebastian.** American ex-governor; died in Newark, N.J., Oct. 16, 1940; born in New Brunswick, N.J., Apr. 14, 1870. A lawyer by profession, he was judge of the N.J. Circuit Court (1914-22); Democratic governor of the State (1923-26); and chairman of the Port of New York Authority (1926-27). He was a constant friend of national prohibition, a banker of distinction, and a prop in the campaign to link New Jersey and New York with the George Washington Bridge.

**Simmons, Furnifold McLendel.** American lawyer; died in New Bern, S.C., Apr. 30, 1940; born in Jones Co., N.C., Jan. 20, 1854. Admitted to the bar in 1875 he entered politics and in 1887 was elected to Congress as a Democratic Representative from North Carolina. He served until 1889 and during 1893-97 was collector of internal revenue for N.C. In 1901 he was elected to the Senate, serving five terms until 1931. He served as chairman of the Senate Finance Committee (1913-19) and was co-author of the Underwood-Simmons Tariff Act (1913-21).

**Simpson, Helen de Guerry.** British writer; died in October, 1940, born in Sydney, Australia, Dec. 1, 1897. She went to England in the World War as an interpreter in the Women's Royal Naval Service; studied music at Oxford University; acted in amateur theatricals at the home of John Masefield, the poet; and wrote novels with astonishing rapidity, completing *Acquittal* (1925) in three weeks. Among her other novels were *Saraband for Drad Lovers* (1935); *Boomerang* (1932) which won the James Tait Black Memorial Prize; *The Woman and the Beast* (1933); *Under Capricorn* (1937) and *Maid No More* (1940).

**Slater, Sir (Alexander) Ransford.** British colonial administrator, Governor of Jamaica (1932-34); died in Cookham Dean, Eng., Apr. 23, 1940; born Nov. 28, 1874.

**Sloane, (Thomas) O'Gonor.** American scientific expert; died in South Orange, N.J., Aug. 7, 1940; born in New York City, N.Y., Nov. 24, 1851. A graduate of St. Francis College, New York City (1869), he was professor of natural sciences at Seton Hall College, N.J. (1888-89); a prolific writer on scientific subjects; and inventor of the self-recording photometer, first device to record mechanically on an index card the illuminating power of gas. He was for some years editor of *Amazing Stories* and other scientific journals.

**Smilie, Robert.** British labor leader, president of the Scottish Miners' Federation (1894-1918; 1921-40), of the Miners' Federation of Great Britain (1912-21), and a Labor member of Parliament from 1923 to 1929; died in London, Feb. 16, 1940; born in Belfast in 1857.

**Smith, Clyde H.** American Republican Congressman, elected to the 75th Congress from the 2d Maine District in 1936; died in Washington, Apr. 8, 1940, born in Harmony, Me., June 9, 1876. He was a member of the House Labor Committee.

**Smith, Mrs. Harry B.** See BENTLEY, IRENE

**Smith, Wilbur Flak.** American educator; died in Baltimore, Md., Aug. 9, 1940; born in Lovettsville, Loudoun Co., Va., May 21, 1856. A graduate of Richmond College, he was principal of Baltimore City College (1911-26) and president of the University of Baltimore thereafter until 1935, when he became emeritus.

**Sonneborn, Siegmund B.** American clothing manufacturer; died in Baltimore, Md., Sept. 19, 1940; born in Germany, 1872. He came to America as a boy; was graduated from Johns Hopkins University in 1893; entered the clothing business; and eventually became president of Henry Sonneborn and Co., at one time the largest clothing manufacturing business in the world. He retired in 1930 to study the philosophy of the Book of Psalms, publishing privately his interpretation of the subject in 1931, 1933, and again shortly before his death.

**Spaulding, Edward Gleason.** American philosopher; died at Princeton, N.J., Jan. 31, 1940; born in Burlington, Vt., Aug. 6, 1873. Professor of philosophy at Princeton University from 1914, in 1936 he was appointed McCosh professor. He was president of the American Philosophical Association in 1932. His latest work was *A World of Chance* (1936).

**Spear, Walter Evans.** American engineer; died in New York, Mar. 29, 1940; born in Lawrence, Mass., Nov. 24, 1874. With the New York City Board of Water Supply from 1906, he was appointed chief engineer on Aug. 1, 1936, and as such directed the work of constructing the city's new \$300,000,000 Delaware water-supply system.

**Squires, Ernest Ker.** A British soldier; died in Mel-

bourne, Mar. 3, 1940; born in Poona, India, Dec. 18, 1882. In the Army from 1903 he saw service during the World War. He was on the General Staff of the Southern Command (1932-36) and director of staff duties at the War Office (1936-38) when he was made a lieutenant general. Thereafter he was inspector general of the Australian Military Forces.

**Squires, Sir Richard Anderson.** Newfoundland politician; died in St. John's, Mar. 26, 1940; born in Harbour Grace, Jan. 18, 1880. Leader of the Liberal Party, he served as prime minister from 1919 to 1923 and again from 1928 to 1932.

**Stanislau, Mother Mary (Kostka Schilling).** American educator; founder of Mount Mary College, Milwaukee, Wis., and Commissary General of the Catholic School Sisters of Notre Dame (1917-35); died in Elm Grove, Wis., Mar. 11, 1940; born in St. Louis, Mo., in 1856.

**Stanley, Freeman O.** American inventor; died in Newton, Mass., Oct. 2, 1840; born in Kingfield, Me., June 1, 1849. He and his twin brother, the late Francis Stanley, invented the Stanley Steamer motorcar in 1896; sold their business in 1898 to a New York group for \$250,000; bought it back in 1899 for \$20,000; and made some 10,000 cars before finally selling out again in 1918. He was educated at Bowdoin College.

**Staples, Arthur Gray.** American journalist; died in Lewiston, Me., Apr. 2, 1940; born in Bowdoinham, Me., July 4, 1861. With the *Lewiston Journal* from 1883, he was its editor-in-chief after 1919.

**Starr, Ellen G.** American sociologist, founder with Jane Addams of Hull House, Chicago, in 1889, died in Suffern, N.Y., Feb. 10, 1940; born in Laona, Ill., Mar. 19, 1859.

**Stekel, Wilhelm.** Austrian psychoanalyst; died in London, June 27, 1940; born in Bojan, Mar. 18, 1868. One of the earliest disciples of Freud, he was one of the editors of *Zentralblatt*, the first psychoanalytical periodical, but in the 1920's he broke with the master over a difference in methods of treatment. In 1938 after the *Anschluss* he fled to England. A prolific writer, his later works were *Psychosexuelle Infantismus* (1922), *Peculiarities of Behaviour* (1924), and *Technique of Analytical Psychotherapy* (1940).

**Steuer, Max D.** American lawyer; died in Jackson, N.H., Aug. 21, 1940, born in Austria, Sept. 6, 1871. He came to New York City as a boy with his parents, sold newspapers and worked in a tailoring shop; was graduated from Columbia University Law School in 1893; and rose rapidly in the practice of law. He became known as one of the leading criminal lawyers in the United States. Long a member of Tammany Hall, he was frequently called upon to pilot that organization through turbulent legal waters; and he was an important figure in some of the most famous court-room dramas of his time. Among his many noted clients were—Charles E. Mitchell, former president of the National City Bank, acquitted of income tax evasion (1933); Harry M. Daugherty, former U.S. Attorney General, acquitted of defrauding the government in the sale of German property seized during the World War by the Alien Property Custodian (1926); Maurice E. Connolly, former Borough President of Queens County, N.Y., convicted on conspiracy charges growing out of the Queens Sewer Scandal (1928).

**Stevens, Rebecca Louisa.** Mrs. American centenarian, died in San Diego, Calif., on Dec. 29, 1940, at the mature age of 107, having been born on June 12, 1833. As a young woman, she wrote a column for the *New York Evening Post*.

**Stewart, Athole Chalmers.** British actor and producer; died in Buckinghamshire, Eng., Oct. 22, 1940; born in Ealing, June 25, 1879. He began his stage career in London in 1901; and had important roles in many plays including *Hedda Gabler* (1922) and *What Every Woman Knows* (1923). In 1926 he directed the New York production of *On Approval* and he returned to America in 1930 to make his first appearance on the New York stage in *Canaries Sometimes Sing*.

**Stewart, George Craig.** American Protestant Episcopal clergyman; died in Chicago, May 2, 1940; born in Saginaw, Mich., Aug. 18, 1879. Ordained in the Methodist ministry in 1900, three years later he was ordained a priest of the Protestant Episcopal Church, and in 1904 he was appointed rector of St. Luke's Church in Evanston, Ill., which post he held until 1930 when he was consecrated bishop of Chicago. During his ministry he was a delegate to the General Convention of the Protestant Episcopal Church six times, served in France as a chaplain during the World War, lectured at Western Theological Seminary, and was associate editor of the *Anglican Theological Review*. A prolific writer, his latest works included *Six Altars* (1929), *The Call of Christ* (1931), *The Face of Christ* (1932), and *The Victory of Faith* (1935).

**Stockbridge, Frank Parker.** American author and journalist; died Dec. 7, 1940; born in Gardiner, Me., June 11, 1870. After attending National University, now George Washington University (1888-91), he became a reporter for the *Buffalo Express* (1894); worked in a simi-

lar capacity on other newspapers including the *New York Globe* and the *New York Herald*; founded the *American Home Magazine* in 1901; edited *Popular Mechanics* magazine (1913-15); and was president and managing editor of the *New York Evening Mail* from 1915 to 1917. In March, 1911, with the late Walter Hines Page, he inaugurated the campaign which ended in the nomination of Woodrow Wilson for the Presidency. He was the author of several books including *Hedging Against Inflation* (1939).

**Stockton, Phillip.** American banker, president of the Old Colony Trust Co., (1910-34) and of the First National Bank of Boston from 1929 to 1938; died in Boston, Feb. 11, 1940; born in Brookline, Mass., Mar. 20, 1874. He was director of more than 30 corporations.

**Stone, John O.** American educator; died in St. Petersburg, Fla., May 21, 1940; born in Albion, Ill., Jan. 11, 1867. A teacher of mathematics from 1885, in 1909 he was appointed professor of mathematics at State Teachers College, Montclair, N.J. He was retired as emeritus in 1935. His many textbooks on all branches of mathematics were used by schools throughout the United States.

**Storey, William Benson.** American railway official; died in Chicago, Ill., Oct. 24, 1940; born in San Francisco, Calif., Nov. 17, 1857. An engineer by profession, he became manager of the Atchison, Topeka and Santa Fe Railroad when it was taken over by the government in the World War, and served as president of the same system from 1920 to 1933.

**Street, Geoffrey Austin.** Australian brigadier; died in an airplane accident 8 miles from Canberra, Australia, Aug. 13, 1940; born in Sydney, Jan. 21, 1894. A member of the Australian House of Commons since 1934, he was minister of state for defense from 1938 until Nov. 12, 1939, when he was appointed minister for the army. He served in the World War in France, Belgium, and Gallipoli.

**Strickland, 1st Baron, Gerald Strickland.** British administrator and constitutional lawyer; died in Malta, Aug. 22, 1940; born in Malta, May 24, 1861, the son of Capt. Walter Strickland and Louisa Bonici. He was elected to the Maltese Council of Government (1886); was graduated from Trinity College, Cambridge (1887); served as Governor of the Leeward Islands (1902-04), of Tasmania (1904-09), of Western Australia (1909-13), and of New South Wales from 1912 to 1917. Elected to the Malta Legislative Assembly in 1921, he assumed leadership of the Constitutional Party and was Prime Minister of Malta from 1927 to 1932. A Roman Catholic himself, he was engaged in a bitter jurisdictional dispute with the Vatican from 1928 to 1932. An official inquiry in London found that Lord Strickland's "aggressive manner" had aroused "animosity" and he apologized to the Pope on June 3, 1932.

**Stupart, Sir Robert Frederic.** Canadian meteorologist; died on Sept. 27, 1940, born near Toronto, Ont., Can., Oct. 24, 1857. He was director of the Dominion Meteorological Service from 1894 to 1929.

**Sung Choh-yuan.** Chinese soldier; died in Mienyang, Szechwan, Apr. 4, 1940; born in 1885. In 1927 he was made chairman of the Shensi Provincial Government, and in 1931 was given command of the 29th Army and named chairman of the Chahar Provincial Government. In 1935 he was transferred to the Peiping-Tientsin Area as garrison commander, and subsequently became chairman of the Hopei-Chahar Political council and the Hopei Provincial government. In 1937 upon the outbreak of war with Japan he was forced to relinquish his chairmanship.

**Suydam, Edward Howard.** American illustrator; died in Charlottesville, Va., on Dec. 24, 1940; born in Vineyard, N.J., in 1885. His sketches of New York City for *The Designer*, a magazine, in 1921, were widely praised; and since then his pencil drawings, etchings, and block prints have found relative permanence in museums, libraries, and private collections.

**Suzuki, Kikaburo.** Japanese politician; died in Tokio, June 25, 1940; born in 1867. A member of the House of Peers and president of Seiyukai political party (1932-39), he was Minister of Justice (1924-28; 1931-32) and Home Minister (1928-29, 1932).

**Sweeney, James Fielding.** Canadian Anglican archbishop; died in Toronto, Ont., Can., Sept. 18, 1940; born in London, Eng., Nov. 15, 1857. He was educated in Canada, ordained a priest in 1881, and served as Anglican Archbishop of Toronto from 1909 to 1932.

**Tainter, Charles Sumner.** American physicist; died in San Diego, Calif., Apr. 20, 1940; born in Watertown, Mass., Apr. 25, 1854. An associate of Alexander Graham Bell, by his invention of the graphophone he was credited with having made the phonograph commercially possible. Also, he invented the dictograph and was associate inventor of the radiophone. He received the John Scott medal in 1900 and a gold medal at the Panama Pacific Exposition in 1915.

**Tait, Sir Thomas.** Canadian railway executive; died in St. Andrews, N.B., Can., July 25, 1940; born in Melbourne, Que., July 24, 1864. Employed for many years by



the Canadian Pacific Railway, he became transportation manager in 1901; and was chairman of the Victorian State Railways of Australia from 1902 to 1911.

**Tallmadge, Thomas B.** American architect; killed in a train wreck near Arcola, Ill., Jan. 1, 1940; born in Washington, D.C., Apr. 24, 1876. Known for his many ecclesiastical buildings, he had lectured on architectural history at the Art Institute of Chicago, and at Armour Institute of Technology. He was a member of the architectural commission for the restoration of Williamsburg, Va., and was associate architect for the Julia Lathrop Homes, a Federal Housing Project in Chicago. He wrote *The Story of Architecture in America* (1927) and *The Story of England's Architecture* (1934).

**Tanomogi, Kekiichi.** Japanese politician; died in Tokyo, Feb. 19, 1940; born in 1867. Head of the newspaper *Hochi*, he served nine terms in Parliament, was minister of communications in the Hirota Cabinet (1936-37), and Mayor of Tokyo after 1939.

**Tarbox, John W.** American Methodist clergyman; died in Miami, Fla., May 2, 1940; born in 1859. A Methodist missionary in South America for fifty years, in 1930 he was consecrated the first bishop of the independent Methodist Church of Brazil at Rio de Janeiro. He retired in 1935.

**Tate, Harry (Ronald Macdonald Hutchison).** British actor, died in Sutton, Surrey, Feb. 14, 1940; born in Scotland, July 4, 1872. He made his debut as a mimic at a music hall in 1895 and subsequently introduced his famous sporting sketches, the first being the popular "Motoring." He appeared in several revues and motion pictures and until recently was still playing in variety theaters.

**Tausig, Frank William.** American economist; died in Cambridge, Mass., Nov. 11, 1940; born in St. Louis, Mo., Dec. 28, 1859. After graduation from Harvard University (1879), he served there as secretary to President Charles W. Eliot (1880-82) and professor of economics from 1892 to 1935, retiring with the title of emeritus. He was one of the founders of the Harvard Graduate School of Business Administration (1906-07) and personally obtained pledges of \$25,000 a year for five years toward its launching. He headed the United States Tariff Commission as chairman from 1917 to 1919; was author of many books on economics and international trade; and went to Paris in 1919 as a member of President Wilson's advisory committee on peace. He was editor of *The Quarterly Journal of Economics* from 1896 to 1937; and the author of *Principles of Economics* (1911, revised in 1939), *Tariff History of the United States* (1888), *Silver Situation in the United States* (1892), and *Wages and Capital* (1896).

**Taylor, David Watson.** American admiral and naval constructor; died in Washington, D.C., July 28, 1940; born in Louisiana Co., Va., Mar. 4, 1864. He was graduated from the U.S. Naval Academy in 1885 at the head of his class and in June, 1888, he won the same honors at the Royal Naval College at Greenwich, Eng., his record there being the highest ever attained by an English or foreign student. As chief of the naval bureau of construction and repair from 1914 to 1922, which included the feverish activity of the wartime naval program, he was responsible for construction or repair of 1005 vessels totaling 1,183,000 tons displacement. He retired on Jan. 15, 1923. He initiated many improvements in the designs of ships, was an expert on marine resistance and propulsion, ship ventilation and water-tight doors, and provided the first and most complete mathematical analysis of the Sperry gyroscope when it was offered to the Navy. He was the author of *Resistance of Ships and Screw Propulsion* (1893) and *Speed and Power of Ships* (1910).

**Temperley, Arthur C.** British general; died in London, Apr. 7, 1940; born in Cambridge, Aug. 31, 1877. In the army from 1900 to 1935, he saw service during the World War and was deputy director of military operations and intelligence at the War Office (1928-33) and a member of the British delegation to the Disarmament Conference (1932-35). During 1935-39 he was military correspondent of the *London Daily Telegraph*. He published *The Whispering Gallery of Europe* (1928).

**Tetrassini, Luisa.** Italian singer; died in Milan, Italy, Apr. 28, 1940; born in Florence, June 29, 1871. She made her debut in *L'Africaine* at Florence in 1895 and subsequently sang in Rome, South America, Portugal, Russia, and San Francisco, where in 1904 she made her American debut. Her first international success was made at Covent Garden, London, in 1907, and in 1908 she came to New York, making her debut as Violetta in *Traviata*. During the season of 1910-11 she sang with the Metropolitan Opera Co., notably in *Rigoletto* and in *Lucia di Lammermoor*. During 1913-14 she sang with the Chicago Opera Association. Thereafter she engaged in concert work, making a successful tour of the United States and Canada in 1921. Her last public appearance was in 1938 when she made a recording which was broadcast to the United States. A coloratura soprano, her voice, though not powerful, was in the higher registers clear and sweet. Her favorite operas were *Lucia di Lammermoor* and *La Son-*

*nambula*. She published her reminiscences, *My Life of Song*, in 1921.

**Thakore Sahab Shri Dharmendrasinhji.** Ruler of Rajkot, died in the Gir Forest, June 12, 1940; born Mar. 4, 1910. Ruler of Rajkot State from 1931, his administration was opposed by Mohandas Gandhi on Mar. 3, in 1939.

**Thayer, Ernest Lawrence.** American writer; died in Santa Barbara, Calif., Aug. 21, 1940; born in Lawrence, Mass., Aug. 14, 1863. He was the author of an indomitable masterpiece of poetic and dramatic fancy entitled *Cassey at the Bat*, first published in the San Francisco *Esaminer* in 1888.

**Thomas, James Augustus.** American tobacco merchant; died in White Plains, N.Y., Sept. 10, 1940; born in Lawtonville, N.C., Mar. 6, 1862. He spent most of his time from 1888 to 1923 in China and other parts of the Far East establishing factories and warehouses and otherwise facilitating the sale and cultivation of cigarettes. After 1914 he was managing director in China of the British-American Tobacco Co. Ltd., which he joined in 1902. He was the founder of the Chinese-American Bank of Commerce and two schools for Chinese; and the author of *Trailing Trade a Million Miles* (1931).

**Thompson, Holland.** American educator and author; died in New York City, N.Y., Oct. 21, 1940; born in Randolph Co., N.C., July 30, 1873. He was graduated from the University of North Carolina (1895) and held several minor teaching posts before serving as professor of history at the College of the City of New York (1920-40). He was widely known for his writings on the economics of the South; was editor-in-chief of *The Book of Knowledge*, a children's encyclopedia first published in 1910-11 and revised frequently since that time; and author of *Prisons of the Civil War* (1911), *The People and the Trusts* (1912), *The New South* (1919) and *The Age of Invention* (1921). He was a contributor to the *New International*, the *Britannica*, and *Nelson's* encyclopedias.

**Thompson, John T.** American mechanical engineer; died in Great Neck, L.I., June 21, 1940; born in Newport, Ky., Dec. 31, 1860. In the U.S. Army from 1882, he was promoted through the ranks to colonel in 1913, but in 1914 resigned to become chief engineer of the Remington Arms Corporation. He returned to the Army upon the entry of the United States into the War and he was appointed Director of Arsenals in charge of all small arms production and for his services he received the Distinguished Service Medal in 1919. He retired in 1920 with the rank of brigadier general and served in the Officers Reserve Corps until 1930. With Capt. John N. Blish, U.S.N., he developed in 1920 the Thompson .45 caliber submachine gun, light, portable, and automatic, and capable of being fired from the shoulder. After 1920, he was president of John T. Thompson Co. He was the author of *Art of Designing and Constructing Small Arms, Modern Weapons of War, and American Small Arms*.

**Thomson, Sir Joseph (John).** British physicist; died in Cambridge, Eng., Aug. 30, 1940, born near Manchester, Dec. 18, 1856. Educated at Owens College, Manchester, and Trinity College, Cambridge, he was appointed fellow (1880) and lecturer (1883) at Trinity; and served as Cavendish professor of experimental physics at Cambridge University from 1884 to 1918. Since 1918 he was master of Trinity College and honorary professor of physics at Cambridge. He was awarded the Nobel Prize in physics in 1906, exactly 31 years before his son, Prof. Paget Thomson, received the same distinction. He became a fellow (1884) and president of the Royal Society (1916-20).

Frequently called the "discoverer of the electron," he was at least one of the very small group of scientists whose experiments in electrical charges in rarefied gases and cathode rays brought the theory of the electrical constitution of matter into general acceptance. In this respect he was a contemporary of the German scientist Lennard. Although his investigations concerned chiefly the conduction of electricity through gases, the determination of the charge and mass of the electron and analysis by means of positive rays, he was identified with many other important discoveries in ballistics, X-rays, and other fields of physics.

His numerous books included: *A Treatise on the Motion of Vortex Rings* (1884); *Application of Dynamics to Physics and Chemistry* (1886); *Recent Researches in Electricity and Magnetism* (1892); *Elements of the Mathematical Theory of Electricity and Magnetism* (1895); *Discharge of Electricity Through Gases* (1897); *Conduction of Electricity Through Gases* (1903); *The Structure of Light: The Corpuscular Theory of Matter* (1907); *Rays of Positive Electricity and Their Application to Chemical Analysis* (1913) and *The Electron in Chemistry* (1923). Professor Thomson was the recipient of numerous honorary degrees and medals.

**Thorndike, Augustus.** American orthopedic surgeon; died in Bar Harbor, Me., Aug. 23, 1940; born in Paris, France, Apr. 27, 1863. A graduate of Harvard (1884), he helped found the Industrial School for Crippled and Deformed Children and aided in the establishment of the



State Hospital School for Cripples at Canton, Mass. He was the author of *A Manual of Orthopaedic Surgery* (1907), a textbook used by many medical schools.

**Thurlow, Louis K.** American steamship owner; died in Brookline, Mass., on Dec. 31, 1940; born in Cutler, Me., in 1888. He founded the Crowell and Thurlow Steamship Co., with shipyards in Boothbay and Bar Harbor, Me., in 1896 and was elected president of the Cape Cod Steamship Co. in 1932.

**Tighe, Michael F.** American labor leader; died in Pittsburgh, Pa., Aug. 5, 1940; born in Boonton, N.J., 1858. An employee for 29 years of the Wheeling (W. Va.) Iron and Nail Co., he was president of the Amalgamated Association of Iron, Steel and Tin Workers from 1920 to 1937. He retired to make way for the Steel Workers Organizing Committee of the C.I.O.

**Thien, John Henry.** American Roman Catholic clergyman; died in Wichita, Kans., Jan. 14, 1940; born in Oldenburg, Ind., July 14, 1861. Ordained in 1886, he was named bishop of Lincoln, Neb., in 1911, and bishop of Denver in 1917. He retired in 1931.

**Timken, Henry H.** American industrialist; died in Canton, O., Oct. 14, 1940; born in St. Louis, Mo., Apr. 19, 1868. A graduate of the University of California Law School, he entered the carriage trade with his father, with whom he later founded (1901) the Canton Roller Bearing Axle Co., which eventually became the Detroit-Timken Axle Co. of Detroit. He played a major role in the development of the automobile.

**Tinney, Frank.** American actor; died in Northport, L.I., Nov. 28, 1940; born in Philadelphia, Pa., Mar. 29, 1878. He first appeared in New York in the *Follies* of 1910, in the role of a black-face comedian; played variously in vaudeville and on the musical comedy stage; and fell from popularity in 1924 following a highly-publicized quarrel between himself and Imogene Wilson, the actress, who later starred in motion pictures under the name of Mary Nolan.

**Todd, Earle M.** American clergyman; died in Harlingen, Tex., Jan. 13, 1940, born in Vernon, Ind., Oct. 17, 1863. Ordained in the ministry of the Disciples of Christ in 1888, he served in many pastorates and during 1914-17 was president of Christian University, now Culver-Stockton College, in Missouri.

**Toral, Remigio Crespo.** See SPANISH-AMERICAN LITERATURES under Ecuador.

**Tovey, Sir Donald Francis.** British composer and musician, died in Edinburgh, Scot., July 19, 1940; born in Eton, Eng., July 17, 1875. Educated privately and at Balliol College, Oxford, his first series of concerts of chamber music in London were given in 1900 and followed by similar appearances in Berlin and Vienna. Since 1914 he was Reid professor of music at Edinburgh University, where he organized and led the Reid Orchestra. He visited the United States in a series of concerts in 1928; was the author of the opera *The Bride of Dionysus* as well as many concertos; and wrote prodigiously on musical analysis.

**Trancu-Jasi, Grigore.** Rumanian economist, died in Bucharest, Jan. 8, 1940; born in Jassy, in 1873. The author of the Social Law of 1920, he was Rumania's first minister of labor and founder of the department of labor.

**Trotha, Adolf von.** German admiral and author; died in Berlin, Germany, Oct. 11, 1940; born in Coblenz, 1868. A graduate of the German Naval Academy (1900), he became chief of staff to Admiral Scheer in 1916, commanded the battleship *Kaiser* at the Battle of Jutland, and was Chief of the German Admiralty from March, 1919, to September, 1920.

**Trotsky, Leon (Lev Davidovich Bronstein).** Russian revolutionist and leader; died in Mexico City, Aug. 21, 1940, from wounds inflicted by an assassin on the preceding day; born in Kherson, Russian Ukraine, 1879. After attending local schools in Russia, he embraced Marxism and was exiled (1901) to Siberia for four years for participating in a workmen's revolutionary movement; escaped to France (1904); returned to Russia (1905) to engage in another revolt, and was promptly banished to Siberia for life. This time he escaped in three months, on a false passport made out in the name of one Trotsky, and took asylum successively in France, Switzerland, Austria, and Germany, earning sustenance by the strength of his pen.

He was editing a newspaper in Berlin when the World War broke out; and was thereupon viewed with immediate suspicion and finally exiled as a "dangerous anarchist." After hesitant stops in Austria and Switzerland, he took refuge in Paris; but here he was suspected of pro-German activities, and found it advisable to seek a haven in the New World, arriving (with his wife and two sons) in New York City on Jan. 14, 1917. He rented a three-room flat on Vyse Avenue, the Bronx; wrote editorials for radical publications; and delivered lectures in which he predicted that the war would be followed by proletarian revolutions in the countries involved. Following the dethronement of the Czar, he left New York on the *S.S. Kristianafjord* (Mar. 27, 1917) and arrived in

Russia the next month; allied himself with the provisional Kerenky government; but played a leading role in the October Revolution that brought the Bolsheviks and Lenin into power.

Lenin rewarded him with the post of Foreign Minister, in which capacity he negotiated the Brest-Litovsk treaty, thus taking Russia out of the World War. Later he was made Minister of War and distinguished himself by reorganizing and revitalizing the shattered army and defeating the anti-Bolshevik Russian forces under the commands of Yudenitch, Kolchak, Denikin, and Wrangel. He reinstituted compulsory military training, was a severe disciplinarian, and made his headquarters in a special armored railway train. His passion for all-out efficiency caused discontent in the ranks of workers as well as the soldiers; he had several collisions with Lenin; his popularity and power began to wane; and when Lenin became ill in 1923, the All-Russian Congress named a triumvirate of Kameneff, Zinovieff, and Stalin, the General Secretary of the Communist Party, to assume the leadership of the State.

Lenin died in 1924 and Trotsky steadily slipped from power. He was removed as chairman of the Revolutionary War Council (1925); and was ousted from the Political Bureau (October, 1926), from the Supreme Economic Council (November, 1926), and from the Central Committee of the Communist party in October, 1927. In January, 1928, it became known that Trotsky had been exiled to Siberia; in February, 1929, he was expelled from the country.

He lived in Turkey from 1929 to 1933, seeking the while to obtain asylum in surroundings more conducive to his health, already undermined by asthma and threatened with tuberculosis. France granted him a home in 1933 but pushed him out in 1935 for not "observing the duties of neutrality." He stayed in Norway from June, 1935, to January, 1937, when the mass treason trials in Russia, coupled as they were with Trotsky's name, impelled the Norwegian government to ease him out of their domain. Thereafter he lived in Mexico until his death.

The Trotsky-Stalin feud was more than a clash of personalities struggling for personal power. It represented a fundamental difference of opinion concerning Communist doctrine and method. Trotsky was the arch-extremist, the believer in communism pure and simple without compromise; the enemy of the capitalist governments; the constant instigator of the world revolution. He urged an aggressive policy toward Great Britain and the United States and a friendly hand to China. He wrote for many periodicals and pamphlets and was the author of the following books: *Literature and Revolution* (1925); *My Life* (1930); *History of the Russian Revolution* (1932-34); and *The Revolution Betrayed*. See the article on COMMUNISM; also Mexico under History.

**Trotter, Frank Butler.** American educator; died in Morgantown, W. Va., Mar. 7, 1940; born in Washington Co., Ohio, Feb. 27, 1863. Associated with West Virginia University as professor of Latin from 1907, he was dean of the College of Arts and Sciences (1911-16), acting president (1914-16), and president (1916-28).

**Trotter, Melvin E. (Mel Trotter).** American evangelist, died in Macatawa Park near Holland, Mich., Sept. 11, 1940; born in Orangeville, Ill., May 16, 1870. Ordained a Presbyterian minister in 1905, he founded more than 67 city missions in the United States.

**Trunk, Joseph V.** American educator, president of Trinity College, Sioux City, Ia., since 1938; died on July 9, 1940; born in 1899.

**Tryon, Baron, George Clement Tryon.** British officer and politician; died in Sunningdale, Berkshire, Eng., Nov. 24, 1940; born on May 15, 1871. A member of Parliament from Brighton since 1910, he was Postmaster General of England from 1935 until April, 1940.

**Tsai Yuan-pai.** Chinese educator; died in Hongkong, Mar. 5, 1940; born in 1867. A member of Sun Yat-sen's revolutionary party from 1905, he was minister of education in the first republican government in 1912 and again in General Chiang Kai-shek's first nationalist government in 1926. During 1917-23 he was chancellor of Peking National University and after 1928 was president of Academia Sinica.

**Turpin, Ben.** American motion picture actor; died in Hollywood, Calif., July 1, 1940, born in New Orleans, La., in 1869. He was one of the first slapstick comedians in motion pictures and built his comedy act around his crossed eyes. He was one of the mainstays of the Mack Sennett comedies but had not appeared in recent years except in "bit" parts.

**Tweed, Thomas F.** British politician; died in London, Apr. 30, 1940; born in Liverpool in 1890. A Liberal in politics, he served as secretary of the Manchester Liberal Federation (1918-26), was chief organizer of the Liberal Party (1927-31), and secretary of the Liberal Organisation Committee (1930-31). He was a political advisor to Lloyd George after 1926. He wrote *Gabriel Over the White House*, published anonymously in 1933.

**Tweedie, Mrs. Alec.** British author; died in London,

Apr. 15, 1940. Active on philanthropic and charitable committees, she wrote many books, including *Porfirio Dias* (1906), *America as I saw it* (1913), *Tight Corners of My Adventurous Life* (1933), etc. Several exhibitions of her water colors have been held.

**Tweedsmuir, 1st Baron, of Ellsfield, Sir John Buchan.** British writer and politician, died in Montreal, Feb. 11, 1940; born in Perth, Scotland, Aug. 26, 1875. Educated at Oxford where he won many honors, he was called to the bar in 1901 and then became secretary to the High Commissioner for South Africa (1901-03). Upon his return he became a partner in the publishing firm of Thomas Nelson & Sons, and upon the outbreak of the World War in 1914 he went to France as a correspondent for the *London Times* and subsequently became attached to the headquarters staff of the British Army in France. In 1917 he was recalled to act as Director of Information. Elected to Parliament as a Conservative from the Scottish Universities in 1927, he held this post until 1935 when he was appointed Governor General of Canada and was raised to the peerage. During 1933-34 he was Lord High Commissioner to the Church of Scotland, and in 1937 he was named Chancellor of Edinburgh University. A noted man of letters, Lord Tweedsmuir was the author of many popular novels, a biographer, and a historian. Chief among his works, which number over fifty and were begun in 1896 are: *A History of Brasenose College* (1898), *The Thirty-Nine Steps* (1915), *Greenmantle* (1916), *Mr. Standfast* (1919), *A History of the Great War* (1921-22), *Sir Walter Scott* (1932), *Gordon at Khartoum* (1934), *Oliver Cromwell* (1934), *The King's Grace* (1935), *Augustus* (1937), *Pilgrim's Way*, an autobiography (1940), and *Mountain Meadow* (published, 1941).

**Ulmans, Karl.** Latvian statesman; died of injuries inflicted by political enemies on July 22, 1940; born on Sept. 4, 1877. He came to the United States in 1907, studied agriculture at the University of Nebraska, and was afterward an instructor there; returned to Latvia (then a part of Russia) at the outbreak of the World War; was one of the authors of the Latvian Declaration of Independence in 1918 and first Prime Minister of the new republic. He was Prime Minister again from March, 1931, to December, 1932. In 1934 he dissolved Parliament and founded a totalitarian regime with himself as President and Prime Minister, positions he held until July 20, 1940, when he was ejected from office as a prelude to Soviet Russia's absorption of the country.

**Untermeyer, Samuel.** American lawyer; died in Palm Springs, Calif., Mar. 16, 1940; born in Lynchburg, Va., June 6, 1858. Admitted to the bar in 1879, he went into partnership with his half-brother in the firm of Guggenheimer & Untermeyer, which in 1895 became known as Guggenheimer, Untermeyer & Marshall. During his long career he became known as the "money trust" inquisitor, the counsel for the Lockwood legislative investigating committee, the critic of Wall Street, the defender of the rights of minority stockholders, the transit investigator, and the supporter of the five-cent fare. One of the most sought after lawyers in the country, he devoted a good deal of his time to non-profitable civic service and was counsel for the Committee on Banking and Currency of the House of Representatives in the "Pujo Money Trust Investigation" (1912); counsel for the Joint Legislative (N.Y.) Committee on Housing, the "Lockwood Committee," in its investigation of the building trades and also as special attorney general in the prosecution disclosed by the Committee (1919-20); and from 1927 to 1931 he was special counsel for the New York Transit Commission in formulating unification plans for the rapid transit lines and as counsel for the Commission and the City in suits by and against the Interborough Rapid Transit Co. for the maintenance of the five-cent fare. Subsequently (1935-38), he was counsel for the Interborough and Manhattan Railroads in the negotiations and proceedings for the unification of the New York City subway lines. A Democrat, he took an active part in politics and was a delegate to the national conventions of 1904, 1908, 1916, 1932, and 1936, and was a delegate-at-large to the New York State Constitutional Convention in 1938. After 1933 he was actively interested in anti-Nazi organizations and was president of the Non-Sectarian Anti-Nazi Council, the World Jewish Economic Federation, and the International Non-Sectarian Anti-Nazi League for Human Rights. Deeply interested in horticulture, the gardens at his estate "Greystone," Yonkers, N.Y., were famous.

**Unwin, Sir Raymond.** British architect; died in Lyme, Conn., June 28, 1940; born in Rotherham, Yorks., Nov. 2, 1863. Known as a town planner and housing expert, he laid out the First Garden City, Letchworth and the Hampstead Garden Suburb, and from 1915 to 1929 was the chief technical officer for Building and Town Planning in the Ministry of Health. He served as chief adviser to the Greater London Regional Town Planning Committee (1929-33) and after 1936 was visiting professor at the Columbia University School of Architecture. He was president of the Royal Institute of British Architects (1931-33), the recipient of the gold medal of the

Royal Society (1937), and author of *Town Planning in Practice* (1932). In March, 1940, he was appointed a member of a committee of the Twentieth Century Fund to conduct a survey of housing needs in the United States.

**Upson, Morton L.** American oil financier; died in Buffalo, N.Y., on Dec. 29, 1940; born in Greenwich, O., in 1847. He formerly headed the Commercial Oil Co. and the Upson Oil and Soap Co. of Parkersburg, W.Va., and the Pease Oil Co. of Buffalo, N.Y. His son, Henry, succeeded him as president of the Pease Oil Co. in 1903. In the 1870's the elder Upson refused an offer of the late John D. Rockefeller to merge their oil companies.

**Vance, William Reynolds.** American insurance law authority; died in New Haven, Conn., Oct. 23, 1940; born in Middletown, Ky., May 9, 1870. He was graduated from Washington and Lee University (1892), receiving his law degree in 1897 and serving as professor of law there until 1903. He was thereafter professor of law at George Washington University (1903-10) and dean of the law school (1905-10); dean of the law school of the University of Minnesota (1910-20); and Sterling, Foster, and Garver professor of law at Yale University from 1920 until he retired as emeritus in 1938. He was the author of *Slavery in Kentucky* (1895), *Vance on Insurance* (1904), *Early History of Insurance Law* (1909), and *Cases on Insurance* (1914), a widely used college textbook.

**Vanderbilt, Anne Harriman (Mrs. William K., Sr.).** American social leader; died in New York, Apr. 20, 1940. She was married to Mr. Vanderbilt in 1903, and was known for her work in the Protestant Big Sisters, the American Red Cross, the American Woman's Association, and other charitable organizations. During the World War she was a founder of the American Ambulance at Neuilly, France, which subsequently became Military Hospital No. 1.

**Vann, Robert L.** American Negro editor and publisher; died in Pittsburgh, Pa., Oct. 24, 1940; born near Ahsokie, N.C., Aug. 23, 1879. A graduate of the University of Pittsburgh (1906), he practiced law since 1910, founded the *Pittsburgh Courier*, a weekly newspaper devoted to the interests of the Negro race, and was editor from 1912 until his death. He was Special Assistant Attorney General of the United States during 1933-36 and was Republican national director of Negro publicity in the campaigns of Warren G. Harding, Calvin Coolidge, and the first campaign of Herbert Hoover, thereafter throwing his support to Franklin D. Roosevelt and latterly to Wendell Willkie.

**Vauclain, Samuel Matthews.** American industrialist; died in Rosemont, Pa., Feb. 4, 1940; born in Philadelphia, May 18, 1856. With the Baldwin Locomotive Works from 1883, he was elected its president in 1919 and chairman of the board of directors in 1929. In 1889 he designed the first compound locomotive for the Baltimore & Ohio R.R. During the World War his organization manufactured ordnance and munitions to the amount of \$250,000,000 and he served as a member of the Council of National Defense and of the War Industries Board. He received honors from Italy, Poland, France, and the United States and was awarded the John Scott Medal in 1891 and in 1931.

**Valado, Calixto.** See SPANISH-AMERICAN LITERATURES under *Puerto Rico*.

**Verdier, Jean, Cardinal.** French Roman Catholic prelate; died in Paris, Apr. 9, 1940; born in 1864. Ordained in 1887, in 1929 he was named superior general of the Saint-Sulpice Congregation and Archbishop of Paris. Shortly after he was made a Cardinal. He was a foe of dictatorships and a champion of the oppressed.

**Vernon, Frank.** British actor and producer; died somewhere in France, Mar. 18, 1940; born in Bombay, Mar. 6, 1875. He made his first appearance as an actor in 1894 and was seen in *Trelawney of the Wells* (1898); *Romeo and Juliet* (1904); *The Pigeon* (1912). His first productions were *The Winter's Tale* (1905), *Cymbeline* (1908), and *King Lear* (1909). After the World War he continued producing plays, one of the latest being *Red Rust* (1929). During the World War, he saw service in the Army Ordnance Department being promoted to major. With the outbreak of the European War in September, 1939, he rejoined the Army and at his death was serving with the British Expeditionary Forces in France.

**Vestey, of Kingswood, 1st Baron, William Vestey.** British meat company executive and shipowner; died at Gerrard's Cross, Buckinghamshire, Eng., Dec. 11, 1940; born in Liverpool, Jan. 21, 1859. With his brother Sir Edmund Vestey, he founded and headed the Union Cold Storage Co. and operated the Blue Star steamship line. He was created a baronet in 1913 with a coat of arms that included an iceberg, a bull, a sheep, and a row of three eggs to represent his interests in cold storage, shipping, and meat packing.

**Voss, Josef.** Hungarian journalist, editor-in-chief of *Pester Lloyd* (1913-37); died in Budapest, Jan. 29, 1940; born in Arad, 1858.

**Volkman, Helmuth.** German general, head of the German Air Academy and commander of the Condor Legion, the German expeditionary force which fought with Gen-

**crasissimo Francisco Franco** in the Spanish Civil War; died in August, 1940, of injuries received in an automobile accident, according to a German radio broadcast heard in New York City in August, 1940.

**Volpe, Arnold.** American orchestral conductor; died in Miami, Fla., Feb. 2, 1940; born in Kovno, Russia, July 9, 1869. In 1918 he originated the New York Stadium Concerts which he conducted for the first two years and of which he was guest conductor in 1924, 1927, and 1936. In 1926 he became conductor of the Miami Symphony Orchestra, in 1931 he organized an orchestra in Kansas City, and in 1934 he founded the University of Miami Symphony Orchestra.

**Volterra, Vito.** Italian senator, mathematician, and biologist; died on Oct. 11, 1940; born in Ancona, Italy, 1860. Professor of mathematics at the University of Rome since 1900, he was dismissed in 1931 because he refused to take the oath of allegiance to Fascism. Since then he was invited by Pope Pius XI to join the Papal Academy and was one of the few Jews to be thus honored.

**Vuillard, Edouard.** French painter; died in La Baule, France, June 21, 1940; born in Cousseaux, 1868. Although best known for his still life and interiors, he did recent portraits of Camille Chautemps and Yvon Delbos and was regarded as a link between the impressionist and post-impressionist schools. Some of his paintings hang in the Metropolitan Museum of Art, the Cleveland Museum, the Buffalo Museum, and in noted private collections.

**Wagner-Jauregg, Julius.** Austrian pathologist; died in Vienna, Oct. 1, 1940; born in Wels, Upper Austria, Mar. 7, 1857. He was a member of the faculty of the University of Vienna, his alma mater, from 1881 to 1928, except for a brief interlude as professor of psychiatry and neurology at the Graz University (1883-89). In 1887 he discovered, purely by accident, that a victim of paresis showed a marked mental improvement following an attack of fever. He experimented for many years and announced in 1917 that he had found a safe arresting agent for syphilitic paralysis, namely the fever induced by tertiana malaria. He received the Nobel Prize in Medicine in 1927.

**Wald, Lillian D.** American social worker and publicist; died in Westport, Conn., Sept. 1, 1940; born in Cincinnati, O., Mar. 10, 1867. The daughter of a well-to-do optician, she was educated at private schools; was graduated from the New York Hospital Training School for Nurses and, with Miss Mary Brewster, founded a visiting nurse association with headquarters in a tenement on Jefferson Street, New York City (1893). With money donated by Jacob Schiff she purchased in 1895 a building at 265 Henry Street which became known as the Henry Street Settlement, a free nursing association which tends to an average of 100,000 persons in New York City annually. Miss Wald retired from active direction in 1933 and resigned as president in 1937.

**Walsh, Mainwaring R.** British brigadier; killed in action in France, May, 1940; born in 1876. In the army from 1899, he saw service in the South African War (1899-1902), the European War (1914-19), in India (1924-27), with the Territorial Army (1928-30), and with the Scottish Command (1930-33) when he retired.

**Wambaugh, Eugene.** American lawyer and educator; died in Dublin, N.H., Aug. 6, 1940, born near Brookville, O., Feb. 29, 1856. He was professor at the Harvard Law School, his alma mater, from 1892 to 1925, when he retired with the title emeritus. He wrote many articles and books on legal matters.

**Ward, George S.** American bakery executive; died in Havana, Cuba, Sept. 3, 1940; born in Pittsburgh, Pa., 1867. One of the founders of the Ward Baking Co. in 1911, he was its president from 1915 to 1926.

**Waring, 1st Baron, Samuel James Waring.** British decorative authority; died in London, Jan. 9, 1940; born in Liverpool, Apr. 19, 1860. In 1893 he founded Waring & Sons and subsequently was chairman of Waring-Gillow, Ltd., specialists in furnishing luxury liners, hotels, etc. He retired in 1930.

**Warren, Harry M.** American Baptist clergyman and crusader; died in Chappaqua, N.Y., on Dec. 21, 1940; born in Hudson, N.Y., Apr. 19, 1867. After attending Colgate University and Union Theological Seminary, he was ordained in 1891; held several pastorates; and was the founder in 1906, and president thereafter, of the National Save-a-Life League, an organization devoted to the rescue of persons contemplating suicide.

**Waste, William H.** American jurist; died in Berkeley, Calif., June 6, 1940; born in Chico, Calif., Oct. 31, 1868. A member of the bar from 1894, he was associate justice of the Supreme Court of California during 1921-26, and chief justice thereafter.

**Watrous, Henry Willson.** American artist; died in New York, May 9, 1940; born in San Francisco, Sept. 17, 1857. Well known as a genre painter, his works received the Clark prize (1894), the Altman \$1000 prize (1929), the Carnegie prize (1931), and the Saltus medal (1934), of the National Academy of Design; and the Lippincott prize of the Pennsylvania Academy (1935).

He was secretary of the National Academy of Design during 1898 to 1920, and its president in 1933. He held his first one-man showing in 1937.

**Watson, Clarence W.** American industrialist and politician; died in Cincinnati, May 24, 1940; born in Fairmont, W.Va., May 8, 1864. A former coal miner, he was president of the Consolidation Coal Co., until 1911 and again during 1919-28, and was chairman of the board during 1911-18. He served in the U.S. Senate as Democratic Senator from West Virginia from 1911 to 1913 to fill an unexpired term.

**Waugh, Frederick Judd.** American artist; died in Provincetown, Mass., Sept. 10, 1940; born in Bordentown, N.J., Sept. 13, 1861. He studied at the Pennsylvania Academy of Fine Arts and the Julian Academy, Paris; lived abroad from 1892 to 1907, exhibiting his work at the Salon, Paris, and the Royal Academy in London. He returned to this country in 1908 to become one of the most successful marine painters of his generation. He produced an average of 50 seascapes a year for an annual income of approximately \$30,000. Some of his works hang in the Metropolitan Museum of Art, the Art Institute of Chicago, the National Gallery in Washington, and the Brooklyn Institute of Arts and Sciences.

**Webb, Robert Thomas.** American clergyman; died in Petersburg, Va., Mar. 19, 1940; born near Louisburg, N.C., Aug. 30, 1866. Ordained a Methodist Episcopal minister in 1895, he served in various pastorates, his last one being at Pikeville, Ky. (1931-37). Associated with Morris Harvey College from 1912, he served as its president and secretary of education (1920-22), as professor of theology (1923) and as financial secretary (1929-31).

**Weicker, Theodore.** American manufacturer; died in Greenwich, Conn., Aug. 7, 1940; born in Darmstadt, Germany, June 6, 1861. He came to New York in 1885 to become a partner in the American branch of the German firm of Merck and Co. In 1905, with Lowell M. Palmer, he purchased the pharmaceutical business of E. R. Squibb and Sons, of which he was a director for many years before becoming chairman of the board in 1936.

**Weil, Arthur W.** American lawyer, an authority on copyright law and author of *Weil on Copyright*, a standard work, died in New York, Apr. 29, 1940, born in St. Louis, Mo., in 1881.

**Wenckebach, Karel Frederik.** Austrian physician and noted heart specialist; died in Vienna, Austria, Nov. 11, 1940; born in the Netherlands, 1864.

**Wheeler, Alvin S.** American chemist, Kenan professor of organic chemistry at the University of North Carolina from 1912 until 1936, when he was retired as emeritus; died in Chapel Hill, N.C., May 12, 1940; born in Holyoke, Mass., Nov. 2, 1866. He was an international authority on dyes.

**White, Sir (Orrill) Brudenell (Bingham).** Australian general; died in an airplane accident 8 miles from Canberra, Australia, Aug. 13, 1940; born in St. Arnaud, Victoria, Sept. 23, 1876. He served with distinction in the Boer and World Wars; was chief of the General Staff of the Australian military forces from 1920 to 1923 when he retired to enter private business, and was recalled as chief of staff following the death of Lieut. Gen. E. K. Squires in March, 1940.

**White, Frank.** American politician; died in Washington, Mar. 23, 1940; born in Stillman Valley, Ill., Dec. 12, 1856. He was Republican governor of North Dakota (1901-05) and Treasurer of the United States (1921-28). Thereafter he was in the banking business.

**Wild, Horace B.** American pioneer aeronaut; died in New York City, N.Y., July 23, 1940; born in Chicago, Ill., 1879. He made his first aerial trip on July 4, 1892, clinging to a man-carrying kite that pulled him 150 ft. into the air and dumped him into a tree top; as a professional balloonist and parachute plunger in the 1890's he earned \$50,000 annually; he ascended 4000 ft. in an airship of his own making on Dec. 28, 1905; set a world's record in 1906 by staying aloft in his dirigible for six hours; became an airplane pilot in 1910, and sometime afterward founded a flying school at Lincoln, Neb. where a lad by the name of Lindbergh learned to fly in 1922.

**Wilgus, Sidney D.** American psychiatrist; died in Rockford, Ill., Feb. 22, 1940, born in Buffalo, N.Y., Feb. 16, 1872. Psychiatrist with New York and Illinois Hospitals until 1913 when he founded the Wilgus Sanitarium, he was also an alienist for the Illinois State Board of Public Welfare (1929-33) and head of the Department of Psychiatry at the University of Chicago Medical School from 1936.

**Wilhelm, Prince of Prussia;** died from wounds in Flanders, May 26, 1940, born in Marmor-palace, Germany, July 4, 1906. The eldest son of the former Crown Prince of Germany, he served with the German Army in the Polish Campaign (1939) and was a first lieutenant and a commander of an infantry company in the German Army.

**Wilkins, Thomas Russell.** American physicist; died in Rochester, N.Y., on Dec. 10, 1940; born in Toronto, Ont., June 6, 1891. A graduate of McMaster University, Hamil-

ton, Ont. (1912), he was professor of physics at Brandon College, Canada (1918-25) and at the University of Rochester since that time. Dr. Wilkins was the originator of a highly-successful process for photographing the changes resulting from the smashing of the atom; and in October, 1940, he announced the development of a camera that made possible the determination of energy levels inside the nuclei of stable chemical elements. In penetrating the mysteries of the cosmic rays, he sent balloons into the stratosphere with photographic plates arranged to capture pictures of the paths of 100,000-volt alpha particles. He was the recipient of numerous awards and commendations for his contributions to the science of physics.

**Wilkinson, Sir Neville Rodwell.** British soldier and architect; died in Dublin, Ireland, on Dec. 22, 1940; born Oct. 26, 1869. He was designer and builder of Titania's Palace, a miniature which was exhibited all over the world in the interest of charity, and featured at the New York World's Fair in the Children's World. A master of what he called "tinycraft," Sir Neville took 16 years in building the miniature palace, which stood 7 inches high, 9 ft. long, and 7 ft. wide and was so faithful to detail that its infinitesimal piano could be played with the average new toothpick. He put 4000 pieces of furniture and decorative objects into the palace, none more than 4 inches high, including a copy of Murillo's masterpiece, *The Assumption*.

**Willcox, William E.** American lawyer; died in Bay Shore, L.I., N.Y., Apr. 9, 1940; born in Smyrna, N.Y., Apr. 11, 1863. Active in Republican politics, he served as postmaster of New York City (1905-07), as chairman of the Public Service Commission of New York City (1907-13), and as Chairman of the Republican National Committee (1916-18) and as such managed the presidential campaign of Charles Evans Hughes.

**Williams, Thomas S.** American jurist; died in Washington, Apr. 5, 1940; born in Louisville, Ill., Feb. 14, 1872. Republican member from Illinois of the 64th to 71st Congresses (1915-31), he was appointed judge of the U.S. Court of Claims in October, 1929.

**Wills, O. Harold.** American automobile manufacturer; died in Detroit, Mich., on Dec. 30, 1940; born in Fort Wayne, Ind., 1878. He was chief engineer and manufacturing manager of the Ford Motor Co. from 1903 to 1919; and founder and head of the Wills-St. Clair Co. from 1920 to 1926. Since 1933 he was consulting metallurgist for the Chrysler Corp.

**Wilson, Albert F.** American editor; died at Lake George, N.Y., June 25, 1940; born in Greenfield Hill, Conn., Aug. 28, 1883. He was on the editorial staff of *The Literary Digest* (1908-11), *Leshie's Weekly* (1912-14), and numerous publishing firms and was professor of journalism at New York University from 1914 to 1926.

**Wilson, J. (James) Edgar.** American clergyman; died in Lakeland, Fla., Jan. 29, 1940; born near Martinsburg, W.Va., Oct. 19, 1860. Ordained in the Methodist Episcopal Church in 1881, he served in various pastorates until 1913 when he became editor of the *Florida Christian Advocate*. Thereafter he was editor of *The Florida Watchman* (1926-32), publicity agent, new *Florida Christian Advocate* (1929-34), and after 1938, president emeritus of the Florida Methodist Publishing Co., Inc.

**Winter, George B.** American dentist, developer of a new technique for extraction of impacted third molars in 1918 and president of the American Dental Association in 1934; died in St. Louis, Mo., Mar. 28, 1940; born in Brooklyn, N.Y., Apr. 19, 1878.

**Winterfeld, Hans K. A. von.** German general; died in Berlin, July 3, 1940. In the Army from 1884 to 1919, he was a military representative of the German government at the first Compiegne Forest armistice conference in 1918.

**Winthrop, Beekman.** American banker and public official; died in New York City, N.Y., Nov. 10, 1940; born in Orange, N.J., Sept. 18, 1874. He was graduated from Harvard University in 1897 and became private secretary to William Howard Taft at that time governor of the Philippines; was governor of Puerto Rico (1904-07); assistant secretary of the U.S. Treasury (1907-09); assistant secretary of the Navy (1909-13), and since 1914 senior partner of the banking firm of Winthrop and Co., New York. He was a direct descendant of John Winthrop, first governor of the Massachusetts Bay Colony.

**Wise, Frederic May.** American general; died in Washington, D.C., July 24, 1940; born in New York, Oct. 6, 1877. He was commissioned a lieutenant in the Marine Corps in 1899, saw action in the Philippines, China, Mexico, and the World War during 27 crowded years and published an account of his adventures under the title *A Marine Tells It to You*.

**Wolfe, Humbert.** British poet; died in London, Jan. 5, 1940; born in Italy, Jan. 5, 1886. He served in the British Ministry of Labor; his published works included *Stings and Wings*, *The Fourth of August*, *The Silent Knights*, and *Out of Great Tribulation*.

**Wood, Edwin E.** American educator, president of Williamsburg Institute (Cumberland College after 1914) from 1898 to 1922 when he was retired as emeritus; died in

Williamsburg, Ky., Jan. 23, 1940; born in Adams Co., Ind., Sept. 8, 1863.

**Woodbridge, Frederick J. B.** American educator; died in New York, June 1, 1940; born in Windsor, Ont., Canada, Mar. 26, 1867. After teaching at the University of Minnesota during 1894-1902, he joined the faculty of Columbia University as professor of philosophy. Thereafter he was Johnsonian professor (1904-39), when he was retired as professor emeritus in residence. During 1912-29 he was dean of the faculties of political science, philosophy, and pure science and during 1931-32 was Roosevelt professor in Berlin. A co-founder and the editor of *The Journal of Philosophy* (from 1923), he wrote *Contrasts in Education* (1929); *Hobbes Selections* (1930), and *Nature and Mind* (1937). He was one of the leaders in the neorealistic movement in philosophy.

**Woodbury, Charles H.** American marine painter and etcher; died in Boston, Jan. 21, 1940; born in Lynn, Mass., July 14, 1864. Known for his vivid representations of the Atlantic seaboard, his later work received the Palmer prize of the National Academy of Design (1932) and the Noyes prize of the Society of American Etchers (1933).

**Worcester, Elwood.** American Episcopal clergyman, author, and philosopher; died on July 19, 1940; born in Massillon, O., 1862. A graduate of Columbia University, Union Theological Seminary, and the University of Leipzig, he was professor of psychology and philosophy at Lehigh University (1890-96); and pastor of Emmanuel Church, Boston from 1904 to 1929, where he founded the "Emmanuel movement" of religious psycho-therapy, which he carried on with the co-operation of eminent physicians. He believed that religion and medicine together could cure physical ailments that neither could conquer alone; and his clinic in Emmanuel Church was crowded with persons seeking relief from real or imaginary illnesses. He wrote many books including *Life's Adventure*, an autobiography published in 1932.

**Worden, Edward Chauncey, I.** American chemist, died in Millburn, N.J., Sept. 22, 1940, born in Ypsilanti, Mich., Apr. 17, 1875. A graduate of the Ann Arbor School of Pharmacy and New York University he established in 1914 the Worden Laboratory and Library, Millburn, N.J., which was consulted by private industries, governmental agencies, and chemists the world over on matters pertaining to cellulose. As an expert on airplane wing-coating, he made 14 trips to Europe for the United States in the World War.

**Wright, Sir Charles Theodore Hagberg.** British librarian; secretary and librarian of the London Library from 1893; died in London, Mar. 7, 1940; born in Yorkshire, Nov. 17, 1862.

**Wright, James Franklin.** American humanitarian; died in Detroit, Mich., Sept. 8, 1940; born in Muscatine, Ia., 1862. A former railroad worker and life insurance salesman, he founded in 1914 the Pathfinders of America, Inc., a social service organization devoted to the reformation of criminals and the protection of children from criminal environment. In 1927 the prisoners in the penitentiary at Walla Walla, Wash., bestowed on their benefactor the degree of Doctor of Common Sense, which explains the letters D.S.C. after his name in many publications, including the *Who's Who in America*.

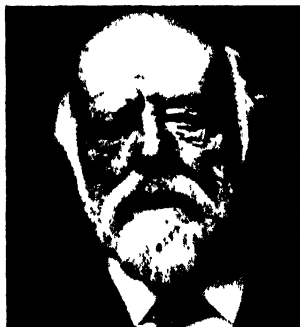
**Wylie, Dwight Witherpoon.** American clergyman, pastor of the Central Presbyterian Church, New York City, from 1920 to 1935; died in New York on Dec. 30, 1940; born in Condit, O., July 16, 1876, and ordained in 1899.

**Yamanuro, Gunpei.** Japanese Salvation Army leader; died in Tokio, Mar. 13, 1940; born in 1872. He joined the Salvation Army in 1895 and after holding various posts was appointed Territorial Commander of the Army in Japan in 1926. He retired in 1938.

**Yamaya, Tanin.** Japanese admiral; died on Sept. 10, 1940; born in 1866. He was commander of the Japanese fleet that seized Germany's possessions in the Equatorial Pacific during the World War.

**Yancey, Lewis Alonso.** American aviator; died in Yonkers, N.Y., Mar. 2, 1940; born in Chicago, Sept. 16, 1895. After serving in the U.S. Navy (1911-21) and in the Coast Guard (1925-26), he became interested in aviation, becoming a noted navigator. In 1929, with Roger O. Williams, in the *Pathfinder*, he made a transatlantic flight to Rome. He was navigator for the American Museum of Natural History's air expedition to New Guinea in 1938.

**Yellin, Samuel.** American metal artist; died in New York City, N.Y., Oct. 3, 1940; born in Poland, Mar. 2, 1885. He began studying art when he was 11 years old, came to the United States in 1906, was instructor in metal art work at the Pennsylvania School of Industrial Art, and then went into business as one of the leading designers and executors of decorative metal work in the world. He won the \$10,000 Bok Civic Award as "outstanding citizen" of Philadelphia in 1925 and was the recipient of numerous medals and other decorations. He did the hand-wrought grilles and other decorative ironwork of the Federal Reserve Bank, New York, and examples of his work adorn the Cathedral of St. John the Divine, the Cloisters



*International*

SIR OLIVER LODGE  
British Scientist, 1851-1940



*International*

LEONOR FRESNEL LOREE  
American Railway Executive, 1858-1940



*International*

LORD LOTHIAN  
British Statesman, 1882-1940



*International*

EDWIN MARKHAM  
American Poet, 1852-1940



*Wide World*

RALPH MODJESKI  
American Engineer, 1861-1940



*Acme*

HUGH RODMAN  
American Admiral, 1859-1940



*Wide World*

LORD ROTHERMERE  
British Publicist, 1868-1940



*International*

PRINCE KIMMOCHI SAIONJI  
Japanese Statesman, 1849-1940



*Wide World*

LUINA TETRAZZINI  
Italian Singer, 1871-1940



*Acme*

SIR JOSEPH THOMSON



*International*

LEON TROTSKY



*International*

LILLIAN D. WAITE



*International*

GERMAN TROOPS AND GUNS CROSSING THE MAAS RIVER, HOLLAND



*International*

THE GERMAN ARMY TAKES OVER THE NETHERLANDS

A German officer, assisted by a Dutch policeman, hands out instructions to the civilian population

branch of the Metropolitan Museum of Art, the New York University Hall of Fame, Columbia University, and the J. P. Morgan Library. The volume of his work required 45 forges and an average of 200 employees.

**Younes Pasha, Saleh.** Egyptian statesman, minister of war in the cabinet of Premier Hassan Sabry Pasha; died in a train in Cairo, Egypt, Nov. 27, 1940, as he was about to embark on an official tour with King Farouk.

**Young, O(charles) Jac.** American etcher; died in Weehawken, N.J., Mar. 4, 1940; born in Bavaria, Dec. 21, 1880. Known for his etchings of snow scenes, his work is in many museums and was awarded the Kate W. Arms prize of the Brooklyn Society of Etchers in 1928 and the Shaw prize of the Salmagundi Club in 1929.

**Zimmerman, Alfred.** German politician; died in Berlin, June 6, 1940; born in Frankenstein, May 8, 1859. A member of the Foreign Office from 1902, he became Foreign Secretary in 1916, and as such attempted to incite Mexico to an attack on the United States and suggested that Mexico should be rewarded by the gift of New Mexico, Texas, and Arizona. Disclosures concerning his activities through the "Zimmerman note" caused his downfall and he was forced to retire on Aug. 5, 1917. It was erroneously reported that he had died in 1925.

**Zinsser, Hans.** American bacteriologist and author; died in New York City, Sept. 4, 1940; born in New York City, November, 1878. He was graduated from Columbia University medical school in 1903 and was professor of bacteriology there from 1913 to 1923, was sanitary commissioner for the League of Nations in Russia (1923), exchange professor in Paris (1935), and on the faculty of the Peiping Union Medical College (1938). Considered by many to be the world's leading authority on typhus, his greatest scientific achievement was the preparation of a vaccine and a serum to combat the organisms that cause the disease and the development of a method that made possible mass production of a vaccine against the European type of typhus. In recent years he was the author of two best-selling books, *Rats, Lice and History* (1935) and *As I Remember Him* (1940), the latter a unique autobiography in which the author's impending death from leukemia was described in the past tense.

**NEGRI SEMBILAN.** See **BRITISH MALAYA.**

**NEGROES.** The chief issue facing twelve million American Negroes during 1940 was that of participation in the enormous national defense program which the United States undertook to ward off attack from the warring nations of Europe. Negroes were not permitted to enlist in the Army. Extensive efforts by Negro organizations and some white ones resulted in the inclusion of an amendment to the Burke-Wadsworth conscription bill which forbade discrimination on account of race, creed, or color. But another provision of the Act, which said that no person should be admitted into the Army or Navy unless he were acceptable to the Army and Navy heads, negated the non-discrimination clause. Yancey Williams, a young Negro college student, brought suit against the War Department when he was denied the right to enlist in the Air Corps. Another Negro, Walter L. Robinson, who finished thirteenth in a class of 50 in a CAA course at the University of Minnesota, enlisted in the Royal Canadian Air Force when the color of his skin barred him from enlisting in the U.S. Air Corps. In the U.S. Navy Negroes could enlist or serve only as members of the Messman or servant division.

Affecting even more Negroes was the widespread discrimination by employers and by some of the A.F.L. unions against Negroes in industrial plants, Navy yards, and Army arsenals filling the contracts for the seventeen-billion-dollar national defense program voted by Congress.

A storm of protests, in which many white Americans joined, mounted as the facts became known. Magazines with large circulations, like the *Saturday Evening Post*, opened their columns to the presentation of the facts. The protests, coinciding with a growing concern for the preservation of democracy and with a presidential election in which the Negro holding the potential balance of power in seventeen pivotal States was a considerable fac-

tor, led to a conference at the White House late in September to discuss the issue of Negro participation in national defense. Shortly afterwards, William H. Hastie, Dean of the Howard University Law School, was appointed Civilian Aide to the Secretary of War; Col. Benjamin O. Davis was promoted to Brigadier General, the first time in the history of the United States that a Negro has attained that high rank in the Army; and other appointments were made to assist in the integration of the Negro in the national defense program. The end of 1940 left much to be done towards the attainment of actual democracy in the national defense program.

Similar difficulties were encountered by Negroes in private industry but persistent effort caused some lessening of the discrimination in a few isolated places. But these instances were not significant enough and a Senate investigation of the national defense aspects of service by Negroes both in the armed forces and in the industrial phases of the defense program was sought.

The House of Representatives passed by a vote of 252-131 the Gavagan-Fish anti-lynching bill on Jan. 10, 1940, but the U.S. Senate failed to act on the measure. See **LYNCHING.**

In the field of the arts, Marian Anderson, Dorothy Maynor, Paul Robeson, and other Negro singers continued their brilliant careers before large and appreciative audiences. One of the outstanding books of the year was Richard Wright's grim and provocative story of the effect of injustice and segregation on the Negro. His *Native Son* was a best-seller and evoked vigorous controversy. The distinguished Negro scholar, Dr. W. E. B. Du Bois, published his interesting biography, *Dusk of Dawn*; while a younger talented Negro, Langston Hughes, published also a fascinating story of his life, *The Big Sea*. Other contributions in book form were made by numerous writers, including Dr. Charles Wesley (*The Negro in the Americas*); Prof. Ira DeA. Reid of Atlanta University (*In a Minor Key*, a study for the American Youth Commission); Claude McKay (*Harlem: Negro Metropolis*); and others, such as *The Negro in Virginia*, written by Negro writers on the Virginia WPA Writers' Project.

In the field of sports Joe Louis continued to meet all comers and remained undefeated as heavyweight champion. Henry Armstrong, whirling dervish of the prize ring and former holder of three championships, neared the end of his pugilistic career. Kenney Washington, the U.C.L.A. football star, and other Negro football players gained nation-wide publicity although the number of outstanding Negro stars in both football and track declined in number somewhat during 1940.

See **BENEFACTIONS** under *Rosenwald Fund*; **BRITISH WEST INDIES** under *History*; **COMMUNISM**; **FAIRS, EXPOSITIONS, AND CELEBRATIONS**; **LYNCHING**; **MARYLAND**; **SUPREME COURT**; **TEXAS**.  
WALTER WHITE.

**NEJD.** See **ARABIA** under *Saudi Arabia*.

**NEPAL.** An independent kingdom in the Himalayas, between Tibet and India. Area, 54,000 square miles; population, 5,600,000. Capital, Katmandu, 80,000 inhabitants. Chief exports: jute, rice, hides, oilseeds, ghee, cattle, and lumber. Chief imports: cotton goods, yarn, sugar, salt, spices, and metals. Revenue (1940): estimated to total 12,500,000 rupees (British Indian rupee = 1.24 Nepalese rupees). Nepal's government is a military aris-



ocracy based on birth. The prime minister, a member of the ruling family, is the de facto ruler of the State. Ruler, King Tribhubana Bir Bikram (accessed Dec. 11, 1911); Prime Minister, Gen. Joodha Shum Shere Jung Bahadur Rana (installed Sept. 1, 1932).

**NETHERLANDS, THE.** A constitutional monarchy of northwestern Europe. Capital, Amsterdam. Seat of the government, The Hague ('s Gravenhage). Sovereign in 1940, Queen Wilhelmina, who succeeded to the throne on Nov. 23, 1890.

**Area and Population.** The area, including water belonging to municipal territories, is 13,515 square miles. The population on Feb. 28, 1940, was estimated at 8,833,000 (7,935,565 at the 1930 census). About 94 per cent of the people dwell in communities of 2000 or more. Living births in 1939 numbered 180,913 (20.7 per 1000); deaths, 75,863 (8.7 per 1000); marriages (1938), 67,040. Estimated populations of the chief cities on Jan. 1, 1939, were: Amsterdam, 793,222; Rotterdam, 612,375; The Hague ('s Gravenhage), 494,773; Utrecht, 163,589; Haarlem, 137,507; Groningen, 120,010; Eindhoven, 111,188; Tilburg, 95,142; Nijmegen, 94,102; Enschede, 90,291; Arnhem, 88,996; Leiden, 77,009.

**Colonial Empire.** The colonial possessions of the Netherlands are situated in Asia, South America, and the Caribbean Sea; and are treated elsewhere in the YEAR BOOK under the headings of NETHERLANDS INDIES, CURAÇAO, and SURINAM. The total area is 793,354 square miles; total population was estimated at 70,000,000 in 1939.

**Education and Religion.** There is practically no illiteracy. The school enrollment in 1938-39 was: Infant schools, 213,338; elementary, 1,242,778; secondary, technical, and vocational, 271,298; high schools, 3199; universities, 9395. According to the 1930 census, there were 2,890,022 Roman Catholics, 2,732,333 members of the Dutch Reformed Church, 876,958 other Protestants, 111,917 Jews, 10,182 Jansenists, 169,575 belonging to other creeds, and 1,144,393 professing no religion.

**Production.** Agriculture, manufacturing, commerce, and mining are the principal industries. Yields of the chief crops in 1939 (in metric tons) were: Wheat, 416,500; barley, 146,000; rye, 603,500; oats, 449,200; potatoes, 3,000,000; beet sugar (1939-40), 217,600; linseed, 22,500; flax, 21,300. Livestock (1939): 2,817,314 cattle, 1,553,413 swine, 322,152 horses, and 689,500 sheep. Mineral production in 1939 was (in metric tons): Coal, 12,861,000; pig iron, 276,000 (1938); zinc (smelter), 20,500. The 1939 output of rayon and staple fiber was about 11,000 metric tons; wood and straw pulp, 108,000; margarine, 71,000; shipping tonnage launched, 117,000. Bricks, clothing, boots and shoes, engines, boilers, machinery, cotton and linen fabrics, alcoholic beverages, tobacco products, are other leading manufactures.

**Foreign Trade.** Merchandise imports in 1939 were valued at 1,516,651,000 florins (1,414,768,000 in 1938); exports, 966,215,000 florins (1,039,156,000). Textiles, iron and steel, cereals and flour, and wood were the chief 1939 imports, while textiles, coal, coke and briquets, butter, and tin were the main export items. The principal sources of 1939 imports were (in 1000 florins): Germany including Austria, 357,793; Belgium and Luxembourg, 219,913; United States, 146,127; Great Britain, 117,864; Netherlands Indies, 91,350. The distribution of exports was (in 1000 florins): Great

Britain, 226,482; Germany, 136,138; Netherlands Indies, 100,701; Belgium and Luxembourg, 90,489; France, 50,559. For U.S. trade in 1940, see TRADE, FOREIGN.

**Finance.** The 1940 budget estimates placed total receipts exclusive of loans at 770,005,000 florins (742,069,000 in 1939) and expenditures at 1,015,599,000 (1,008,790,000 in 1939). Direct tax receipts in 1939 were 135,182,000 florins; indirect tax receipts, 475,482,000 florins. The public debt on June 30, 1939, was 3,911,900,000 florins, all internal. The average exchange rate of the florin was \$0.5501 in 1938, \$0.5334 in 1939. With the German occupation in May, 1940, the official exchange rate of the German and Dutch currencies was fixed at 1 florin (guilder) equals 1.33 reichsmarks. Also see *History* below.

**Transportation.** At the beginning of 1940, there were about 2278 miles of railway line, 16,031 miles of highways, 4817 miles of navigable rivers and canals, and air lines connecting Amsterdam with the principal European capitals and with the Netherlands Indies. The Royal Dutch Air Line (K.L.M.), operating in Europe, and the West and East Indies, in 1939 carried 136,588 passengers, 1,927,606 lb. of mail, and 4,586,138 lb. of express. With the German occupation of the Netherlands, headquarters of the line were transferred to Batavia and air services from Batavia were maintained only as far as Lydda, Palestine. A total of 12,026 ships of 19,392,128 net tons entered the port of Rotterdam in 1939 (15,366 of 24,744,472 net tons in 1938). The shipping trade came to an almost complete stoppage in 1940.

**Government.** The Constitution of 1814, with its various amendments, vests executive power exclusively in the sovereign while legislative authority rests conjointly in the sovereign and the States-General (parliament). The States-General consisted of an upper chamber of 50 members, chosen by elected representative bodies in the several provinces for terms of six years; and of a lower chamber of 100 members elected for four years by general adult suffrage. In practice the cabinet was responsible to the States-General and the Premier was normally chosen by the sovereign from a political group commanding a parliamentary majority. The Premier proposed the members of his ministry to the sovereign. Premier at the beginning of 1940, Jonkheer Dr. D. J. de Geer (Christian Historical party), heading a coalition government formed by the Roman Catholic, Christian Historical, Social Democratic, and Liberal Democratic parties on Aug. 9, 1939.

## HISTORY

Adolf Hitler's great German war machine fell like an avalanche upon the Netherlands before dawn of May 10, 1940. In five terrible days, the Dutch defenses were shattered, the army decimated, the transportation and communications system wrecked, many cities and towns laid in ruins, and another brave and independent people added to the rapidly growing list of the subjugated nations of Europe. See EUROPEAN WAR under *The Western Front* for an account of the military struggle.

**The Prelude to War.** When war engulfed the Netherlands for the first time since French revolutionary armies swept through the country nearly a century and a half before, it was not unexpected. Fear of a German invasion had mounted steadily since the outbreak of the European conflict the

preceding September (see *YEAR BOOK*, 1939, pp. 550-551). The crisis of November, 1939, was followed on January 14 by another alarm caused by reports of German troop movements near the Netherland frontier. Military furloughs were cancelled, fortifications strengthened, and other preparations made to back the Netherland Government's warning of January 6 that "each violator of Dutch territory will be met with the most severe power of our weapons, from whatever side attack may come." At the same time there were further indications that the Dutch and Belgian Governments had concluded an agreement for mutual support in case of a German attack upon either country.

Nor was the danger of a Japanese attack upon the Netherlands East Indies (q.v.) lost sight of. On February 10 the Netherland Government announced plans for immediate construction of three battle-cruisers to reinforce the fleet guarding the East Indies.

**Neutrality.** Meanwhile the problem of maintaining Dutch neutrality became increasing difficult, but neither the government nor majority public opinion wavered from this course. It was reaffirmed by Foreign Minister van Kleffens before the Upper Chamber of the States-General on January 25. He added that membership in the League of Nations might become impossible for the Netherlands if it remained "a body with a political tendency." The Foreign Minister urged an early end of the war in order that Western and Central Europe might not "perish in pauperism and bolshevism."

In furtherance of its neutrality policy, the government on February 5 forced the resignation of Gen. F. E. Reynders, commander-in-chief of the Dutch armed forces, who was reportedly sympathetic toward the Nazi movement. Lt. Gen. Henri Gerard Winkelman succeeded him. On April 19 Premier de Geer again affirmed the government's determination to maintain strict neutrality. Recalling that Germany and the Allies had all promised to respect Holland's neutrality, he declared the government would not consider suggestions for secret discussions with any of the belligerents. There had been some agitation, notably in former Premier Hendryk Colijn's newspaper, for an arrangement with the Allies to insure their prompt aid to Dutch forces in the event of a German attack. To finance defense preparations and check the adverse effects of the European conflict upon Holland's economy, additional economic controls were placed in effect.

**Friction with Belligerents.** Meanwhile friction between the Netherlands Government and the belligerents, particularly Germany, was steadily increasing. The *Orange Book* issued by the Netherlands authorities on April 12 listed numerous instances of alleged violation of the country's neutral rights. German submarines torpedoed the Dutch steamship *Arendskerke* on January 15 and the *Burgerdijk* in February under circumstances provoking strong Netherland protests. During March there were 13 successive cases of attacks on Netherland fishing boats by airplanes believed to be German.

The holding up of Netherland ships by the British blockade officials caused a number of formal protests. The Dutch alleged that the British on several occasions confiscated goods not included in the Allied contraband list. They protested the removal of a number of persons from Netherland

ships and the confiscation of mail carried by Netherland ships and aircraft. In some cases, the *Orange Book* showed, the Dutch protests brought the release of prisoners and goods taken by the British. Partly in response to British pressure, the Netherland Government on Mar. 1, 1940, placed severe restrictions on shipments of food parcels into the Reich from the Netherlands. This action curtailed an organized traffic that had grown to large proportions. In response to these and other neutrality measures, the German attitude toward the Netherlands became more threatening.

**Internal Security Measures.** The defense measures of the government and its efforts to maintain strict neutrality were hampered by German and Allied espionage and by the openly pro-German activities of Netherland Nazi groups. Martial law had been established in all strategic military and naval areas on Nov. 1, 1939, without suspending the civil authority. On Mar. 8, 1940, extension of martial law to the greater part of the Netherlands was announced. On the same day the Dutch Nazi youth organization, *Nationale Jeugdstorm*, was dissolved to forestall repressive action by the government.

The success of the German "fifth column" and "Trojan horse" tactics during the invasion of Denmark and Norway commencing April 9 aroused further alarm in the Netherlands. During April there were numerous arrests of Germans and Netherlanders accused of espionage for Berlin. Among them were some of the Dutch Nazi leaders. A series of decrees curbed most of the activities of the Dutch Nazi party and the movement, with its 50,000 members, went underground. On April 20 Premier de Geer extended the state of siege to the entire country, permitting further restrictions on foreigners and Dutch sympathizers with the belligerents. Effective April 27, freedom of the press was suspended by a decree prohibiting publication of any printed matter without a license. On May 4 the government announced the arrest of 21 Netherlanders, including Nazis and Communists, accused of "fifth column" activities. Among them was Rost van Tonningen, chief editor of the Dutch Nazi newspaper.

**The German Invasion.** Although Chancellor Hitler's attack of May 10 came without a declaration of war or other formal warning, it was not unexpected. The Netherland army was ordered on the alert as early as April 9 due to the presence of large forces of crack German troops along the border. The steady increase in the number of official German representatives in Holland, their activities among some 100,000 German citizens residing there, and the discovery of several pro-German espionage rings and conspiracies in which prominent Dutch business men and even government officials were implicated gave the Netherland Government sufficient warning. On May 8 the Netherland Minister in Washington announced that he had been instructed to act as paymaster abroad for his government in case of an emergency. The previous day all army leaves were cancelled, guards augmented at all public buildings, and other extensive precautions taken against an invasion and a simultaneous rising of subversive elements.

Immediately after the German attack began on May 10 the defense forces and police placed in effect comprehensive security measures planned long in advance. Nearly a thousand German agents and Netherlanders suspected of treasonable designs were immediately arrested. Other German

citizens and foreigners of German origin were ordered to remain indoors. But these measures failed to prevent "fifth column" activities on a scale that materially aided the quick success of the German onslaught. Neutral correspondents reported numerous cases of defection within the home front. Some Dutch officers betrayed their trust. There was extensive sabotage, even within the fortified defense lines. In Rotterdam, Amsterdam, and The Hague armed civilian terrorists sniped at loyal Dutch police and troops from rooftops and windows, thus aiding the work of German parachute troops dropped behind the front lines. Spies and saboteurs spread wild rumors and demoralization among the Dutch civilian population and the army alike, disrupted communications, and guided the invading air and land forces in their work of destruction. In Rotterdam, German parachutists and "fifth column" elements were aided by German troops who had arrived in the city several days before, concealed in Rhine river barges.

**Dutch Resistance.** At 6 a.m. on the morning of May 10, about three hours after the German attack began, the German Minister at The Hague called on the Netherlands Foreign Minister, E. N. van Kleffens, and presented a memorandum and note. The memorandum, identical with that submitted to the Belgian Government at about the same time (see *BELGIUM under History*), elaborated the German contention that the invasion was intended to forestall an Allied attack upon the Ruhr region.

The accompanying note called upon the Netherlands Government to surrender and permit German military occupation of the country. Stating that resistance against the "enormous German army" was "absolutely useless," the note continued:

Germany guarantees the present status of possessions [of the Netherlands] in Europe as well as overseas, as well as the dynasty, if every resistance is dropped. If not, then there is danger of complete annihilation of the country and of the State's government.

The Netherlands Foreign Minister firmly rejected the German demand for capitulation. Denying "the supposition that any hostile agreement has been brought about with any foreign power against Germany," he said that "on account of this unexampled assault, undertaken without warning on Germany's part against the Netherlands, the Netherlands Government considers itself to be at war with the German Reich."

But the valiant resistance offered by Dutch defense forces was soon shattered. At 8 p.m. on May 14 General Winkelman, the Commander-in-Chief, ordered his troops in the key defense belt around Rotterdam and Utrecht to lay down their arms "to prevent further bloodshed and annihilation." His order did not prevent the devastation by the German air force on the same day of a large section in the heart of Rotterdam, with extremely heavy loss of life.

German troops peacefully occupied The Hague and the other Netherlands cities the following day. They were reported to have seized great spoils of war, including much gold bullion; over 35 shipyards with 3 cruisers, 4 destroyers, 7 submarines, and 10 minesweepers under construction; several thousand tons of tin and other vital war minerals, and large supplies of foodstuffs. On the other hand the Allies gained the support of the bulk of the Netherlands war and merchant fleet and the major part of the Netherlands gold reserves, valued at about \$690,000,000. Large quantities of diamonds

and valuable securities were saved. On May 15 the Dutch merchant marine of some 1500 ships totaling about 3,000,000 gross tons was placed under the control of two shipping committees formed in New York and London. They co-operated with the British Ministry of Shipping in placing their ships in the joint service of the Allies.

**The Government in Exile.** Narrowly escaping capture by the invaders, Queen Wilhelmina crossed to England on board a British warship and arrived in London on May 13. She was preceded by Crown Princess Juliana, the latter's German-born husband, Prince Bernhard zu Lippe-Beisterfeld, and their two children. On May 14 the members of the Netherlands Cabinet reached London along with numerous other refugees. That afternoon the Queen issued a proclamation declaring London the seat of the Netherlands Government pending re-establishment of the regime in the Netherlands. Wilhelmina delegated authority in the Netherlands to the military command but retained direct control of the overseas colonies.

On May 15 the Queen made two broadcasts, in Dutch to her overseas empire and in English to the British Empire, stating that the conscience of the Netherlands was clear and its spirit unbroken. She urged support of the Allied cause to speed "the day when freedom will be restored to the Netherlands and to other victims of German aggression." The same day Foreign Minister van Kleffens announced in Paris that the Netherlands was still at war with the Reich, that the struggle would be continued, and that the resources of the rich Dutch overseas possessions "have been placed at the disposition of the Allies."

On May 24 Wilhelmina told newspaper correspondents in London that she had taken refuge there to frustrate German attempts to capture her and to lead the struggle for freedom of the Netherlands. The Germans, she pointed out, "apparently considered my person as a promising hostage with which to paralyze every resistance of my people in the Netherlands and overseas territories." She continued:

I have deemed it my duty to choose the active leadership of a continued struggle at the head of my government. This struggle is being waged by Dutchmen who have escaped from the now-occupied territory and recruited abroad at the side of the Allies; also by the Dutch fleet with its proud traditions which has been able to join Allied fleets almost unscathed.

It is my task to give leadership and confidence to these forces and Hollanders in overseas territories who are willing and keen to make any sacrifices for the liberation of the motherland.

It is my task also freely to carry on the constitutional leadership of those 65,000,000 native inhabitants of our empire whose allegiance to the crown has been so forcefully demonstrated in these fateful days. . . .

The Queen and government remained in London during the remainder of the year, working in close collaboration with Britain. By a financial accord signed June 14, the government in exile entered the Franco-Belgian-British currency union. With the aid of a voluntary income tax adopted in the Netherlands colonies, the government continued to meet its financial obligations. Premier de Geer resigned because of ill health on September 3 and was replaced by Dr. P. S. Gerbrandy. Princess Juliana and her two children arrived in Canada on June 11 for the duration of the war. Prince Bernhard remained in Britain with the Dutch military force.

**The German Occupation.** On May 20 Gen. Baron Alexander von Falkenhausen was appointed to organize a military administration in the Neth-

erlands and Belgium. At Hitler's orders, he transferred his powers on May 30 to Dr. Arthur Seyss-Inquart, Reich Cabinet Minister and former governor of conquered Austria, who assumed control of the Dutch civil administration, and to Maj. Gen. Friedrich Christiansen, the new German military commander. The transfer was made ceremoniously in the Ridderzaal in Amsterdam where Queen Wilhelmina customarily opened the annual sessions of the States-General. Dr. Seyss-Inquart proclaimed that existing Dutch laws would remain in force "as far as possible," that Dutch officials would be "the instruments of power in the new administration," that the independence of the Dutch legal jurisdiction was to be preserved, and that the country would not be subjected "to further living discomforts other than those rendered necessary by the enforced communal relations with the Reich and the destructive will of Germany's enemies." He said that reconstruction of all war damage would commence immediately from a reconstruction fund created through savings on State expenses and voluntary contributions.

The Dutch Nazis at first played no part in the new administration, and the German officials made an effort to win the good will of the Dutch people. However, the Germans took over all agencies of public information, established censorship of the newspapers, forbade the Dutch to listen to foreign radio stations, forced the dismissal of Jewish journalists, and pegged the florin to the German mark at a rate that gave the occupationary forces and Germany a great trading advantage over the Netherlands. The blackout was rigidly enforced. All Dutch military forces were ordered demobilized in July and the country was reorganized politically and economically as a part of the German living space.

The German rulers encountered an unyielding spirit of passive resistance that broadened and deepened as the months passed, according to reports from both German and Dutch sources. Dr. Seyss-Inquart and his advisory staff of German experts undertook to rule through a Dutch administrative committee composed of the general secretaries of the cabinet ministries and through the existing Dutch provincial authorities. Before long they found it necessary to replace many of these officials by members of the Dutch Nazi movement, the only element ready to collaborate with the invaders.

On September 13 Anton Mussert, leader of the Netherlands Nazi party, established a militia organization patterned on the German Elite Guard. Receiving increasingly open German support, Mussert launched a campaign of violence and propaganda to Nazify the country. This campaign, and the prospect that Mussert and his followers would soon be entrusted with the government, led to the formation of a Netherlands Union party, which offered economic collaboration to Germany but demanded spiritual independence and the end of anti-Jewish and similar measures and decrees. A series of violent clashes between Nazis and Unionists followed.

Meanwhile the German authorities increased their efforts to curb all anti-Nazi groups and force the country into peaceful acceptance of its new role. Freemasonry was outlawed on September 5. The Marxist parties were placed under German supervision and forced to drop political activities, while other anti-Nazi parties were pressed to conform to German wishes. Jews were progressively

barred from government services and other occupations, despite wide protests. The Dutch people were forbidden publicly to display loyalty to the Queen and government in exile.

By the end of November some 2000 civilians were reported in concentration camps and prisons on charges ranging from sabotage and espionage to insulting Hitler or showing disrespect for occupationary officials. There were a number of executions. General Winkelman was sent to Germany as a military prisoner early in July. Student anti-German demonstrations caused the closing of some schools and universities and the arrest of students and professors. Fines were levied on towns where sabotage or other anti-German acts occurred. The unemployed, who numbered 420,000 on July 31 according to one of Dr. Seyss-Inquart's German experts, were given the choice of accepting work in Germany or being removed from the dole.

Beginning in July, hundreds of prominent Netherlandsers were arrested and interned in reprisal for the alleged mistreatment of German subjects in the Netherlands Indies (q.v.). Many of them were supporters of former Premier Hendrik Colijn, who was one of the most influential leaders of the anti-German groups. These measures failed to break the independent spirit of the Netherlandsers. By the end of 1940, relations between the Dutch people and their conquerors had become extremely strained.

**German Economic Measures.** Economic exploitation was another principal reason for the rising hostility of the Dutch people. Large quantities of foodstuff, livestock, and other supplies were shipped to the Reich. This, together with the British blockade, forced the extension of the rationing system and by mid-winter considerable suffering from the shortage of food and fuel was reported. Under German guidance, the Netherlands administration concluded a trade accord with Sweden and undertook barter negotiations with other German vassal States. Dutch labor was organized along the lines of the German Labor Front to maintain production of war materials and other needed supplies. The Netherlands was also saddled with the cost of the German army of occupation, amounting to more than 100,000,000 florins during June-September inclusive. Heavy new taxes were introduced. The net floating debt was increased from 492,947,000 to 1,112,128,000 florins during the first five months of the occupation, mostly through the issuance of Treasury notes. Free trade between the Reich and the Netherlands was introduced in December. Indemnification of all war damage at 90 to 100 per cent as soon as the owner started rebuilding was announced December 4.

Foreign diplomats and their staffs, including the Papal Nuncio, were required to leave the Netherlands before July 15. Consult E. N. van Kleffens, *The Rape of the Netherlands* (New York, 1940).

See BELGIUM and GERMANY under *History*; JEW under *France and the Lowlands*; LEAGUE OF NATIONS; NAVAL PROGRESS; TUNNELS.

**NETHERLANDS GUIANA.** See SURINAM.  
**NETHERLANDS INDIES.** A group of large islands in the East Indies forming a colony of the Netherlands. Capital, Batavia, on the island of Java.

**Area and Population.** The area, population at the 1930 census, and population density of the various islands is shown in the table on page 542.

The estimated population on Dec. 31, 1939, was 69,435,000. Over 92 per cent of the population is

Group of islands	Area, sq. miles, 1930	Popu- lation, 1930	Density per sq. mile
Java and Madoera . . . . .	51,032	41,718,364	817
Sumatra . . . . .	164,148	7,677,826	47
Riouw-Lingga . . . . .	12,235	298,225	24
Bangka . . . . .	4,611	205,363	45
Billiton . . . . .	1,866	73,429	39
Borneo:			
West district . . . . .	56,664	802,447	14
South and east districts . . . . .	151,621	1,366,214	9
Island of Celebes:			
Celebes . . . . .	38,786	3,093,251	80
Manado . . . . .	34,200	1,138,655	33
Molucca Islands and New			
Guinea . . . . .	191,682	893,400	5
Timor Archipelago . . . . .	24,449	1,657,376	68
Bali and Lombok . . . . .	3,973	1,802,683	454
Total . . . . .	735,268	60,727,233	83

rural. Living births among the natives of Java and Madoera in 1938 numbered 1,263,404; deaths, 846,331; among the European population, births numbered 6492, deaths 2433. The 1930 census populations of the chief cities, all of which were in Java except as noted, were: Batavia, including Meester Cornelis, 533,015; Soerabaja (Surabaya), 341,675; Semarang, 217,796; Bandoeng, 166,815; Soerakarta, 165,484; Djokjakarta (Jogjakarta), 136,649; Palembang, in Sumatra, 109,069.

**Education and Religion.** According to the 1930 census, there were 4,296,579 literate persons, of whom 400,877 were able to write Dutch. School attendance in 1938 was: Primary vernacular, 1,996,443; elementary (in Dutch language), 146,826; advanced elementary and secondary, 18,571. Higher education is given in the Technical College, Bandoeng, and in colleges of law, medicine, and public service at Batavia.

The natives are predominantly Moslem, but there are several million converted Christians and Animists and about a million Buddhists.

**Defense.** See below under *History*.

**Production.** Agriculture and mining are the chief occupations. In 1938 the area cultivated by natives was 21,687,584 acres; by European estate owners, about 2,893,232 acres. Estimated production of the chief crops (in metric tons): Cane sugar, 1,550,000 in 1939-40 (Java only); rubber, 378,000 in 1939 (net exports, 371,849 long tons); rice, 6,136,800 in 1938-39 (Java and Madoera only); coffee, 107,100 in 1939-40; cacao, 1300 in 1938-39; tobacco, 51,900 in 1938-39 (excluding that produced and consumed by natives); tea, 83,800 in 1939; copra, 537,100 in 1939; ground nuts, 270,800 in 1939-40 (Java and Madoera); palm kernels, 19,700 in 1939 (net exports). Livestock (1938): 4,463,439 cattle, 3,199,944 buffaloes, 693,594 horses. Mineral production in 1939 was (in metric tons): Crude petroleum, 7,943,000; coal and lignite, 1,666,000 (about 1,200,000 in 1940); manganese, 5000; tin ore (metal content), 28,200; bauxite (crude ore), 245,400 in 1938. Gold output was 2373 kilograms in 1938. There are more than 6000 workshops and factories, mostly engaged in processing agricultural and mineral products for export.

**Foreign Trade.** Imports in 1939 totaled 469,400,000 florins (485,520,000 in 1938); exports, 739,600,000 florins (652,660,000). For distribution of trade by countries in 1938, see *YEAR BOOK*, 1939, p. 549. For commerce with United States, see *TRADE, FOREIGN*.

**Finance.** Actual governmental receipts in 1939 totaled 413,537,000 florins (379,374,000 in 1938);

expenditures, 479,800,000 (431,759,000). For 1940, final budget estimates were: Receipts, 607,489,359 florins; expenditures, 675,815,398. The public debt on Dec. 31, 1939, was 1,373,703,000 florins (funded, 1,249,929,000; floating, 123,744,000). The florin averaged \$0.5501 in 1938, \$0.5334 in 1939. On June 14, 1940, the Netherlands Indies entered the "sterling bloc" and an exchange rate of 7.60 florins for one £ sterling was fixed for commercial transactions within the bloc. At the same time the rate for United States dollar exchange was pegged at 1.8925 florins for \$1.

**Communications.** Steam railways in 1940 extended 4070 miles (2701 miles State-owned), the greater part in Java; highways (1939), 42,506 miles; inter-island airways (K.N.I.L.M.), 8065 miles of route (1939) covered by nine services. In 1939 these airlines carried 22,337 passengers, 131,863 lb. of mail, and 251,757 lb. of freight. The Amsterdam-Batavia service of K.L.M. (Royal Aviation Co.) was ended with the German invasion of the Netherlands May 10, 1940. The following July 22, the company started a new weekly service between Batavia and Lydda, Palestine. Work on a new 375-mile highway in South and East Borneo costing about 5,340,000 United States dollars was begun in 1940.

**Government.** The Governor General and his advisory council are appointed by the Queen of the Netherlands. The Volksraad (assembly of elected and appointed delegates) has limited legislative powers. Governor General in 1940, Jhr. Dr. A. W. L. Tjarda van Starkenborgh Stachouwer (appointed June 8, 1936).

## HISTORY

**War Measures.** Germany's *blitzkrieg* against the Netherlands commencing May 10, 1940, and the flight of the Dutch Queen and her government to London inaugurated a critical period in the history of the Netherlands Indies. Chancellor Hitler's action had been anticipated in the Netherlands Indies as well as in the mother country, and protective measures were promptly taken.

On May 10, immediately following news of the German attack upon Holland, the government proclaimed martial law over all the islands, confiscated some 300 German enterprises, and arrested and interned about 3000 German residents including the crews of 19 German cargo ships that had taken refuge in Netherlands Indies ports. The German ships were seized before the crews could carry out orders to scuttle them. About 100 Dutch Nazis were also arrested.

In a broadcast to the colony on the same day, the Governor General said that while the Netherlands Indies, as part of the Kingdom of the Netherlands, were at war with the Reich, their status was otherwise unchanged. He declared his government was able to guard the colony and that no aid from other nations was wanted. Following the surrender of the Netherlands Army to the Germans, the native rulers and representatives of the Chinese, Arabs, and other nationalities in the Netherlands Indies declared their loyalty to Queen Wilhelmina. The Volksraad on June 15 empowered the colonial government to take all necessary measures to maintain the existing status of the empire. In a broadcast to the islands on May 24 Queen Wilhelmina asked her subjects there to "set all differences aside" and rally around the Governor General.

**Politico-Economic Consequences.** Although

remaining in close touch with the exiled Netherlands Government in London, the colonial government was to all practical purposes placed upon its own resources. It was obliged to conduct important and delicate negotiations with Japan, the United States, and the Allied governments; to strengthen the islands' defenses with the greatest possible speed; and to adjust their economic life to the cutting of all commercial relations with the mother country and with most of the European continent. The colony also undertook to lend all possible economic aid to the Allied cause.

These circumstances produced a rapid extension of government control over industry, commerce, finance, and other aspects of the colonial economy. A wide range of civil powers were placed in the hands of the military command. Censorship of all branches of communication was established. The supply of foodstuffs was conserved and their prices controlled. Exports and export prices were regulated. Foreign exchange control was established and the Netherlands Indies entered the sterling bloc (see *Finance*). Effective May 25 the government assumed authority to regulate or control private undertakings. Heavy new taxes were imposed to meet defense and other emergency costs.

A considerable cargo tonnage was placed at the disposal of the Allies and the British Government was extended credits for the purchase of Netherlands Indies products. The British Empire in turn took many of the islands' commodities excluded from European markets and helped to maintain prices. Other surpluses found an outlet in the United States and Japan. The industrialization program, recorded in previous YEAR BOOKS, was speeded up to supply commodities that were formerly imported. As a result, the year end found most industrial enterprises and the export of tin, oil, and other vital war materials booming, while those parts of the islands producing other materials experienced severe depression.

Another notable consequence of the war was the transfer to the Netherlands Indies of the headquarters of many Dutch firms. The result was that much of the islands' wealth that formerly flowed to the Netherlands in the form of dividends and profits was retained in the colony. These developments were accompanied by the rapid growth of a demand for wider autonomy among natives and colonial officials alike. It was indicated that they would insist upon a semi-independent dominion status for the Netherlands Indies if the war ended with the Dutch still in control.

**Japan Stakes Her Claim.** When the outbreak of the European War raised the possibility that Germany would invade the Netherlands, Japan displayed a growing interest in the future of the Netherlands Indies (see YEAR BOOK, 1939, p. 394). On Feb. 12, 1940, the Japanese Government denounced the Netherlands-Japanese arbitration treaty. On April 16 the Japanese Foreign Minister issued a formal statement which the Netherlands' Ambassador was requested to transmit to The Hague. Apparently intended as a warning to the Western powers, it asserted that Japan and "other countries of East Asia" maintained "close economic relations" with the Netherlands Indies. Should extension of European hostilities to the Netherlands "produce repercussions" in the islands, the statement continued, it would not only interfere with these relations but would also "give rise to an undesirable situation from the standpoint of peace and stability in East Asia. In view of these con-

siderations, the Japanese Government cannot but be deeply concerned over any development accompanying the aggravation of the war in Europe that may affect the status quo of the Netherlands East Indies."

The Netherlands Government replied that in case it became involved in the European War, it would neither ask nor accept aid from any power in defending the East Indies. Moreover Secretary of State Hull warned the Japanese Government on April 17 that the United States as well as other countries were to a considerable degree dependent upon some of the islands' products and that "intervention in the domestic affairs of the Netherlands Indies or any alteration of their status quo by other than peaceful processes" would jeopardize peace "in the entire Pacific area." On April 19 the Japanese Ambassador to Washington disclaimed any "special" interest of Japan in the East Indies and said that Japan was satisfied with the Dutch statement.

The day following the German attack upon the Netherlands, the Japanese Foreign Minister informed the Dutch, German, British, French, American, and Italian diplomatic representatives in Tokyo that Japan would not permit the Netherlands Indies to change hands, or sanction any interference with Japan's supplies of rubber, ore, and oil from those islands. On the same day (May 11) Secretary of State Hull reiterated the American Government's opposition to any alteration of the status of the Netherlands Indies. The British Government stated that it had no intention of "intervening" and Dutch authorities assured Japan that Allied military support similar to that extended in the Dutch West Indies was "not required or intended" in the East Indies. The German Government also declared it had no interest in the islands.

Setting forth a thinly veiled claim to future control of the colony, Japanese officials in June began to press for larger supplies of essential commodities from the Netherlands Indies, tariff concessions, and other increased opportunities for Japanese economic penetration. A Japanese economic mission, headed by Minister of Commerce Ichizo Kobayashi, arrived in Batavia September 12. The members demanded an increase in shipments of oil and oil products to Japan from the existing level of 495,000 tons annually to 4,000,000 tons, including a large proportion of high-octane aviation gasoline. Similar demands were made regarding rubber, tin, and other strategic minerals and raw materials.

Although the negotiations were conducted under the threat of Japanese invasion, the Batavia authorities proved both obdurate and evasive. The demands regarding oil were referred to the British and American companies operating the Netherlands Indies oil concessions. An agreement reached between the oil companies and Japanese oil importers, announced November 13, was later termed entirely unsatisfactory by Japanese officials. It provided for the shipment to Japan of about 1,800,000 tons of oil and oil products annually for five years, including the normal quota of 494,000 tons. The additional shipments were to include no high-octane aviation gasoline and only 120,000 tons of aviation crude.

No agreement was reached on the other Japanese economic demands, and their efforts to introduce political issues were firmly rebuffed. Toward the end of the year the Tokyo government adopted a more threatening tone, while making military

and naval preparations for a further advance into southeastern Asia and Malaya. The Tokyo press complained of alleged insults and outrages to Japanese subjects in the Netherlands Indies. (As early as August the United States consulate in Batavia had reported a steady increase in Japanese immigrants into the colony.) Then on December 26 Kenkichi Yoshizawa, who had replaced Minister Kobayashi as head of the Japanese economic mission, arrived in Batavia to press for further and prompt concessions.

**Defense Preparations.** Japan's threatening attitude led the colonial government to rush defense preparations throughout 1940. An extra session of the Volksraad, convened April 9, voted funds for enlargement of the naval base at Soerabaja, fortification of strategic points, and other defense measures. Oil wells, refineries, pipelines, and offices were mined to permit their prompt destruction in the event of an attack. The oil refining base was removed in part from vulnerable Balikpapan in Borneo to Palembang in Sumatra. Harbors and territorial waters were mined. Defense units were organized and air raid trenches constructed in the principal cities and towns. Air fields and other possible landing grounds were guarded against sudden attack. The regular army, navy, and air force were strengthened as rapidly as possible. In December, 1940, they were believed to comprise over 100,000 well-equipped troops, about 500 first-line military aircraft, a large force of naval planes, and a fleet of at least 3 cruisers, 9 destroyers, 14 large submarines, and many small coast defense vessels.

In October the Netherlands Government in London asked Dutch subjects in all parts of the world to pay a voluntary income-tax, 96 per cent of which would go to strengthening Netherlands Indies defenses. The shortage of materials forced the colonial government on November 14 to abandon plans for the construction of three battle-cruisers but the program for enlarging the Soerabaja naval base to accommodate battleships was continued, apparently with a view to its possible future use by British or American war vessels.

In addition, the 200,000 Netherlands residents in the colony made a substantial contribution to the British war effort. Many of them enlisted in the Netherlands or Allied forces. By Nov. 15, 1940, a fund of £650,000 had been raised as a gift to Britain for fighting planes, in addition to other voluntary contributions totaling more than £1,000,000.

See AUSTRALIA, BRITISH MALAYA, CHINA, FRENCH INDO-CHINA, JAPAN, and NETHERLANDS, under *History*; CHEMISTRY, INDUSTRIAL.

**NETHERLANDS WEST INDIES.** The colonial possessions of the Netherlands in the West Indies, consisting of (1) CURAÇAO and (2) SURINAM, or Dutch Guiana. See separate article on each colony.

**NEUTRALITY.** The neutral countries of the Western Hemisphere became in an increased degree in 1940 the main group maintaining and at liberty to maintain the observance of the requirements of neutrality as understood by the law of nations and to assure its observance, toward them, by belligerents. The advance of the German forces removed from the European Continent most of the lesser, isolated neutrals of the northern coasts. Sweden, though not conquered like Norway, Denmark, Holland, and Belgium, survived through Germany's tolerance and economic domination.

Russia made war during part of the year but later took a neutral position.

Of 64 countries generally held at the end of 1938 to be governed by their own authorities, 13 at the close of 1940 were at war formally or in fact; 17 had been suppressed, had fallen under military domination, or had become dependent on others' active military protection; and 34 were at peace and neutral. Of these 34 neutrals, 21 were countries in the Western Hemisphere; and in that hemisphere only one country, Canada, was at war. Of the nine European neutrals, Russia and Finland were contiguous but mistrusted each other; Spain and Portugal were contiguous and capable of taking a common neutral course; the other five were scattered and little able to do so. A general neutral policy was possible only in the Americas. The influence of the United States in these lands rendered U.S. neutrality important beyond that of any other single country, with Russia possibly excepted.

**Statutory Neutrality.** The neutrality of the United States had special features that governed its course: it must accord with the function of excluding other governments from acquiring further dominion in the Americas, an obligation assumed under the terms of the Monroe Doctrine; it must accord its own neutrality with a policy of favoring the liberally governed belligerents as against the authoritarian powers; and it must effect certain formal safeguards of its own neutral status, required by the Neutrality Act of 1939.

This statutory neutrality required a specific declaration of U.S. neutral status in every case of an outbreak of war; a determination of "combat areas," in which commerce of the United States might by its presence generate incidents liable to give occasion for the United States' becoming a belligerent itself; and the exclusion of the country's shipping from such areas. The President, on whom these duties were imposed, issued the required proclamations as further warfare developed in 1940. On April 10 he extended the previously defined combat area of the European coast to include the waters from the Russian coast east of the White Sea to the Spanish coast at Bilbao. On April 25 he proclaimed U.S. neutrality as to war between Germany and Norway; on May 11, he proclaimed it as to German warfare on Belgium, the Netherlands, and Luxemburg. Upon Italy's taking the field against France and Britain, a proclamation of June 11 declared neutrality in this case as well; and another, June 11, extended the combat area to seas off Morocco and part of Portugal and virtually to the whole Mediterranean Sea. On November 15, a further proclamation of neutrality dealt with Italy's war upon Greece. Thus a uniform and rigid code of neutral conduct was imposed on U.S. citizens and interests, regardless of cases.

The statutory neutrality had the effect of stopping much of the activity of U.S. merchant shipping. As early as March it appeared that about one-fourth of the fleet active in foreign trade had been tied up by the proclamations of 1939. Idle ships in this group numbered 80; their gross tonnage aggregated 516,317; six principal lines were affected. The statute of 1939 provided no compensation for the loss of the business needful to the continuance of affected shipping enterprises. But the companies resorted to selling or leasing idle vessels, often to foreign ownership.

**Neutrality and Monroeism.** For the origin



of the Pan-American neutral block, see 1939 YEAR BOOK, p. 555, under *Neutrality*.

The Foreign Ministers of the American republics held at Havana in July their second meeting on subjects concerning their countries' concerted neutrality. They drew up a convention to permit safeguarding any territory in the Americas that should lose (as through consequences of the war abroad) its governing authority. Belligerents had not accepted the earlier-proclaimed neutral belt of sea about the Americas, as an area closed to hostilities; the Havana conference did not set up the sanctions, desired in some quarters, against hostilities in such waters. By negotiation with some of the other American republics the United States obtained privileges to use a number of places on their coasts for the service of its Navy and aircraft in the cause of the common protection. For details, see PAN AMERICANISM.

**Neutrality vs. Non-Interference.** While observing in many respects the letter of the accepted code of neutrality, the United States drew away, during 1940, from its original attitude of impartiality as between contending belligerents. The downfall of all effective resistance to Germany on land, the crucial event of the European warfare in 1940, forced upon the United States the choice between letting Great Britain have more material of war and inviting German domination of the whole of Europe. By a series of steps the Government advanced along the road that it had taken in letting down the bars to the British and French importation of such material in 1939 (see UNITED STATES, under *The President*).

**Theory of Neutrality.** The question as to the validity of the neutral status, with one belligerent, of a neutral power failing to vindicate its neutrality when constrained by another belligerent came to the fore in Europe. On the eve of the German spring campaign certain of the small Scandinavian and North-Sea countries were in this plight. A reported statement from the French Foreign Office, March 26, took the following position: "If a neutral state shows conclusively that it is not capable of enforcing respect for its neutrality by one belligerent, then it had no right to protest if another belligerent takes measures to force observance of that neutral's rights."

See INTERNATIONAL LAW; PAN AMERICANISM; SHIPPING; DENMARK, IRELAND, NORWAY, SWEDEN, etc., under *History*. For United States neutrality enforcement, see CUSTOMS, BUREAU OF.

**NEUTRALITY PATROL.** See COAST GUARD, U.S.

**NEVADA.** Area, 110,690 square miles; includes water, 869 square miles. Population (U.S. Census), April, 1940, 110,247; 1930, 91,058. Reno (1940), 21,317; Carson City (the capital), 2478.

**Agriculture.** Nevada's harvest of 1940 covered 372,000 acres of the principal crops. Hay predominated. On 187,000 acres were gathered 382,000 tons of tame hay—over two tons to the acre—estimated as worth about \$2,292,000 to the growers. Wild hay, on 138,000 acres, made 152,000 tons (value, about \$851,000); wheat, on 19,000 acres, 483,000 bu. (\$377,000); barley, 15,000 acres, 540,000 bu. (\$275,000); potatoes, 2300 acres, 391,000 bu. (\$250,000). Farms numbered 3573 in 1940 and averaged 1059.4 acres.

**Mineral Production.** The yearly value of Nevada's production of native minerals, as stated in 1940 by the U.S. Bureau of Mines, totaled \$27,031,281 for 1938. Of each year's total much the chief

part came from copper, gold, silver, zinc, and lead. One other mineral, the ore of tungsten, is produced commonly in excess of \$1,000,000; concentrates of such ore, mined in 1939, came to 2091 short tons averaging 60 per cent of tungsten trioxide, in content; their value approximated \$2,100,000; they formed nearly half of the year's production of tungsten in the United States.

Nevada, in 1940, mined ores of gold, silver, copper, lead, and zinc to the combined metallic value (preliminary estimate) of \$35,876,782, as against \$30,480,870 for 1939. Copper, the leading metal, contributed most of this rise. Copper content, estimated, in the yearly totals of ore rose to 151,820,000 lb. (1940), from 133,194,000 (1939); by value, to an approximate \$17,155,660, from \$13,852,176. The mined gold increased to some 367,400 Troy oz. for 1940, from 361,518 for 1939, or to about \$12,859,000, from \$12,653,130. Silver similarly, to approximately 5,105,000 oz., from 4,316,029; by value, to the neighborhood of \$3,630,222, from \$2,929,668. Zinc and lead, while in smaller total values, increased sharply in yearly production: zinc, to \$1,485,900 for 1940.

**Education.** For the academic year 1939-40, Nevada's public schools reported 20,746 enrollments of pupils; 14,914 of these were in the kindergarten and elementary groups and 5832 in high school. Expenditure of the year, for public-school education, amounted to \$3,128,746. The 914 teachers' yearly salaries averaged \$1433 for elementary and \$1866 for high-school positions.

**History.** While Nevada's population had increased, between 1930 and 1940, at thrice the rate for the Union as a whole, it still averaged hardly one inhabitant to the square mile. Its agriculture was fairly prosperous but limited by the scarcity of water; its manufacturing industry occupied only about one in a hundred of the population. The people keenly felt the desirability of introducing some industry that would augment population and wealth. Mayor Frohlich of Reno, who shared with others the hope of solving the problem by attracting the producers of moving pictures, made a statement in February advertising the State's advantages for their industry. He pointed out, among other matters, that Nevada had "no income tax, no inheritance tax, no death-transfer tax, no sales tax, no gift tax, nor tax on intangibles." See RECLAMATION, BUREAU OF.

In the elections of November 5 the popular vote for President gave Roosevelt (Dem.) 31,945, or a superiority of 3 to 2 over Willkie (Rep.), who got 21,229. Key Pittman (Dem.) was re-elected U.S. Senator, defeating Samuel Platt (Rep.). Pittman died (November 10) a few days after his reelection.

**Officers.** Nevada's chief officers, serving in 1940, were: Governor, E. P. Carville (Dem.); Lieutenant Governor, Maurice J. Sullivan; Secretary of State, Malcolm McEachin; Treasurer, Dan W. Franks; Comptroller, Henry C. Schmidt; Attorney General, Gray Mashburn; Superintendent of Public Instruction, Mildred Bray.

**NEVIS.** See LEEWARD ISLANDS.

**NEW BRUNSWICK.** A Canadian maritime province. Area, 27,985 square miles; population (1939 estimate), 451,000, compared with (1931 census), 408,219. Vital statistics (1939): 11,259 living births, 5075 deaths, 3726 marriages. Chief towns (with 1931 populations): Fredericton, the capital (8830), Saint John (47,514), Moncton (20,689), Campbellton (6505), Edmundston (6430).

Education (1938): 98,808 students in schools and colleges of all kinds.

**Production.** The gross value of the 1939 agricultural output was \$32,076,000. Field crops, which covered 901,600 acres in 1939, were valued at \$19,961,000. Chief field crops (1939): oats 6,671,000 bu., potatoes 251,950 tons, roots 138,600 tons, hay and clover 844,000 tons. Livestock (1939): 220,900 cattle, 107,600 sheep, 87,200 swine, 53,220 horses. Fisheries (1939): 76,822 tons (including shell fish) with a marketed value of \$5,082,393 (sardines \$2,299,017; lobsters \$1,003,070). Fur production (1938-39) was valued at \$1,361,200 (\$1,252,465 for 1937-38). The 1939 output of the forests were equal to 190,511 M cu. ft. of standing timber and was valued at \$12,670,798.

Mineral production (1939) was valued at \$3,949,433 of which coal (468,421 tons) accounted for \$1,566,359, natural gas (606,382 M cu ft.) \$292,403, gypsum (29,765 tons) \$134,286. Manufacturing (1939): 826 factories, 13,967 employees, \$23,865,877 net value of products.

**Government.** Finance (year ended Oct. 31, 1939): revenue, \$8,475,068; expenditure, \$9,350,154. Estimates (1939-40): revenue, \$9,996,600; expenditure, \$9,982,900. The King is represented by a lieutenant governor, advised by a ministry whose members belong to the legislative assembly of 48 members elected for a five-year term by popular vote. At the provincial general election of Nov. 20, 1939, 29 Liberals and 19 Conservatives were elected. Ten senators (appointed for life) and 10 elected commoners represent New Brunswick in the Dominion parliament at Ottawa. Lieutenant Governor, William G. Clark (appointed Mar. 5, 1940); Premier, A. A. Dysart (Liberal). See CANADA

**NEW CALEDONIA.** A French insular colony in the western Pacific. Its dependencies include Bélep Archipelago, Chesterfield Islands, Futuna and Alofi, Huon Islands, Isle of Pines, Loyalty Islands, Wallis Archipelago, and Walpole Island. Total area, 7336 square miles; population (Jan. 1, 1938), 55,000. Capital, Nouméa. Chief agricultural products: coffee, copra, cotton, manioc, maize, tobacco, bananas, pineapples. Nickel is the main export. There are large deposits of chrome, cobalt, iron, and manganese. Trade (1938): imports, 158,571,000 francs; exports, 146,453,000 francs (franc averaged \$0.0288 for 1938; \$0.0251 for 1939). Budget (1939): balanced at 44,100,000 francs. The colony was administered by a governor assisted by a privy council and an elected general council.

**History.** From the collapse of France until Sept. 23, 1940, New Caledonia was the scene of a lively struggle between officials who sought to keep the colony loyal to the Vichy regime and the inhabitants who overwhelmingly favored adherence to Gen. Charles de Gaulle's "Free French" movement. The General Council on June 26 adopted a resolution urging continuance of the struggle against Germany in co-operation with the British, and this was ratified by a mass meeting in Nouméa. Governor Pelicier, however, remained loyal to the Vichy regime and called two French naval vessels to Nouméa to curb the anti-Vichy movement.

The British Governor of Fiji arrived in Nouméa on August 29 and the General Council took advantage of his presence to demand Governor Pelicier's resignation. The Vichy Government then replaced Pelicier by Colonel Denis, who rejected the Council's demand for a referendum on the de Gaulle-

Pétain issue and sought to win the people over to Marshal Pétain. He failed to do this, and a battle between the pro-de Gaulle populace and the pro-Vichy Governor, supported by a destroyer, appeared imminent in September. At this crucial time the Australian cruiser *Adelaide* entered the harbor and the commander apparently lent his moral support to the de Gaulle faction. On September 23 Colonel Denis was forced to resign. He and 100 other Pétain supporters were interned and later placed on board a ship bound for French Indo-China.

Henri Sautot, French Resident Commissioner in the New Hebrides, assumed the governorship of New Caledonia on behalf of the de Gaulle movement. With Japan expressing an interest in the colony's future, Governor Sautot sought to develop closer political and economic relations with Australia and the United States.

See FRANCE under History.

**NEWFOUNDLAND.** An island lying between the Gulf of St. Lawrence and the Atlantic Ocean. Its dependency, Labrador, lies north of the Gulf of St. Lawrence, between Quebec and the Atlantic. Newfoundland, with Labrador, forms a part of the British Empire. Capital, St. John's Area (exclusive of Labrador), 42,734 square miles. Population, 291,000, as estimated for Dec 31, 1938. Chief towns and their populations at the census of 1935: St. John's, 54,886; Bonavista, 4022; Harbour Grace, 2215; Grand Falls, 4244; Corner Brook, 6374; Carbonear, 3367; Twillingate, 3203; Burin, 2277; Grand Bank, 2209. Area of Labrador, 118,400 square miles; population (1935), 4716; chief settlement, Battle Harbor.

**Education.** Among adults, between 7 and 10 per cent are illiterate. Schools (mainly denominational, with public support) numbered 1166 in 1938; pupils, 64,272; there were more Anglican schools, and more Roman Catholic pupils, than of any other single denomination. In 1935, 93,925 of the population were reported to be Roman Catholic; 92,709, Anglican; 76,134, of the United Church; 18,054, in the Salvation Army; 1460, Presbyterian; and 7306, of other denominations.

**Production.** Of some 55,000 whose occupations were reported for 1935, those engaged in the cod fishery numbered 35,018. The taking and preparation of cod is the leading occupation. In 1939 the maritime fisheries yielded 50,700 metric tons, in value about \$4,400,000. In point of value of products exported, manufactures, chiefly paper and woodpulp, and mineral products, largely iron ore, lead, copper, and zinc, outrank products of the fisheries, indicating the extent of industry in the exploitation of forests and mines. Only 4226 were reported in 1935 as farmers. The crops of 1937 were valued at \$3,444,000; livestock was valued at \$2,928,000.

**Foreign Trade.** Imports in the calendar year 1939 were valued at \$25,370,000 (\$25,571,000 in 1938); exports, \$31,384,000 (\$31,128,000). Of the 1939 imports Canada supplied \$9,857,000; United States, \$8,770,000; United Kingdom, \$5,162,000. The United Kingdom took exports valued at \$13,560,000; United States, \$8,599,000; Canada, \$4,027,000. Estimated imports of the calendar year 1940 exceeded by \$4,000,000 those of 1939; exports' corresponding rise was estimated at \$1,500,000.

**Finance.** The unit of money is the Newfoundland dollar; \$1, U.S., was (1940) worth \$1.10, Newf., at the official rate; the Newfoundland

dollar was kept at par with the Canadian dollar. In Newfoundland money, and for years ended with June 30, public revenue and expenditure, respectively, were: 1941, as budgeted, \$13,500,000 and \$15,400,000; 1940, \$12,551,000 and \$16,512,000. Public debt, June 30, 1938, totaled \$99,868,700; it came to some \$340 a head. Great Britain provided means to meet deficiency in revenue available for payment of the yearly debt-service of about \$4,000,000. In June, 1940, however, a popular loan raised in Newfoundland brought \$1,500,000 to help relieve Great Britain of this burden, as an act of loyalty in time of war.

**Transportation.** The railroads aggregated (1938) 838 miles of line. Of this, the Newfoundland Railway, owned by the government, comprised about 750 miles. The Railway also operated steamships and dockyards. Highways (1939) totaled 3692 miles. Airfields for seaplanes and landplanes respectively are situated at Cobb's Arm, near Botwood, and at Hattie's Camp, 30 miles farther east; they render service for transatlantic flights. Entries at the ports of Newfoundland totaled 1729 vessels in the year 1937-38; these entries net registered tonnage was 1,945,039.

**Government.** Newfoundland held until the end of 1933 the status of a self-governing dominion of the British Crown. By arrangement made in 1933 with Great Britain this status and, with it, parliamentary separate government were suspended. The British government undertook to deal with Newfoundland's financial difficulties—the immediate cause of the change; it appointed a governor, responsible to the British Secretary of Dominion Affairs, and under the governor, an advisory council of six. Half of these were selected from Great Britain, half from Newfoundland; each of them had particular charge of a governmental department. Governor, Vice Admiral Sir Humphrey Thomas Walwyn.

**History.** Governor Walwyn obtained in September, 1940, special power for the war's emergency, to make regulations necessary to public safety, military needs, the maintenance of necessary supplies, and the requisition of needed services and property. Walwyn's term as governor was extended through 1941. Under the influence of war some of the leading industries of the island thrived, despite a dearth of shipping; particularly, the production of paper for the British market and the mining of iron ore; in less degree, the fisheries. Heavy additional taxation was imposed during 1940; notably, a duty of 7½ per cent on imports from outside of the sterling area and an increase in corporate surtax to the rate, in some cases, of 50 per cent of the regular income tax.

In connection with a bargain giving Great Britain destroyers from the U.S. Navy and granting the United States certain leases of bases for its armed services in British territory near the American Atlantic coast, three leases of areas in Newfoundland, also, were designated as a gift (without specific consideration) for U.S. use: on the Argentinia Peninsula, two square miles, south of Little Placentia harbor, for an aerial base and military training ground; on the southern side of St. John's harbor, 22 acres, with wharfage, for handling naval material; and north of Quidi Vidi Lake, 160 acres, as a post for a defensive force. The first unit of the U.S. garrison arrived on Jan. 29, 1941.

The island made substantial contributions of men during 1940 for armed service in Great Brit-

ain's war with Germany. Many of the seafaring Newfoundlanders entered British naval service; the twelfth contingent of such men reached England on November 5. Another group, numbering 1300, volunteered for service in the British artillery; others entered the Royal Air Force. Some 2000 Newfoundland lumbermen were put to work cutting English timber for shoring mines. In Newfoundland were kept German and Italian prisoners of war, but ill feeling between them made it necessary to send the Italians to Canada.

In Labrador, according to a report published in July, were found indications of a great quantity of iron ore carrying in some instances, a substantial content of manganese. The deposit was in the upper basin of the Grand River, on lands prospected under concession from the Newfoundland Government.

See also CANADA, under *History*.

**NEW GUINEA, Territory of.** See AUSTRALIA under *Area and Population*.

**NEW HAMPSHIRE.** Area, 9341 square miles; includes water, 310 square miles. Population (U.S. Census), April, 1940, 491,524; 1930, 465,293. Manchester (1940), 77,685; Concord (the capital), 27,171. The State's whole population increased (1930-40) by 26,231; the urban population (those in places of 2500 or more), by 10,146, to 283,225; the rural population, by 16,085, to 208,299.

**Agriculture.** New Hampshire harvested about 428,000 acres in 1940. Hay predominated in extent and in apparent return to the cultivator. On 388,000 acres, tame hay made 427,000 tons, estimated as worth \$4,953,000 to the farmers. Potatoes, 9900 acres, gave 1,634,000 bu. (value, about \$1,242,000). Apples for market made 925,000 bu. (\$925,000). Farms numbered 16,554 in 1940 and averaged 109.3 acres.

**Education.** For the academic year 1939-40 New Hampshire's inhabitants of school age (from 5 years to 16) were reckoned at 86,362. The year's enrollments of pupils in all public schools numbered 75,697; this comprised 53,051 in elementary study, 21,517 in high school, and 1129 in evening classes. The year's expenditure for public-school education totaled \$8,472,833. The teachers numbered 2945. Their salaries for the year averaged, for men and for women respectively, \$1902 and \$1421 in the secondary group; in the elementary, \$1402 and \$1114.

**History.** While the year's economic course favored manufacturing industry in New Hampshire, as a whole, the Pacific Mills, Inc., producers of rayon on a considerable scale, announced the permanent closing of operations in Dover, N.H., as well as in Lawrence, Mass. Their employees in Dover numbered about 1200. The establishment there, formerly a maker of cotton goods, had been in business for nearly a century. Closing, announced November 5, was to take effect in about two months, after orders in hand had been filled.

A bridge over the Piscataqua River, connecting Portsmouth, N.H., and Kittery, Me., was opened on November 2; its construction began in December, 1938; a bypass of 4.4 miles around Portsmouth was built to give it access; the bridge was provided with two decks, the upper for automobiles and the lower for railroad trains, and a 224-foot lift; it cost \$3,155,000. The collapse of the old bridge in September, 1939, had stopped the direct operation of trains between Portsmouth and Maine; the completion of the new bridge restored it.

In the general election (November 5) Roosevelt

(Dem.) received 125,292 of the State's popular vote for President, thus gaining a margin of 15,165 votes over Willkie (Rep.), who received 110,127. Robert O. Blood (Rep.), 112,186 votes, was elected Governor, defeating F. Clyde Keefe (Dem.), 109,093 votes. Both the Republican U.S. Representatives were re-elected.

**NEW HEBRIDES.** A British-French condominium comprising a group of islands in the South Pacific. *Espiritu Santo*, *Malekula*, *Efate*, *Ambrym*, *Erromanga*, *Epi*, *Aoba*, *Pentecost*, *Maeovo*, *Gaua*, and *Vanua Lava* are the main islands. Total area, 5700 square miles; population (1938), 43,119, including 3119 non-natives. Chief towns: *Vila*, the capital (1200 inhabitants), *Malekula* (9000 natives). Chief products: copra, cacao, coffee, vanilla. Trade (1938): imports \$111,867, exports \$120,211. Finance (1938): revenue £27,614, expenditure £23,917. British Resident Commissioner, R. D. Blandy (appointed Mar. 12, 1940); French Resident Commissioner, Henri Sautot.

Led by Resident Commissioner Sautot, the French citizens in the New Hebrides repudiated the Pétain Government following the collapse of French resistance and threw in their lot with Gen. Charles de Gaulle's "Free French" movement. M. Sautot in September assumed the governorship of the near-by French colony of New Caledonia (q.v.). See FRANCE under *History*.

**NEW JERSEY.** Area, 8160 square miles; includes (since the adjustment, in Delaware's favor, of the States' boundary in the Delaware River estuary) 646 square miles of water. Population (U.S. Census), April, 1940, 4,160,165; 1930, 4,041,334. Newark (1940), 429,760; Jersey City, 301,173; Paterson, 139,656; Trenton (the capital), 124,697. The State's whole population gained (1930-40) 118,831; the urban population (those in places of 2500 or more) rose by 55,529, to 3,394,773; the smaller rural population increased faster, by 63,302, to 765,392.

**Agriculture.** New Jersey harvested, in 1940, about 734,000 acres of the principal crops. The truck crops were valued around \$18,078,000. Tame hay, the most extensive of the ordinary field crops, covered 219,000 acres and gave 367,000 tons, having an estimated value of \$4,991,000 to the farmer. Corn, 189,000 acres, produced 7,371,000 bu. (estimated value, \$5,749,000); potatoes, 58,000 acres, 10,150,000 bu. (\$5,176,000); apples for market, 3,354,000 bu. (\$3,186,000); peaches, 1,494,000 bu. (\$1,270,000); sweet potatoes, 15,000 acres, 1,800,000 bu. (\$1,890,000). Farms numbered 25,835 in 1940 and averaged 72.6 acres.

**Mineral Production.** New Jersey's yearly production of its native minerals, as determined in 1940 by the U.S. Bureau of Mines, attained \$24,408,545 for 1938, a year of depressed activity. The output of the zinc mines furnished somewhat less than half of this. Clay products (exclusive of a great production of pottery) supplied much of the remainder. Apart from stone, sand, and gravel for concrete and roadbeds, iron ore and Portland cement were the only other substantial items. The output of zinc rose to 88,716 short tons for 1939, and to 90,880 tons (approximately) for 1940, from 85,839 tons for 1938; in value of the metal obtainable from the mined ore, to \$11,507,318 for 1939, from \$10,891,683 for 1938. Clay products (exclusive of pottery and refractories) attained \$5,210,105 for 1938. The production of iron ore recovered sharply to 399,289 long tons (1939), from 139,890 tons, in value \$760,929 (1938).

**Manufactures.** The total of the value of goods manufactured yearly in New Jersey rose to \$3,428,947,188 for 1939, from \$3,253,246,218 for 1937. In either year the total was the sixth highest in the Union. The State's other main manufacturing totals for 1939 follow (each with that for 1937 subjoined): establishments numbered 7984 (7064); they employed 433,523 (436,745) wage-earners, who received \$521,568,632 (\$523,504,132); materials, etc., and contract work cost \$1,901,925,965 (\$1,890,538,525); to which the process of manufacture added a value of \$1,527,021,223 (\$1,362,707,693).

**History.** The economic condition of New Jersey improved enough during the year to ease the pressure that the State's finances had undergone on account of the widespread need of poor-aid. The efforts that the State government had made to avoid new taxation in connection with this need seemed warranted, for the State's Department of Labor reported having registered 5582 new firms, employing 84,909 people, during approximately four years from 1936 to 1939. In divers areas of activity—as in shipyards at Camden and around New York Harbor, in manufactories of explosives in the northern interior, and in works making airplanes in some of the larger centers—the Federal moves to increase armament and the foreign orders for war material augmented employment. See DAMS; PORTS AND HARBORS.

**Legislation.** The Legislature met in annual session on January 9 and continued, with the usual temporary adjournments, beyond election day. It passed a measure divorcing leaders in politics from public employment under authority of the State, in the manner in which the Hatch Act of 1939 had divorced the two with regard to Federal employment; the law made itself particularly felt among political employees of the local Welfare Departments. The Financial Assistance Commission, which had administered the State's contributions to poor-aid, was replaced by a Director of Municipal Aid. Stricter regulation of the labor of minors was enacted; none were to work until twelve years old; at that age only those helping on farms or selling papers in residential areas after school hours; at fourteen, boys might do such tasks as bootblackening and selling papers generally; at sixteen, boys might work in industries that were not hazardous; attendance at public school until sixteen was required, whereas the older law had permitted attendance at continuation schools after fourteen, instead.

Horse races became legal, under the regulation of a bipartisan Racing Commission of four appointees of the Governor, and the pari-mutuel system of wagers at such races was established; the State was to get revenue in the form of a portion of the money wagered; but little was effected toward starting race tracks in 1940, and this anticipated revenue was delayed. Nothing decisive was done about Governor Moore's recommendation that the system of taxation be modified, to lighten the excessive burden actually borne by real estate. Local taxing bodies were allowed to deed tax-delinquent land to the State, thus meeting its claim as to the delinquency.

Republicans had the controlling vote in both houses. In an effort to cut down the remarkably high Democratic vote of Jersey City and the surrounding area under the political domination of Frank Hague, they spent much of the session's time in devising and passing, over the Governor's

veto, a set of restrictive measures (see below, under *Jersey City*).

**Administrative Matters.** The State government continued to find difficulty in obtaining from its share of the localities' ad-valorem taxes the sums on which it had calculated. Some localities, where values had declined, cut down assessments: they could thus automatically lower their payments to the State, while by raising the rates of their local taxes they could keep up their own revenues; the Legislature tried to prevent the process by means of a bill to require payments to the State still to be calculated at the older and higher assessments. Litigation over the long-contested payments of about \$11,270,000 in taxes by eight railroad companies progressed: a Federal District Court's injunction against collection of the payments, obtained by the railroads in January, was upset (November 27) by the Third Circuit Court, which ordered the railroads to pay, but there remained possibility of further litigation.

New Jersey's system of building-and-loan associations, formerly prosperous for many years, still included in 1940 many members that had not recovered from the reverses of the early '30's. At the outset of 1940, 309 had gone out of business in seven years: of these, 104 in 1939 alone; there remained 1223. On May 1, 1940, the Department of Banking and Insurance took control of the affairs of 46 of the remaining associations. The 46 were embarrassed with realty obtained by foreclosure and with holdings of mortgages far in arrears.

Indigence among the people remained high early in the year. The State government took care of much of it by an arrangement under which it "sponsored" many local projects for highways, and the WPA did the work and paid the wages; the needy workmen thus supported exceeded 20,000 in February. The State put pressure repeatedly on localities where the administration of poor-relief did not satisfy requirements; it suspended payments temporarily, in March, to Camden. After the reorganization of the State's own administration of poor-relief (see *Legislation*, above), the new Director of Municipal Aid (Charles R. Erdman, Jr., of Princeton) warned municipalities that any failing to eliminate politicians from the local relief organization by July 1 would forfeit the State's contributions thereto. With regard to New Jersey's anticipated needs for additional water for the population and industries, Governor Moore had preliminary discussions with the heads of the WPA and the RFC; he sought from them a Federal grant of part and a loan of the rest of \$45,000,000 for works to bring 150,000,000 gal. a day, via the old Delaware and Raritan Canal, from the Delaware River at Ravens' Rock and impound them in Dock Watch Hollow.

Farmers in the State of New Jersey had been troubled by a scarcity of migrant helpers for harvest and other busy moments; the State's Department of Labor agreed with representatives of other Eastern States in a conference at Baltimore, on the need of treating migrant farm labor in a co-operative spirit as a regional concern. The Department of Conservation and Development stated (May 18) that New Jersey had succeeded with blight-resisting chestnut trees; it had now, in the Jenny Jump State Forest, 215 seedlings from 7-year-old trees grown from seeds of Asiatic chestnut, unaffected by the blight.

New Jersey opened in December, 1939, its third Federal proceeding to make railroads cease pro-

viding lighterage free between their terminals on the New Jersey shore and the rest of New York Harbor. The Interstate Commerce Commission chose an examiner (Burton Fuller), who took testimony for several months and adjourned (June 26) for some months more, to permit of the preparation of briefs and a report. New York and the railroads supplying the free lighterage, having the most to lose by the proposed change, were the chief opponents of New Jersey's demand.

**Jersey City.** Mayor Hague's often proved faculty of eliciting from Hudson County—chiefly, Jersey City—a Democratic plurality of not far from 130,000 and thus putting Democrats into high offices bestowed by the whole State's vote had long galled the Republicans who commonly controlled the Legislature. In 1940 it appeared that Hague had lost some of his influence by his still-recent unsuccessful fight against labor unions, and that he must have been further weakened by the operation of the new laws against undue use of political influence; the time seemed ripe for a purge of the voting lists in Hague's troublesome domain. Republicans in both houses at Trenton united on a program to this purpose. Over the veto of the Democratic Governor they put through a series of acts designed to hinder the tactics to which Hague's results were attributed. The use of voting machines was prescribed, for Hudson County in particular; special courts were created to handle cases concerning voting in that county, and the judges in these courts were appointed by the Legislature; a Republican Superintendent of Elections was set up in the county; city clerks (in any county) were required to make the poll books available to the Superintendent of Elections; a small force of State troopers was put at the latter's disposal.

The county sought to kill some of these measures by resort to the State courts. The efforts of Superintendent of Elections Sewell to delve into the poll books of several years back met with an assertion of the Clerk of Jersey City that he had burned the poll books up to and including those of 1937; the same official refused to permit the inspection of the poll books still in existence. Nevertheless Sewell, with the aid of investigators, prepared a "black list" of some 40,000 names of persons whose right to vote was dubious; this list contained more than one in ten of all those registered in the county (381,000). Listed persons were apprised by published advertisement and by letter and were allowed to appear and establish their right to vote; comparatively few were reported to have done so. The U.S. Senate's committee on campaign costs sent Senator Tobey (Rep., New Hampshire) to conduct a separate investigation of the voting conditions in the county, but his operations were postponed (September 25) by further order of the committee, until after the election.

The result of the effort to reduce the Democratic vote of Hudson County was a drop of about 30,000 votes below the usual Democratic plurality. The difference might have sufficed to defeat Democratic candidates in a close election, but it had small effect on the main issues in November.

**Newark.** Mayor Ellenstein and six co-defendants, whose trial for conspiracy to defraud the city of Newark in certain purchases of meadow land for resale to the city had started in 1939, were acquitted (January 6). Soon afterward, in a referendum held on February 20, the voters rejected a proposal to put the city under a council and city

manager in place of the existing commission; 53,322 voted against and only 32,596 in favor. The outcome brought victory to the existing political control, by Ellenstein and others, over the Newark Citizens' Union and the Clean-Government Republicans. The Newark airport, having lost much of its business to the recently opened LaGuardia air field in New York City, closed on May 31. A bridge with ampler clearance was built over the Passaic River between Newark and Kearny, to replace a bridge that, from lack of headroom for vessels, was obliged to lift about 900 times a month. The birthplace of Stephen Crane, donated to the city by the Stephen Crane Association, was razed; the site was adorned with commemorative bas-reliefs and made a playground.

**Elections.** The State's popular vote for President gave Roosevelt (Dem.) 1,016,404, constituting a moderate plurality over Willkie (Rep.), who received 944,876 votes. Charles Edison (Dem.) ex-Secretary of the Navy, was elected Governor, defeating R. C. Hendrickson (Rep.). U.S. Senator W. Warren Barbour (Rep.) with 1,029,331 votes, was re-elected, by a big plurality of 205,438 votes over J. H. R. Cromwell (Dem.), who got 823,893. Ten Republicans and four Democrats were elected U.S. Representatives.

**Officers.** New Jersey's chief officers, serving in 1940, were: Governor, A. Harry Moore (Dem.); Secretary of State, Thomas A. Mathis; Treasurer, William H. Albright; Comptroller, Frank J. Murray; Attorney General, David T. Wilentz; Commissioner of Education, Charles H. Elliott.

**NEW MEXICO.** Area, 122,634 square miles; includes water, 131 square miles. Population (U.S. Census), April, 1940, 531,818; 1930, 423,317. Santa Fe, the capital, had (1940) 20,325 inhabitants. The State's population increased (1930-40) by 108,501, or 25.6 per cent; the rural population increased by 38,916, to 355,417; while the urban population (those dwelling in places of 2500 or more) increased by 69,585, to 176,401.

**Agriculture.** New Mexico harvested, in 1940, 1,372,000 acres of the principal crops. Cotton, on 105,000 acres, grew 123,000 bales—an exceptional yield, over 560 lb. to the acre—estimated as worth \$5,966,000 to the growers. Tame hay, 146,000 acres, gave 303,000 tons (about \$2,848,000); grain sorghums, 350,000 acres, 3,150,000 bu. (\$1,544,000); dry beans, 193,000 acres, 656,000 100-lb. bags (\$1,589,000); corn, 176,000 acres, 2,376,000 bu. (\$1,473,000); wheat, 211,000 acres, 1,720,000 bu. (\$1,118,000).

**Mineral Production.** New Mexico's production of its native minerals, as stated in 1940 by the Bureau of Mines, totaled \$63,568,953 for 1938, an off year. Petroleum furnished more than half of the amount; natural gas, nearly one-eighth; copper, gold, and zinc, much of the remainder; and coal a considerable sum.

Prospects of an important supply of potash from the State drew attention in 1940, when the United States could not count on getting normal imports of this necessary chemical. New Mexico, the Union's principal producer of potash in 1938, maintained its output around the same level in 1939, from mines near Carlsbad. The development of the International Agricultural Corporation's deep deposit and refinery continued in 1939 and 1940 according to the plan to begin commercial production from this deposit around the end of 1940.

The yield of petroleum increased to 37,323,000 bbl. for 1939, from 35,759,000 (value, \$33,250,000)

for 1938, but did not reach the total of 1937. For 12 months of 1940 the output was estimated at 39,001,000 bbl. A number of new fields were discovered in 1939. The yearly total of natural gas delivered to consumers attained 21,216 million cu. ft. for 1938; in value at points of consumption, \$6,132,000. The production of gasoline from natural gas rose to some 54,555,000 gal. (1939), from 49,596,000 gal., value \$1,415,000 (1938). The mining of coal fell off somewhat, to 1,206,000 net tons (1939), from 1,239,037 tons, \$3,406,000 in value (1938); in 1940 the output was 1,081,000 tons.

Of copper, the mines yielded ore containing about 143,728,000 lb. (1940), as against 92,284,000 lb. (1939); by value of metal, \$16,241,264 (approximated for 1940) and \$9,597,536 (1939). Mines' production of zinc, similarly calculated, rose to 59,388,000 lb. (1940), from 58,712,000 (1939) and to \$3,860,220, from \$3,053,024. The yield of gold rose to 39,374 fine oz. (\$1,378,090) for 1940, from 36,979 (\$1,294,265) for 1939; the minor production of silver attained \$975,739 (1940); that of lead, \$404,400 (1940). The value of all five metals approximated \$22,859,713 for 1940.

**Education.** New Mexico's inhabitants of school age were reckoned, for the academic year 1938-39, at 173,799. Enrolled pupils numbered 115,832; in elementary study 97,121, and in high schools 18,711. The year's operating expense of the public schools was \$7,444,648. Teachers' yearly salaries averaged \$871.60 in common schools; in high schools, \$1292.11. An act of 1939 required that all intended public-school structures be approved by the State Board of Education before erection.

**History.** Economic needs caused by the interruption of trade with most of Europe heightened producers' activity. In one rising industry, the mining of potash, tapping new sources of wealth, about 450 employees in the United States Potash Company's works at Carlsbad threatened to strike and gained an increase (April 7) of 7½ per cent in their pay. The State shared with Arizona and Texas in a series of celebrations, extending from July into the autumn, of the 400th anniversary of Coronado's exploration of the area (See FAIRS.) Mrs. Oliver Harriman of New York, an agitator for the repeal of the Federal ban on lotteries, was tried in the Federal District Court at Santa Fe for conspiracy to run a lottery. She was acquitted (April 17), but four persons who had worked with her were found guilty on the testimony of a fifth. Mrs. Harriman was represented by the defense as having helped promote a lottery without profit to her, to raise money for the State hospital for crippled children.

In the general election (November 5) New Mexico's popular vote for President gave Roosevelt (Dem.) 103,699 votes, making a plurality of 24,084 over Willkie (Rep.), who got 79,615 votes. U.S. Senator Dennis Chavez (Dem.) was re-elected, defeating Albert K. Mitchell (Rep.). Gov. John E. Miles (Dem.) won re-election, against Maurice Miers (Rep.).

**Officers.** New Mexico's chief officers, serving in 1940, were: Governor, John E. Miles (Dem.); Lieutenant Governor, James M. Murray; Secretary of State, Jessie M. Gonzales; Auditor, E. D. Trujillo; Treasurer, Rex French; Attorney General, Filo Sedillo; Superintendent of Public Instruction, Mrs. Grace J. Corrigan.

**NEW SOUTH WALES.** A State of Australia. Area, 309,433 square miles; population (Mar. 31, 1940), 2,775,871, exclusive of full-blood aborig-

inals. Vital statistics (1939): 48,003 births, 26,815 deaths, 25,471 marriages. Chief cities: Sydney, the capital (1,302,890 inhabitants in 1939), Newcastle and suburbs (115,660), Broken Hill (28,100), Wollongong (16,800), Goulburn (15,360).

**Production.** Chief agricultural products: wheat (76,551,000 bu. in 1939-40), barley, oats, maize, rice, sugar, tobacco, bananas, oranges, grapes, and apples. Chief dairy products (1938-39): butter (118,820,717 lb.), cheese (7,485,907 lb.), bacon and ham (26,418,687 lb.). Livestock: 52,500,000 sheep, 2,811,884 cattle, 548,355 horses, 377,344 swine. Wool production (as in the grease) for 1940 totaled 534,000,000 lb. Chief minerals (1939 values are given where available): gold £848,985, silver and lead, copper, tin, and coal (£6,768,659). Manufacturing (1938-39): 9464 factories, 228,781 employees, £90,265,891 net value of production. The Australian £ averaged \$3.5338 for 1939. On June 30, 1939, there were 6114 miles of railway.

**Government.** Finance (1939-40): revenue £63,261,000, expenditure £65,506,000. The public debt on June 30, 1940, had a "book" value of £363,326,000. A governor, aided by an executive council, is the executive head of the State. There are two legislative houses: (1) the legislative council of 60 members (elected jointly by both houses) and (2) the legislative assembly of 90 members elected by universal adult suffrage. Governor, Lord Wakehurst (assumed office April, 1937); Premier, Alexander Mair (United Australia Party). See AUSTRALIA under *History*.

#### NEWSPAPERS AND MAGAZINES.

Newspapers in the United States in 1940 faced rising circulations, a small increase in advertising lineage, greatly increased news costs owing to the war and the national election in the United States, and difficulties with censorship in many countries. The nations in which newspapers enjoyed freedom of the press became fewer as Germany overwhelmed Denmark, Norway, Belgium, Holland, and France and Japan moved to control its press. In the United States a lively debate on the relation of newspapers and the popular will was aroused after the defeat of Wendell L. Willkie, Republican candidate, who had been supported by the majority of newspapers.

Although newsprint prices remained unchanged in the year, other expenses (payrolls, news coverage, and taxes) rose substantially. This condition led some authorities to look for a trend in the direction of fewer daily newspapers, to consolidations which would leave a number of smaller cities with only one newspaper. In Richmond, Va., the two newspapers followed the earlier example of Nashville, Tenn., and merged their publishing plants and certain business operations in the interests of economy.

However, the number of daily newspapers in the United States showed a smaller decline than in the previous year. The total at the beginning of 1941, according to *N. W. Ayer's Directory*, was 1998, or 17 fewer than in 1940. Of these 1559 were evening newspapers, 427 morning, and 12 "all day." Sunday editions totaled 568. Foreign language daily newspapers (included in the grand total above) numbered 119, a decrease of 4 in the year. *Editor and Publisher*, the newspaper trade publication, listed 1878 English language daily newspapers, as compared with 1888 the year before. Eighty-three of the daily newspapers were tabloid in size. Aggregate circulations were said to be as follows:

Daily newspaper	N. W. Ayer	Editor & Publisher
Evening . . . . .	24,505,551	24,017,593
Morning . . . . .	15,368,124	16,114,018
All Day . . . . .	899,262	.....
<b>Totals</b>	<b>40,772,937</b>	<b>41,131,611</b>

One result of the Wage Hour Bill was declared by the Inland Press Association to be a growing tendency of six-day evening newspapers to drop their Saturday editions and become five-day publications. The number of such five-day newspapers was estimated to be nearly 100.

Weekly newspapers in the United States totaled 10,796, a decline of 64 in the year. Probably owing to the interest in the war news, daily newspapers in Canada and Newfoundland increased from 106 to 108, and weekly newspapers from 769 to 780.

In ten cities newspapers were merged, the most important ones being Reading, Pa., and Montgomery, Ala. Twenty-three suspensions took place, including three newspapers founded only a few months before; the Hartford, Conn., *Newsdaily*, the Chattanooga *Tribune*, and the Nashville *Times*. Other suspensions were in smaller cities.

The Chattanooga *Evening Times* began publication on October 14, the most important new daily journal of the year except for *PM* in New York. For the first time the Ochs interests, controlling *The New York Times* and the Chattanooga *Times*, entered the evening newspaper field.

The effects of the Wages and Hours Act led to the argument in court by counsel for the American Newspaper Publishers Association, in the case of the Easton, Pa., newspapers, that application of this law to newspapers might abridge the freedom of the press by making it impossible for many newspapers to continue their existence. The case involved the right of the Wage and Hour Division of the Department of Labor to inspect the books of the newspapers to determine their compliance with the law. Dean Ackerman, of the Columbia School of Journalism, echoed the same views, seeing in the Wages and Hours Act the culmination of "a long series of moves by the Federal government to control the press of this country"; but it is worth noting that *The New York Times*, in commenting on argument in the Easton case, stated editorially that newspapers should properly be subject to all social legislation generally applied to employers.

Charges concerning alleged control of the press, by Government or by certain class interests, provoked widespread argument. Arthur Krock told the New York Society of Newspaper Editors that he saw evidences of efforts of the Administration to restrict the freedom of the press, by extolling the radio and news reels, encouraging a class war against the press and "official favors surreptitiously extended to syndicated columnists who are 'sympathetic.'" On the Administration side Harold L. Ickes, Secretary of the Interior, said that the fact that only 23 per cent of the daily newspapers had supported Roosevelt in the campaign showed that the United States press was not "truly free," and that the nation needed newspapers that represented "no class or economic group." During the campaign, Edward Flynn, Democratic National Chairman, had charged that "financial interests" dictated the views and news of the press.

Analysis of the political views of the press had been an important issue in the national campaign. Largely on the third term issue a number of news-



papers had abandoned Democratic party allegiances of long standing; only one of the eight leading newspapers in Tennessee supported Mr. Roosevelt, and the New Orleans *Item*, after 63 years of Democratic support, turned to the Republican candidate. In Chattanooga *The Times*, declaring for Mr. Willkie, granted its two editors leaves of absence from their customary duties because they were not in accord with the paper's political policy. Charges that even newspapers known for strict nonpartisanship had favored Mr. Willkie in the amount of space given him in their news columns were fairly met by the answer that Mr. Willkie had been an active, dynamic campaigner while Mr. Roosevelt was silent, and that in 1932 the space given Mr. Roosevelt as against Mr. Hoover, in similar circumstances, had shown the same preponderance.

Advertising rates generally remained unchanged throughout the year despite the increase in circulation. Subscription rates and single copy sales prices tended to rise in keeping with a long time trend toward newspapers obtaining a greater share of their revenue from this source.

Advertising in newspapers in the United States gained approximately 2 per cent over 1939, which had shown an increase of 1.5 per cent over 1938. The upturn of the automotive industry led to a gain of 17.7 per cent in this classification in fifty-two leading cities. Classified and retail advertising also gained in the year, but financial reflected the lack of activity in Wall Street, and national advertisers were hesitant because of uncertain conditions to plan and release large schedules. National and automotive advertising combined, in 1350 newspapers in 754 cities, showed a dollar total of \$151,861,463, an increase of 2 per cent over 1939.

The most notable innovation in the newspaper field was the inauguration of *PM*, an afternoon and Sunday publication, in New York on June 18, 1940. This journal announced that it would accept no advertising, and hoped to become a financial success through circulation revenue at 5 cents a copy weekdays, 10 cents Sundays. Tabloid in size, *PM* also embodied a mechanical innovation in the use of solidified ink. *PM* sought to present the news in briefer form, to intensify news coverage in labor and in departments devoted to home economics, and to allow its staff more freedom in reporting. Starting with capital said to total \$1,500,000, the newspaper reorganized on Oct. 17, 1940, one of the owners, Marshall Field, buying out all other stockholders. The success of the venture was yet to be determined as the year ended.

For correspondents covering a war fought so largely in the air and numbering so many civilian casualties it was a time of personal danger exceeding any before experienced. Ralph Barnes, of the *New York Herald Tribune* was killed in an airplane wreck in Yugoslavia on Nov. 18, 1940, and Guy Murchie, *Chicago Tribune*, was hurt when a bomb struck his hotel in Dover P. J. Philip, of *The New York Times*, narrowly escaped being killed by a French mob which mistook him for a German parachute trooper.

Stringent censorship in the dictator controlled countries led to the expulsion of many correspondents. Otto D. Tolischus, of *The New York Times*, winner of the Pulitzer Prize for foreign correspondence, was expelled from Germany; Herbert Matthews, of the same paper, was compelled to leave Rome because of a dispatch saying that the Axis powers wanted President Roosevelt defeated,

but was later allowed to return. Walter Duranty, also of *The Times* was ordered to leave Rumania; the regular correspondent, Jerzy Szapiro, already had been ousted by reason of a new law forbidding any one with Jewish blood to send news abroad. Other correspondents expelled, or suffering revocation of their news licenses, were Maurycy Orzech, *Jewish Daily Forward*, from Poland; Seymour Beach Conger, Ralph Barnes, and Russell Hill, *New York Herald Tribune*, from Germany; Frank Smothers, *Chicago Daily News*, from Italy.

New regulations of the Soviet government controlling correspondents led to the withdrawal of every foreign newspaper man except those of the news agencies. Correspondents were allowed to send only approved excerpts of official statements, without comment or interpretation; under such conditions it was useless for newspapers to maintain bureaus in Moscow.

In countries other than the United States newspapers faced difficulties surpassing those of any other period. Many newspaper plants in London were damaged by bombs, and distribution was constantly a problem. English newspapers were reduced in size to conserve paper, but continued to furnish all essential services. In the dictator controlled countries the newspapers remained the willing or unwilling mouthpieces of the governments. In the conquered nations (Norway, Denmark, Belgium, Holland, and France) the press was immediately put under strictest control, and temporary or permanent suspensions of publication were ordered. Daily newspapers in Paris dropped in number from 25 morning and 6 evening to 6 morning and 2 evening; and all were subject to German censorship, favored Franco-German collaboration, and were hostile to England. They published only German and Italian war communiqués. Newspapers were not permitted to be circulated between the occupied and unoccupied portions of France. In the unoccupied portion the press had an extremely limited liberty, and existed in fear of offending the Germans. Some Paris newspapers transferred their places of publication to other towns in France. Germany also sought, by representations to the Swedish Government, to control to some extent the newspapers of that country. In Japan the one remaining newspaper under American ownership, the 50-year old *Japan Advertiser* was sold, under pressure, to native interests, and merged with another journal said to speak for the Foreign office. Correspondents in Japan were subjected to great annoyances and strict censorship, and James Young, of the International News Service, was imprisoned for several weeks on charges of violating military secrets.

Advertising in England was drastically reduced, dropping 30.89 per cent in the first six-months of 1940 as compared with the corresponding period in 1939, before the war began. Automotive declined 80 per cent, tobacco 42 per cent, and radio merchandise 41 per cent.

An estimate, made by Arthur Robb, leading authority on newspapers, of the investment in daily newspapers in the United States revealed some interesting figures. Mr. Robb calculated the mechanical total to be \$160,000,000 (composing rooms \$70,000,000, press rooms \$70,000,000, and stereotype \$20,000,000); the value of land and buildings to be \$327,500,000; delivery equipment \$10,000,000. Editorial salaries were estimated to be \$65,000,000 annually, with \$7,500,000 more for syndicated writers and artists, and \$12,000,000 for the

wire press services. Mechanical departments payrolls were set at \$127,000,000, circulation at \$100,000,000, advertising at \$50,000,000, and administration at \$40,000,000, a total of more than \$400,000,000 annually. Paper used annually was said to be of the value of \$140,000,000, ink \$6,000,000, and other raw materials \$10,000,000, bringing the total up to \$156,000,000.

In typography there was a tendency toward the use of larger body type and "streamlined" heads. Increased use of color in advertising was noted. A survey showed 511 newspapers offering run of paper color advertising, compared with 300 in 1935. Printing effects of such advertising were still crude, however, and only moderate progress had been made in improving its use.

The first daily newspaper in an important city to be printed by offset photo-lithography was the *Hartford Newsdaily*, begun March 4. According to the publisher the savings in cost by this method approximated 25 per cent. Offset printing had been used by a number of weekday newspapers and for occasional special supplements. The *Newsdaily* suspended, however, in June, 1940.

Among deaths of newspaper men in 1940 were those of Frank Parker Stockbridge of New York, Viscount Rothermere, of the *Daily Mail*, of London, and a chain of other newspapers in Great Britain, Sir Hugh Denison, Chairman of the Board of Associated Newspapers, of Australia, Alison Stone, Publisher of the *Providence Journal*, and F. W. Kellogg, who had published many newspapers on the Pacific Coast.

According to statements of representatives of the American Newspaper Guild, that organization had at the end of the year 119 contracts with the publishers of 140 publications, newspapers, magazines, wire services, and radio stations. The newspapers covered by contracts had a total circulation of 14,888,861. The policies of the national organization and of certain local chapters had come in for news attention because of charges that radical elements were dominant. The announcement of Mrs. Franklin D. Roosevelt that she would vote against the administration slate in New York on the issue of radicalism was an incident in the debate. The administration tickets in both the national and New York chapter elections were elected.

At the annual meeting of the Associated Press in New York on April 23 Robert McLean of the *Philadelphia Bulletin* was re-elected president. The American Newspaper Publishers Association re-elected John S. McCarrens, of the *Cleveland Plain Dealer* as president.

Magazines, like newspapers, generally reported increasing circulations. Editorially more and more attention was paid to subjects in the news of the day. The *Readers Digest* announced a total of 4,100,000 copies for the last issue of the year, said to be a new high record for any magazine at any time. The same magazine inaugurated a Spanish edition. The *Saturday Evening Post* and *Ladies Home Journal* also reached new peaks in circulation. Many magazines felt the effect of restriction put upon imports of periodicals by nations at war. Canada and Australia forbade the importation of certain lists of periodicals, and Canada laid a tax of 10 per cent upon others. The total number of periodicals in the United States, other than newspapers, increased from 6432 to 6468 in the year 1940. Weekly publications showed a loss, from 1399 to 1366, but monthly magazines increased from 3466 to 3501.

Some distinguished names disappeared from the magazine world. The *Cornhill Magazine*, founded in 1859 by Thackeray, and famous for the literary quality of its contents, suspended in January. The *Colophon*, a quarterly for book lovers issued by Elmer Adler and the Pynson Printers, discontinued publication in March. The *Forum and Century* was merged with *Current History*. *Friday*, a new weekly, was launched, and other newcomers were *Jewish Digest*, and *New Horizons*, an air travel magazine. *St. Nicholas*, long published as a children's magazine, was purchased by Mrs. Juliet lit Stern.

Determined efforts were made in some cities to eliminate the distribution of obscene magazines. In New York, Mayor La Guardia led the effort to clean up the news stands and caused legal action to be taken against important news companies.

In advertising the several groups of magazines fared unevenly. The total of space in all magazines in which advertising is measured, was 26,391,588 lines, a gain of 2.5 per cent over 1939. The weekly and semi-monthly magazines, however, gained 12 per cent, while the standard lost 13.2 per cent, general magazines lost 3.7 per cent and women's magazines lost 3.6 per cent.

See CALIFORNIA under *Los Angeles*; COPYRIGHT; FASHION EVENTS; PULITZER PRIZES.

C. MCD. PUCKETTE.

**NEW YORK.** Area, 49,204 square miles; includes water (excepting the State's part of the Great Lakes), 1550 square miles. Population (U.S. Census), April, 1940, 13,479,142; 1930, 12,588,066. New York City (1940), 7,454,995; Buffalo, 575,901; Rochester, 324,975; Syracuse, 205,967; Albany (the capital), 130,577. The State's urban population (dwellers in places of 2500 or more) numbered (1940) 11,165,893, or 82.8 per cent of the whole; it had gained (1930-40) 643,941, of which New York City furnished 524,549. The State's rural population rose (1930-40) by 247,135, to 2,313,247.

**Agriculture.** New York's farms harvested, in 1940, 6,691,000 acres of the principal crops. Tame hay, covering 4,000,000 acres, gave 5,554,000 tons, estimated as returning the cultivators \$46,654,000. Potatoes, 213,000 acres, made 26,939,000 bu. (about \$16,371,000); corn, 692,000 acres, 21,452,000 bu. (\$15,874,000); oats, 821,000 acres, 29,966,000 bu. (\$11,687,000); apples, 12,936,000 bu. (\$10,996,000); wheat, 309,000 acres, 7,996,000 bu. (\$6,157,000); dry beans, 129,000 acres, 903,000 100-lb. bags (\$2,902,000); barley, 131,000 acres, 3,799,000 bu. (\$1,937,000). The combined value of the year's truck crops approximated \$19,717,000.

**Mineral Production.** New York State's production of its native minerals, as reported in 1940 by the U.S. Bureau of Mines, totaled \$73,217,430 for 1938. Natural gas provided over one-fourth of this, petroleum over one-eighth, and cement, salt, and clay products substantial parts. The extensive processing of minerals from elsewhere did not enter the total. The production and delivery, to consumers, of natural gas attained 39,402 million cu. ft. for 1938; value at points of consumption, \$19,419,000; but drilling for natural gas in 1939 was not so successful as to assure the means of keeping up production at the usual rate for very long, and some industrial consumers began to curtail the use of gas. New York continued to produce nearly one-fifth of the Union's Pennsylvania-grade petroleum; its yearly total of this special product ad-

vanced a little, to some 5,098,000 bbl. (1939) from 5,045,000 bbl. (value, \$9,550,000) for 1938; and the production during 12 months of 1940 approximated 4,999,000 bbl. The makers' shipments of Portland cement increased to 6,853,796 bbl. (1939) from 5,720,922 (1938); in value, to \$9,866,102 from \$7,893,270. The output of salt rose to 2,041,492 short tons (1939) from 1,717,064 (1938); in value, to \$5,855,422 from \$5,467,077. Clay products (exclusive of pottery and refractories) attained \$3,324,461 for 1938. Mines yielded 36,014 tons of zinc in 1939 (value, \$3,745,456), and about 35,700 tons (value, \$4,641,000) in 1940.

Production from minerals originating outside included 4,468,437 net tons of coke, value \$25,526,646 (1939); furnaces' shipments of 2,210,223 gross tons of pig iron, value \$45,275,716 (1939); and 72,174 long tons of ferro-alloys, value \$7,699,520 (1938).

**Education.** For the academic year 1938-39 (latest covered by data below) New York's inhabitants of age up to 18 years were stated at 3,852,695. Enrollments of pupils in public schools, 2,244,134; of these, 1,513,303 in elementary study and 730,831 in high school. Outside these totals, 203,958 in evening and special courses. The year's expenditure for public schools totaled \$347,775,704, plus bond moneys amounting to \$46,065,085. The teachers numbered 82,392; their pay averaged \$2455.29 for all; for, solely, those outside New York City, \$1855.88.

**Manufacturing.** New York's manufactured products, as usual much the highest in the United States, totaled \$7,134,400,147 (1939); \$7,314,446,524 (1937). Other totals for 1939 follow (with 1937 in parenthesis): 34,514 (29,749) establishments employed 957,853 (995,658) people for \$1,163,806,520 (\$1,236,048,186) wages, paid \$3,783,904,755 (\$3,998,266,070) for material and contract work, and added to material by manufacture \$3,350,495,392 (\$3,316,180,454).

**History.** New York State, economically the part of the Union closest to Europe, felt keenly but not uniformly, in its manufactures and its foreign trade the effects of the European war; its industries gained, in many instances, from the foreign orders that resulted; some lines of production were helped by the suspension of foreign competition, as in the case of luxurious clothing (see **GARMENT INDUSTRY**). The launching of the Federal program of armament further augmented employment to such a degree that the cost of public support for the indigent, which had burdened the State with taxation, dropped out of the foreground of public worries.

**Legislation.** The Legislature met twice: it held a regular annual session (January 3 to March 31); a brief special session of four hours (October 22), on account of the unprecedentedly heavy registration for the election of November 5, required the polls on that day to stay open until 9 p.m., instead of 6 p.m.

The regular session adopted a budget authorizing the expenditure, in the ensuing fiscal year, of \$391,760,000, reduced by about \$5,000,000 below the total that the Governor had asked. In accord with the purpose of the Republican majority to meet demands for economy, no new taxes were imposed. About \$122,000,000, in yearly yield, of taxes until then imposed temporarily under plea of emergency were prolonged. Shifts such as appropriating more of the unclaimed money in the hands of banks and public-utility companies helped to put the budget

in apparent balance for the year; numerous small fees charged by the State were increased. New York City's tax on sales of cigarettes was killed; it had seemingly reduced sales of cigarettes and thus hurt revenue from the State's own tax on them. The city was allowed, as an offset, to divert about \$7,000,000 from its funds for poor-relief, which a reduced demand made excessive.

A system for regulating race tracks and pari-mutuel betting, as allowed by recently adopted amendment to the State's constitution, was created; it provided various payments from race tracks to the State, expected to bring, in the next year, \$1,000,000. A set of acts promoted investment in limited-dividend companies, through which the State encouraged the private construction of superior housing for the poor. A "little Hatch Act" (extending into the State's jurisdiction some of the Federal measures against abuses of political partisan activity) prohibited intimidation of workers and dependents on public relief, to affect their vote in State elections, and forbade the solicitation of their contributions to partisan funds; a more thoroughgoing "little Hatch" bill, to exclude most of the State's employees from activity in partisan politics, failed of passage. Enactments affecting organized labor made provisions for arbitration of disputes, in contracts between employer and union, enforceable by the courts; authorized the State Labor Relations Board to seek voluntary settlement of employer-and-union disputes, leaving, however, the power to mediate solely with the Board of Mediation; and required the State Labor Relations Board to give consideration to employers' (as well as unions') petitions for elections to fix employees' choice of the labor organizations to represent them. As to public education, the Legislature effected a reduction of two per cent in State aid to the public schools, sought by advocates of economy as consonant with the decline in the number of pupils, but failed to pass a measure to cut teachers' pay, strongly opposed by the teachers; it authorized public schools to permit pupils' absence, for religious observance and for instruction in religion, under regulations of the Commissioner of Education; it required public schools to observe a yearly Bill-of-Rights Week, to be devoted to teaching the rights of the individual under the Nation's political system; and it commissioned a joint Legislative committee to investigate the workings of State aid in the public schools, the reported promotion of subversive ideas in schools and colleges run by New York City, and the alleged "flight" of industries from the State. The matter of the fares to be charged for travel on New York City's municipal transit system was put entirely in the control of the city (required by previous law to make fares carry expenses), and the Transit Commission, a State agency with powers only over transit in the city, was put under the city's budgetary control.

Three proposals for amendments to the State constitution won initial adoption but awaited a second adoption by the next Legislature and ratification thereafter by the popular vote; one (a sequel to the budgetary conflict of 1939) was to permit the Legislature to make appropriations for departments in lump sums instead of specified items; another would allow bonds for \$60,000,000, out of a total previously authorized for the State's contribution to the elimination of grade crossings on railroads, but never allocated to any such undertaking, to be used to pay for building highways; a

third was to give power to the Legislature to revoke the authorization for any unissued remainder of the originally authorized bonds to eliminate grade crossings.

Existing legal requirements that had hindered the alteration of old-time residences in New York City, to accommodate several tenants each, were eased. Sale, distribution, or possession of fireworks was forbidden, except for public displays; the law went into force only after the next Fourth of July. A measure to allow Westchester County to levy tolls on parkways built at its own expense was vetoed. A way of punishing criminals by intermittent imprisonment—locking them up mainly over Saturdays and Sundays—previously tried in Rochester and found to enable the culprit to go on supporting dependents—was made applicable as to sentences up to 60 days, in any part of the State except New York City.

**State Administration.** Governor Lehman, in view of the rapid rise of the Federal preparations for National defense to all-embracing importance, appointed (August 1) a State Council of National Defense, to advise him in matters where the Federal program might concern the State. The Council's ten members were each selected from some economic or social group. Lieutenant Governor Poletti was named by the Governor to be a coordinator of defense activities. Pari-mutuel betting at horse races started, under the act of 1940, on April 15, at the Jamaica track; the day's wagers on seven races totaled \$821,946, a figure that gave anticipation of substantial yearly returns to the State. A commissioner appointed under the Moreland Act investigated practices among those handling the State's printing; he obtained testimony indicating that some printing firms had been in secret understanding as to bids for contracts and that the State had been obliged to pay too much; proposals for a State-owned printing establishment were aired. The State acquired from a private company, for \$2,275,000, the Bear Mountain Bridge, spanning the Hudson River just above Peekskill. It reduced the toll for crossing the bridge to 50 cents a vehicle. Among the State roads completed was a second, more elevated route along the side of Storm King mountain, between West Point and Cornwall;  $5\frac{1}{2}$  miles long, four lanes wide, and laid out to minimize rock-falls, the new road cost \$1,648,000.

The Court of Appeals held in July that the charter making *Peekskill* a city, granted by the Legislature in 1938 but contested by the town of Cortlandt, was valid and operative; Westchester County gave certificates of election (July 26) to the municipal officers elected by Peekskill in the previous November, and a municipal government was at last established.

**Other Occurrences Upstate.** The new bridge connecting *Niagara Falls* with Canada, undertaken in 1939 to replace the Falls View Bridge carried away by ice in 1938, was begun (May 16) by the International Niagara Falls Bridge Commission. At *Hyde Park* in Dutchess County the Roosevelt Library, a \$250,000 building erected by an association of admirers of President Franklin D. Roosevelt, was finished; at a ceremony on July 4 it was presented to him, and by him in turn, to the Federal Government; its function was to preserve as a collection the papers of Mr. Roosevelt subsequent to 1910. A short distance away, the Vanderbilt estate, formerly the residence of Frederick W. Vanderbilt, long one of the most notable of the

great country places along the Hudson River, was presented to the Federal Government, designated as a National historic site, and put in the care of the National Park Service. At *North Tarrytown* the Philipse mansion, said to be the oldest remaining manor house in the country, underwent a restoration at the cost of John D. Rockefeller, Jr. *Middletown* granted what was reported to be the first public aid received, in the State, by a clinic for birth-control.

**New York City.** The population of New York City gained (1930-40) by 524,549, or 7.6 per cent, supplying most of the whole State's gain, while neighboring counties supplied most of the rest.

The rate of the city's gain in population over ten years exceeded those of all but two of the Union's other cities of over 500,000 inhabitants; in spite of this, the valuation of real estate and special franchises, made in 1940—\$16,553,401,478—fell short of that of 1939 by \$87,431,461; of that of 1930 by about \$2,000,000,000; and was approximately that of 1927. The city had in the intervening years indebted itself heavily for additional subways, some of which it operated at a loss while on others it guaranteed the operators' return; in this course it followed, to disappointment, the belief that new taxable values in areas populated by rapid transit would soon swell its tax collections sufficiently to support the lines' cost of populating them. Housing and parks created at public expense had removed many slums but had also removed a substantial part of the residential realty from the taxpaying list. Shifts in residence and in business had left some areas partly bereft of their former values for taxation. According to a widely-held view in course of investigation, an "exodus of industries" seeking more profitable locations had helped to depress valuations.

In some other respects the city's condition improved in 1940: its dependents on poor-relief and Federal support through the WPA diminished rapidly as the openings for employment improved; by August their number was reported the lowest in six years; the benefit to the city's as well as State and Federal finances appears from an official estimate that over 36 per cent of the city's population had got public assistance for more or less of the time in the period 1934-39. The city was enabled to apply to other uses about \$4,500,000 not needed by its funds for poor-relief. The lessened need for this service also took some of the sting out of the State's abolition of the city's tax on cigarettes.

Economy, especially in some directions, ruled the city's plans of 1940 for expenditure. The budget for the year starting with July 1 was set at \$581,114,245. The decline in the number of pupils helped persuade the city to cut the appropriation for the public schools by about \$3,000,000, on top of a cut in the rate of State aid. After abolishing many positions and services the Board of Education had to order the termination of the jobs of 612 elementary teachers. The Mayor cut the separate budget of outlays for capital expenditure prepared by the Planning Commission to one dollar above the cost for work already provided by appropriation, but the City Council allowed a small new-work outlay.

The *City Planning Commission* designated 13 areas in Manhattan, covering about one-seventh of its area, as calling for clearance and replanning; it presented (December 5) its plan, long in hand, to rule the use of ground, over 2 or 3 generations of slow-growing population. See PLANNING.

The *Russell case*, a contest over the appointment of a distinguished scholar, a person of questioned social principles, to teach at the College of the City of New York, roused wide interest (see *EDUCATION*). The issue was settled when the Mayor abolished the teaching position by striking its pay from the budget, and the Board of Estimate passed a resolution to shut Russell off from any payments from educational funds. The State's Court of Appeals denied (October 8) Russell's motion to appeal a decision against a suit to overthrow the City's rejection of his appointment.

*Police and firemen's pension systems* were reorganized by measures of the City Council (adopted January 31): to give the funds better support, the measures required the men to make contributions at rates designed to meet 45 per cent of the cost of their pensions after retirement. The Board of Health set up (March 5) a single grade of standard milk, in place of the previous grade A and grade B; it required most of the specifications of the former grade A.

The main occurrence in *transit affairs* was the city's acquisition of the properties of the Brooklyn-Manhattan and the Interborough systems, to form, with certain municipally operated subways, a single system of transportation under public operation. On June 1, 1940, the Brooklyn-Manhattan system's properties passed to the city for about \$175,000,000; on June 12, those of the Interborough system for about \$151,248,000. The city used its 3 per cent bonds, of a class exempt from its debt limit, in payment. The city had previously acquired, largely for unpaid taxes, the Sixth Avenue line of the Manhattan Elevated system; it obtained the Manhattan's other lines by condemnation on June 9, this company having been separated from the Interborough in the course of the two companies' receivership. The deals with the B.M.T. and the I.R.T., on the other hand were negotiated voluntary sales. The whole sum paid, about \$326,000,000, did not include the value of all the property operated, since, notably, both the subway systems operated lines of subway that the city had paid to construct. The City's "investment," presumably at original cost, after the conclusion of the sales, totaled about \$1½ billion in 790 miles of subway and elevated track, 430 of street railway, and 80 of bus lines; the whole included the city's own Independent Subway system. The merged group took the name of New York City Transit System. The city went on with the removal of elevated lines, that on Sixth Avenue having been carried out. Removal on Ninth Avenue (Manhattan) began on Oct. 6, 1940.

Sixteen members of a group calling itself the *Christian Front*, reputedly in accord with the views of Father Charles E. Coughlin of Royal Oak, Mich., the "radio priest" who had at times condemned acts of the New Deal, were tried in Brooklyn on a Federal charge of seditious conspiracy. Most of the evidence against them came from an agent of the FBI who had gained their confidence. At the trial the defense maintained that its members had banded to protect the United States in case of a Communist rising. Some of the defendants were dismissed during the trial; the jury acquitted nine; as to the alleged leader (Gerald Bishop) and several others it failed to agree; in the cases of disagreement a mistrial was declared (June 14), and the Government nolle-prossed in December.

Further successful prosecutions by the office of

District Attorney Thomas E. Dewey of New York County convicted Louis (or "Lepke") Buchalter, already a Federal convict, of extortion by means of labor unions and sent him to serve from 30 years to life in State prison; also was convicted George Scalise, former president of a building-service employees' union, who was sentenced to serve from ten to twenty years for forgery and larceny from that union. J. H. Amen, a special prosecutor of official corruption in Brooklyn, reported in October that he had completed 76 proceedings, criminal or disciplinary, 69 of them successful, into such matters as irregularities in bail bonds and public contracts, and had recovered some hundreds of thousands of public money. The leaders of a "murder ring," Harry Maione and Frank Abbando were convicted of murder in the first degree, in Brooklyn. James J. Hines, former Tammany district leader, failed in his appeal from conviction in 1939 for connection with a policy racket; he went to State prison (October 15).

Seeking *subversive propaganda among teachers* in the city's pay the Legislature's committee investigating such matters (see *Legislation*, above) met with many refusals, supported by the Teachers' Union, to testify; it authorized its counsel (December 5) to bring action for contempt against 25 teachers, 18 of them in the Brooklyn College.

Developments in *public construction* included the start (October 28) of work on the Battery-Brooklyn Tunnel, a projected under-water passage for vehicles, to cost about \$80,000,000 mainly financed by a loan of \$57,000,000 to the city from the RFC; the opening (June 29) of all but some short incomplete sections of the Belt Parkway, a \$30,000,000 vehicular route rimming Brooklyn and Queens boroughs on south and east from the Upper Bay to Whitestone; the opening (June 18) up to 93rd Street, Manhattan, except for a ¾-mile section in midtown, of the East River Drive, a route to take vehicles through Manhattan lengthwise without intersections; the opening of the \$58,000,000 Queens-Midtown Tunnel (vehicular), November 15; the completion and operating start (December 15) of the \$59,000,000, 2¼-mile municipal Sixth Avenue Subway, in Manhattan; the opening of a \$7,500,000 port for seaplanes (March 31), at LaGuardia Field; the start of constructing a new Criminal Court Building in Manhattan, to replace that condemned as unsound six years before. See *AQUEDUCTS; GARBAGE AND REFUSE DISPOSAL; PORTS AND HARBORS; RAPID TRANSIT; ROADS AND STREETS; TUNNELS; WATER WORKS AND WATER PURIFICATION*.

A number of so-called low-cost housing units, such as Vladeck City Houses and South Jamaica Houses, were opened, supplying to the poor, at low rent, quarters averaging around \$5000 of outlay per flat. Further such building to quarter thousands more of poor families, with the aid of \$40,000,000 to be advanced to the City Housing Authority by the State, was in progress or initiated. The Metropolitan Life Insurance Company completed part of a \$50,000,000 group of apartments to hold 12,200 families, in Bronx Borough, under a recent State law allowing insurance companies to put a tenth of their assets in such enterprises. MacMonnies' ill-liked monument, "Civic Virtue," was ordered removed from City Hall Park. See *FIRE PROTECTION; MUNICIPAL OWNERSHIP*.

The *New York World's Fair* reopened (May 11), for its second season; it closed finally on October 27, and declared a final distribution that

brought payments toward principal and interest up to 38.4 per cent of the face of \$23,333,300 of its bonds held by the public.

**Elections.** The State's popular vote for President (November 5) gave Roosevelt (Dem.) 3,251,918; Willkie (Rep.), 3,027,478; Norman Thomas (Socialist), 18,950. Roosevelt had a plurality, in round numbers of 718,000 in New York City; Willkie had one of 494,000 up-State; and the State as a whole gave Roosevelt a plurality of 224,440. The American Labor Party furnished 417,418 of the Roosevelt vote. U.S. Senator James M. Mead (Dem.) was re-elected by 3,274,766 to 2,868,852, defeating Bruce Barton (Rep.). To the U.S. House of Representatives were elected 25 Democrats, 19 Republicans, and one of the American Labor Party.

**Officers.** New York's chief officers, serving in 1940, were: Governor, Herbert H. Lehman (Dem.); Lieutenant Governor, Charles Poletti; Secretary of State, Michael F. Walsh; Comptroller, Morris S. Tremaine; Attorney General, John J. Bennett, Jr.; Commissioner of Education, Frank P. Graves and (successor, July 1) Ernest C. Cole.

**NEW YORK, College of the City of.** See EDUCATION.

**NEW YORK WORLD'S FAIR.** See FAIRS, EXPOSITIONS, AND CELEBRATIONS.

**NEW ZEALAND.** A British Dominion in the South Pacific Ocean; principally two islands about 1200 miles east of the southeastern coast of Australia. The Dominion has jurisdiction over Western Samoa (see SAMOA), the Union Islands (including Tokelau), and some other islands of Oceania; also over the Ross Dependency, a part of the Antarctic Zone. Capital, Wellington.

**Area and Population.** New Zealand proper has an area of 103,722 square miles; of this, North Island has 44,281 and South Island 58,092. Union Islands: area, 4 square miles; population, 1176. The Ross Dependency has no reported definite area or resident population. New Zealand, by estimate for 1939, had 1,626,486 inhabitants, including 88,997 Maoris (aborigines of Polynesian race). By census of 1936 the population numbered 1,573,810: on the North Island, 1,018,036; South Island, 554,455. Totals of 1936 included 1,484,528 of European origin, 82,326 Maoris and half-castes, and 2899 Chinese. Chief cities' estimated population of 1939: Auckland, 221,500; Wellington, 157,900; Christchurch, 135,400; Dunedin, 82,800. For 1938, births numbered 27,249; deaths, 14,756; immigrants (year ending March 31), 38,738; and emigrants, 36,352.

**National Defense.** See *History* below, and articles EUROPEAN WAR; MILITARY PROGRESS.

**Education and Religion.** Under authority of a Department of Education a system of schools gives free, compulsory education. Secondary or combined schools at the outset of 1939 numbered 46 and had 17,140 pupils; in addition, 88 district high schools had 4905 pupils, and 20 technical high and technical day schools had 8149. Elementary schools numbered 2290 and had 206,002 pupils. Apart from the preceding were 57 registered private or endowed schools and a number of schools for Maoris. The University of New Zealand comprises Otago University at Dunedin, Canterbury University College at Christchurch, Auckland University College at Auckland, and Victoria University College at Wellington. Two agricultural colleges are situated, respectively, at Lincoln and at Palmerston North. The census of 1936 showed the religious affiliation of 40.28 per cent of the popu-

lation to be Anglican, 24.66 Presbyterian, and 13.09 Roman Catholic.

**Production.** Agriculture and animal husbandry are the base of New Zealand's economic production. They normally nourish a heavy exportation, which supplies the means of importing a great variety of goods outside the range of domestic production. The estimated production of wool, for the year ended with June, 1940, was 310,000,000 lb.; that of meat (mainly for shipment to the United Kingdom) was stated as about 13,000,000 freight carcasses. The year's sales of wool brought about £12,633,389 (in New Zealand currency) for greasy wool and £2,868,730 for slipewool. The livestock on farms (1939) included 1,853,713 dairy cows; cows yielded (1937-38) 419,900,000 lb. of butterfat, the source of a great yearly exportation of butter. Important to the support of inhabitants and livestock, rather than for export, the cultivation of cereals gave (1939), on 189,281 acres, 5,564,000 bu. of wheat; on 54,422 acres, 2,605,000 bu. of oats; and on 26,898 acres, 1,077,000 bu. of barley. Sheep in 1939 numbered 31,897,091; cattle, 4,564,948; pigs, 683,463.

Manufacture occupied 102,344 persons in the year 1937-38; its products for that year totaled £113,691,556. Over half of them were closely related to agriculture and dairy farming; they included £27,767,228 of butter, cheese, and condensed milk and £21,227,641 of frozen or otherwise preserved meat.

**Foreign Trade.** For the calendar year 1940, imports into New Zealand were valued (in New Zealand currency) at £48,998,000; exports, at the previously untouched figure of £73,741,000. The United Kingdom sent £23,108,000 of the imports and took £64,146,000 of the exports; Australia sent £8,227,000 and took £2,166,000; the United States sent £5,885,000 and took £2,826,000. The year's exports of wool were valued at £16,871,039; for the year ended with June, 1939, exports of butter were £16,520,226; frozen meat, £15,092,059; cheese, £5,935,061. That year's leading imports were motor vehicles and parts, £5,610,049; electrical machinery, £3,273,002; and petroleum and iron and steel, each somewhat over £3,100,000.

**Finance.** The New Zealand pound averaged \$3.064 in U.S. money, through 1940. The estimated budget for the year 1940-41 called for revenues of £63,000,000 and included in expenditures £33,000,000 for purposes of war. The estimated revenue of the year ended with Mar. 31, 1940, was £38,020,043; expenditure, £38,003,043; both exclusive of certain items connected with prosecution of war. Actual receipts of the year ended Mar. 31, 1939, totaled £36,582,000; expenditures, £35,773,000.

**Transportation.** The railroads are virtually all owned by the government. The total mileage was 3319 in March, 1939. The aggregate length of highways in 1939 was 86,988 miles. (See ROADS AND STREETS.) The government owns the telegraph and telephone systems. In August, 1939, air lines covered 1887 miles of routes and the weekly mileage was 33,349. Air connections with Hawaii and the United States were established in July, 1940 (see under *History*). There was a service to Australia and London. Ships in foreign trade, entering ports of New Zealand, numbered 660, totaling 3,084,705 net tons, in 1938.

**Government.** Executive power is exercised by a Governor General, appointed by the Crown for five years on recommendation of the Dominion Government. Legislative power rests with the Gov-

ernor General and a Parliament of two chambers—the Legislative Council of 36 members appointed by the Governor General for seven years, and the House of Representatives of 80 members, elected by general male and female suffrage for three years. Sir Cyril L. N. Newall, former Chief of Staff of the Royal Air Force, was appointed Governor General of New Zealand Oct. 4, 1940, to succeed Viscount Galway. See *History*.

### HISTORY

New Zealand was drawn more deeply into the vortex of the European War during 1940 with the collapse of France and the Netherlands, the spread of the conflict to the Near East, and Japan's adherence to the Rome-Berlin Axis. As though to emphasize the growing peril, the Canadian-Australian liner *Niagara* was sunk by an enemy mine 20 miles off the New Zealand coast on June 18. The Labor Government, with the almost unanimous support of the nation, threw the full weight of the Dominion's manpower and resources into the struggle. At the same time it sought to carry forward the socialization program for which it received a mandate in the 1938 election. The latter policy encountered opposition from conservative elements. On the other hand there was mounting criticism from extremist Laborites, who favored more radical steps toward socialism at the expense of the country's war effort.

**Political Developments.** Prime Minister Michael J. Savage, leader of the Labor party since 1933 and head of the government since Dec. 5, 1935, died in Wellington Mar. 26, 1940 (see *NECROLOGY*). His death deprived the Dominion of its most trusted political leader and added fuel to the dissensions within the Labor ranks. Mr. Savage's "win the war" and "support Britain" policies were carried on by his Deputy Prime Minister, Peter J. Fraser, who became Acting Prime Minister upon the death of his chief and Prime Minister upon election as leader of the Labor party on April 4.

The Labor Cabinet was reshuffled on May 1 without changing its personnel. The new line-up was: Prime Minister, Minister of Broadcasting and Police, Peter J. Fraser; Finance, Walter Nash; Social Security, W. E. Parry; Attorney General and Minister of Education, H. G. R. Mason; Agriculture, W. Lee Martin; Health, H. T. Armstrong; Marine, Robert Semple; Labor and Postmaster General, P. C. Webb; Defense, W. F. Jones; External Affairs, F. Langstone; Manpower, Immigration, Government, and Insurance, David Wilson. At the same time the Prime Minister established an agency to lay plans for the postwar restoration of the country and rehabilitation of war veterans. D. G. Sullivan later entered the cabinet as Minister of Supply.

In response to Opposition proposals for a coalition war government, Prime Minister Fraser on May 27 announced the formation of a National War Council composed of cabinet members and representatives of the Nationalist party, industrial employers, trade unions, and farmers. The Nationalists declined this offer. But under pressure of the critical situation in Europe a compromise agreement was reached July 16. A War Cabinet composed of three Labor Ministers and two Nationalist leaders was established to supervise all war activities and preparations. It consisted of Prime Minister Fraser, Finance Minister Nash, Defense Minister Jones, Adam Hamilton, leader of the Nationalist party, and former Prime Minister Jo-

seph Coates (Nationalist). All other matters were left under the jurisdiction of the regular Labor Cabinet, with the Prime Minister co-ordinating the activities of both bodies.

This arrangement achieved unity between the Labor and Nationalist parties on prosecution of the war, but it widened the breach within Labor's ranks. Late in October the radical faction seceded from the Labor party. On October 28 it adopted a platform calling for nationalization of credit and currency, state loans to farms and industry, use of "debt free" money for development purposes, reorganization of the economic system especially through industrialization to reduce the country's dependence upon agriculture, and an extension of State aid to individuals in the form of family allowances, professional training, and a basic wage.

The Nationalist party on November 26 elected Sidney G. Holland to succeed Adam Hamilton as its leader and co-representative on the War Cabinet. On December 16 Minister of Agriculture Martin and the new Minister of Marine, Dr. R. D. McMillan, resigned from the government on grounds of ill health. They were replaced by J. G. Barclay and A. H. Nordmeyer, respectively, both nominees of a Labor party caucus.

**War Measures.** On February 24 the National Committee of the Labor party and the National Council of the Federation of Labor issued a statement condemning any form of military conscription. But the successful German offensive on the Western Front caused the abandonment of this long-cherished Labor principle. A special session of Parliament on June 1 gave the government complete authority to mobilize all persons and property for the prosecution of the war.

To conserve manpower for national service, the government on June 17 forbade all married men and all single men of military age to leave the country. Two days later decrees were issued, under the powers granted June 1, instituting compulsory military service both at home and abroad for all men over 16, effective July 23; empowering the Reserve Bank to acquire all gold, foreign securities, and foreign exchange; providing for a compulsory war loan; giving the government wide powers for the mobilization of industry; and establishing an advisory council to draft war production plans.

Strengthened by wide popular support, the government made increasing use of its emergency powers throughout the year. On March 11 it assumed control of all port activity in Auckland after a strike of dock loaders had held up shipping for four days. Gasoline rationing was re-introduced February 1 with the objective of cutting consumption 30 per cent, conserving dollar exchange, and building up a gasoline reserve. The foreign exchange and import control systems were tightened up for the second half of 1940. Virtually all forms of taxation were heavily increased. Communists and other anti-war or subversive elements were dismissed from the public services, beginning in June. A religious sect known as Jehovah's Witnesses was banned as subversive on October 25. Successive drafts of men were called to the colors for both overseas and home service. On October 5 the Finance Minister announced that 15,000 individuals and 3000 corporations would be obliged to subscribe to a non-interest-bearing war loan. The amounts of their subscriptions were fixed on the basis of income tax payments for the year ended Mar. 31, 1939.



The government made new contracts with the British Government for the sale of New Zealand's surpluses of wool, meat, butter, and cheese. Increasing concentration on war projects and industries caused a reduction in employment on normal public works schemes from 25,000 in 1939 to 9000 in November, 1940. At the request of the British Government, some 14,000 acres of linen flax were planted for the fabrication of war equipment. In connection with the planned expansion of industry, the project for training skilled labor and technicians was extended. At the same time the government continued its program of low-cost housing; enacted in December the Small Farms Act providing for settlement of war veterans on the land after the conflict; and prepared to establish in 1941 its program of free national medical care, despite the vigorous opposition of the medical association.

War costs were estimated at £37,500,000 for 1940-41, or 73 per cent of the estimated revenues. The Prime Minister on September 5 estimated that as a result of the war New Zealand's consumption of goods would decline to the equivalent of \$570,000,000 in 1940 from \$655,000,000 in 1939. Some outstanding developments in the economic field were the substantial improvement in foreign exchange reserves, continued business activity particularly in retail buying, and an increase in prices that led the Arbitration Court on August 13 to raise wages 5 per cent. This wage rise led the farmers to demand higher government-guaranteed prices for dairy and other farm products. To prevent the development of a disastrous inflationary movement of wages and prices, the Prime Minister called a conference of business, labor, farm, and government leaders to consider price control, rationing, and family allowance schemes.

A new system of industrial control, announced October 26, was designed to increase production and eliminate unnecessary competition. Prices of bread, milk, and gasoline were regulated and the transportation system was further co-ordinated.

**Military Contribution.** Between the outbreak of war and the termination of the voluntary recruiting system on July 22, 1940, enlistments for overseas service in the army, navy, and air force totaled 80,340 (army, 63,740; navy, 2600; air force, 14,000). The enlistment rate was twice that of 1914-18. The first contingent of troops sent overseas landed in Egypt early in February. Other contingents followed at intervals during the year. Mobilization of the Dominion's Fourth Army for foreign service began on October 2. By the end of 1940, 1465 pilots, observers, and air gunners had been sent overseas, part of them to Canada for advanced training. Flying personnel, exclusive of ground forces, increased from 700 on Sept. 1, 1939, to 5120 a year later and a further increase of 1800 men was provided for when the peak of the training program was reached. In addition, the people of New Zealand subscribed a fund of \$500,000 for the purchase of fighting planes for Britain's Royal Air Force, and another \$5,000,000 fund was raised for the relief of British civilians and for other patriotic purposes.

Large home defense forces were raised in addition to those training for overseas service. The Territorial force was brought to war strength through application of the draft. In mid-September men not serving in regular military units were enrolled in the newly organized Home Guard, designed to serve as a patrol and reserve force. Forty

thousand out of the 200,000 men to be inducted in the Home Guard were enrolled before the end of the year.

**Empire and Foreign Relations.** While extending unreserved support to the mother country, the Dominion also moved during 1940 to strengthen its collaboration with both Australia and the United States. A mission under the Minister of Supply was sent to Australia in June to obtain munitions and other war material and to arrange for closer co-operation of Australian and New Zealand naval forces. The opening late in July of the Pan American Airways clipper service between San Francisco and Auckland, N.Z., via Honolulu, Canton Island, and Noumea in New Caledonia, served no less than Japan's adherence to the Rome-Berlin axis to stimulate the movement for joint action with the United States in Pacific affairs. Supported by the Prime Minister and many leading citizens, the British-American Co-operation Movement for World Peace was launched at Wellington August 16. Its first objective was a Pacific peace pact between the United States and the British Empire, with provision for the admission of other nations. A United States-New Zealand conciliation treaty was signed September 15.

A state of war with Italy was declared in effect immediately after the latter's attack upon France, and many Italians in New Zealand were interned.

**Centenary Celebrations.** A series of ceremonies commemorating the 100th anniversary of the settlement of New Zealand was held during 1940. Lord Willingdon, special representative of the British Government, on January 22 dedicated the Hall of Memories on the foreshore at Wellington where the first settlers landed Jan. 22, 1840. On February 6 was celebrated at Waitangi the 100th anniversary of the signing of Treaty of Waitangi by the British settlers and the Maoris. Up to July 22, when voluntary recruiting ceased, 4103 Maoris, or more than 40 per cent of those of eligible age, had enlisted in the Maori battalion of the New Zealand Expeditionary Force.

See AUSTRALIA and GREAT BRITAIN under *History*; BIRTH CONTROL; FAIRS, EXPOSITIONS, and CELEBRATIONS; LABOR CONDITIONS.

**NIAGARA FALLS BRIDGE.** See BRIDGES.

**NICARAGUA.** The largest in area of the Central American republics. Capital, Managua.

**Area and Population.** Area, 49,500 square miles; estimated population in 1940, 1,133,572. Chief cities (1938 estimates): Managua, 70,000; León, 32,669; Granada, 21,172; Masaya, 15,000; Matagalpa, 5200. The people are mainly of Spanish, Indian, or mixed blood, but there is a considerable infusion of West Indian Negroes on the east coast. U.S. citizens residing in Nicaragua on Jan. 1, 1940, numbered 576.

**Defense.** The American-trained National Guard had an active personnel of 3538 and a trained reserve of 4000 on Nov. 1, 1939. The air force consisted of 44 men and a few planes. The navy comprises a small number of coastal patrol boats. A new military academy was established in 1940 (see *History*).

**Education and Religion.** About 60 per cent of all adults are illiterate. In 1938 there were 630 State primary schools, 2 normal, 13 private secondary, 5 professional, and various other schools, with an enrollment of about 49,000, besides three universities and a new military academy. Roman Catholicism is the dominant religion but other faiths have religious freedom.

**Production.** Agriculture, cattle raising, lumbering, manufacturing for local consumption, and gold and silver mining are the chief occupations. Gold production in 1940 reached about \$5,600,000, the highest value in Nicaraguan history; it exceeded the value of coffee exports by about \$3,500,000. Gold accounted for 42.2 per cent of the 1939 exports; coffee, 31.8 per cent. Coffee exports (1939) were 17,416,000 kilos (kilo equals 2.2 lb.); bananas, 1,713,000 stems; lumber, 17,360,000 sq. ft.; cotton, 1,246,000 kilos; livestock, 13,000 head; hides and skins, 239,000 kilos; sugar, 3,248,000 kilos. Cacao, beans, plantains, rice, tobacco, corn, and yucca are grown for local consumption. There are coffee cleaning and sugar grinding mills.

**Foreign Trade.** Imports in 1939 were \$6,364,891 (\$5,119,579 in 1938); exports, \$8,300,972 (\$5,884,154). The favorable trade balance in 1939 was one of the largest on record. Value of chief 1939 exports: Gold, \$3,503,000; coffee, \$2,640,000; bananas, \$654,000; lumber, \$363,000; cotton, \$253,000. The United States supplied 68.4 per cent of the 1939 imports (Germany, 12.2) and took 77.5 per cent of the exports (Germany, 10.9). See **TRADE, FOREIGN**.

**Finance.** Budget estimates have shown a marked increase from 6,340,000 cordobas in the 1937-38 fiscal year to 20,281,000 for 1939-40. The public debt on Jan. 31, 1940, totaled 7,253,139 gold cordobas (8,177,766 on Jan. 31, 1939), excluding the \$2,000,000 credit obtained from the Export-Import Bank of Washington Nov. 15, 1939. The average exchange rate of the cordoba in 1939 was: Official, \$0.20 (\$0.2193 in 1938); curb, \$0.1869 (\$0.1832 for June 10-Dec. 31, 1938).

**Transportation, etc.** In 1939 Nicaragua had 386 miles of railway line and 25 miles under construction; about 1670 miles of roads, many impassable in wet weather; 5 local and 1 international (Pan American Airways) air services; and shipping services from Corinto and San Juan del Sur on the west coast and from Bluefields, Cabo Gracias, Puerto Cabezas, and San Juan del Norte on the east coast. The Pacific Railway (net income, 1,292,956 cordobas in 1938-39) is the chief line. It was completely nationalized on Nov. 7, 1939.

**Government.** The Constitution of Mar. 22, 1939, vested executive powers in a President elected for eight years and legislative powers in a parliament of two chambers—a Senate of 15 elected members with all ex-Presidents serving *ex officio*, and a Chamber of Deputies of 42 elected members. The terms of Senators and Deputies is six years. President in 1940, Gen. Anastasio Somoza. He assumed office Jan. 1, 1937, for a four-year term, was re-elected by a Constituent Assembly Mar. 23, 1939, and inaugurated for an eight-year term Mar. 30, 1939.

**History.** Having in 1939 obtained a new lease on power until 1947 (see 1939 YEAR BOOK, p. 573), President Somoza during 1940 carried forward his vigorous internal and foreign policies with little opposition. Twelve alleged Communists were arrested February 29 on charges of distributing subversive handbills and in mid-March eight of them were exiled to Little Corn Island off the east coast. A shake-up of key government officials occurred November 12. Gen. Rigoberto Reyes, former Chief of Staff of the National Guard, resigned as Deputy Minister of War. A decree of November 18 called for the immediate return of arms and other government property held by private individuals. A protracted drought added to the high cost of basic

foodstuffs and, together with the exceptionally low prices received for coffee exports, further depressed the low living standard of the working classes. The state of economic emergency was extended for another year when the time limit expired Sept. 28, 1940.

Economic rehabilitation measures carried into effect included the engagement of a Chilean economic expert to recommend steps for improving the country's economic organization; the allotment of 10 per cent of all municipal revenues for public health measures; the financing of farmers in the purchase of agricultural machinery; the announcement that an agricultural school would be established near Managua; a 30 per cent increase in the salaries of government employees (announced April 22) for the purpose of offsetting increases in living costs; and the establishment on January 15 of a Legal Technical Financial Commission to prepare a general plan for reorganization of the financial and tax system, draft bills to put it into effect, etc. Acceptance of the Commission's plan was announced in November. Administrative control of the affairs of the National District of Managua was placed in the hands of a newly created Ministry of the National District early in 1940.

The new military academy planned in 1939 was opened Feb. 2, 1940, with Maj. Charles L. Mullins, Jr., U.S.A., as director. He was commissioned a colonel in the Nicaraguan army. A workmen's clubhouse, one of the finest in Central America, was presented by President Somoza to the Nicaraguan Labor Congress at its organization meeting in Managua on January 1. A Presidential decree of November 30 required all employers to give their employees one day's rest a week.

In January the opposition of Costa Rica (q.v.) to the Nicaraguan-United States project for canalizing the San Juan River was overcome and a treaty authorizing its construction was signed on April 5. Members of the U.S. Army Engineers Corps, at the request of the Nicaraguan Government, completed a survey of the barge canal route (from the Atlantic to Lake Nicaragua) on April 13. The project would provide cheap transportation for large agricultural areas in both Nicaragua and Costa Rica. It could be expanded into a unit of the trans-Nicaraguan ship canal if the United States decided to carry out that project. See **WATERWAYS, INLAND**.

Continuing its close co-operation with Washington on inter-American defense policies, the Managua Government joined with the other Central American republics in rejecting a note from the German Minister warning against unneutral actions at the Havana Conference (see **PAN AMERICANISM**). Many prominent Germans were reported to have taken out Nicaraguan citizenship papers in May. On September 19 President Somoza flatly denied reports that Little Corn Island was a hotbed of Nazi intrigue. The publication or reproduction of anti-democratic news or propaganda was prohibited on October 29. In celebration of the reelection of President Roosevelt, a two-day holiday was decreed by President Somoza on November 6.

For the status of the Honduran-Nicaraguan boundary dispute, see **HONDURAS** under *History*.

**NICKEL.** Increased war demand in 1940 was responsible for the sale of more nickel than in any previous year. The largest factor in the industry, International Nickel Co., Canada, operated its mines and refineries continuously. Exports from Canada were closely controlled, and none permitted

to any destination outside the British Empire without sanction by the Canadian and British Governments.

The steel industry in 1940 accounted for over 50 per cent nickel consumption. The second largest market was in the nickel-copper alloys—nickel silver, Monel, Inconel, and malleable nickel. The customary statistics on production and data on distribution were omitted in 1940. The versatility of nickel as a material of construction is evidenced by its application in the automotive industry, farm implements, aviation, petroleum, chemicals, pulp and paper, food processing, and household equipment.

H. C. PARMELEE.

**NIGER.** See FRENCH WEST AFRICA.

**NIGERIA.** A British West African colony (1381 sq. mi.) and protectorate (includes British Cameroons). Total area, 372,599 square miles; total population (Jan. 1, 1939), 20,582,947. Chief towns (1938 populations): Ibadan (234,691), Lagos, the capital (158,500), Kano (80,944), Abeokuta (69,500), Oyo (64,501).

**Production and Trade.** Chief products (1939 export values in parentheses): tin ore (£2,310,929), palm kernels (£1,872,674), cacao (£1,771,401), groundnuts (£1,066,948), palm oil (£929,451), hides and skins (£711,033). Other products: gold, coal, silver-lead ore, columbite, wolfram, bananas, ghee, ginger, tobacco, maize, rice, mahogany, manganese, and monazite. Livestock (1938): 2,936,000 cattle, 2,188,000 sheep, 5,630,000 goats, 476,000 asses, 173,000 horses, 168,000 swine, and 2000 camels. Trade (1939): imports, £6,492,000; exports, £10,236,000.

**Communications.** Railways (1938-39): 1903 miles of main line, 6,707,417 passengers and 676,855 tons of freight carried. Roads (1939): 21,277 miles, including 7420 miles of dry-season roads. Shipping aggregating 2,272,412 tons entered the ports during 1938. Work was continued on improving the principal airports and construction was under way on various new airports.

**Government.** Finance (1939-40): The deficit for the year was estimated at £550,000. Nigeria, including the British Cameroons attached to the protectorate for administrative purposes, is under the control of a governor assisted by an executive council. There is a legislative council for the colony and the southern provinces of the protectorate. The governor has the power to legislate for the protectorate's northern provinces. Governor and Commander-in-Chief, Sir Bernard Bourdillon.

**History.** Following the collapse of France in June, 1940, military training of all British Europeans in Nigeria up to 40 years of age was made compulsory. Air-raid services were organized and a black-out instituted. A well-trained and equipped force of Nigerian troops was sent to Kenya to serve with South African and other British African units against the Italians in Italian East Africa. See EUROPEAN WAR under *African Campaigns*.

**NIGHTINGALE ISLAND.** See BRITISH EMPIRE under *St. Helena*.

**NITROGEN.** See CHEMISTRY, INDUSTRIAL; FERTILIZERS

**NLRB.** See NATIONAL LABOR RELATIONS BOARD.

**NOBEL PRIZES.** The Swedish *Aftonbladet* stated in October that no Nobel prizes would be awarded by the Committee during 1940 and that the prize money would be reserved for the follow-

ing year. The possibility of awarding the Peace Prize was virtually eliminated also, since the award is made by the Norwegian Parliament and Parliament had been dissolved as a result of the German occupation. The Peace Prize has been withheld eight times since the awards were initiated in 1901.

A *New York Times* dispatch from Stockholm (Oct. 13, 1940) cited Oslo rumors that the Norwegian Nobel Prize Committee's bank account, blocked by the Germans some time previously, would be seized permanently or might be transferred back to the Swedish Nobel Prize Foundation. The same dispatch reported rumors that the German and Norwegian secret police were examining prominent Norwegians responsible for the award of the 1938 Peace Prize to the imprisoned German pacifist, Carl von Ossietzky.

**NON-AGGRESSION PACTS.** See INTERNATIONAL LAW under *treaties* for a list. See also articles on the countries.

**NON-FEDERATED MALAY STATES.** Same as *Unfederated Malay States*. See under BRITISH MALAYA

**NORFOLK ISLAND.** See AUSTRALIA.

**NORTH AMERICA.** Excluding Mexico and Central America, the continent has an area of about 7,591,490 square miles and a population estimated at 142,300,000 on Dec. 31, 1938. See separate articles on ALASKA, CANADA, and its provinces, NEWFOUNDLAND, UNITED STATES, and the 48 States; also ARCHAEOLOGY, EXPLORATION, ETC.

**NORTH CAROLINA.** Area, 52,426 square miles; includes water, 3686 square miles. Population (U.S. Census), April, 1940, 3,571,623; 1930, 3,170,276. Charlotte (1940), 100,899; Raleigh (the capital), 46,897. The State's whole population gained (1930-40) 401,347; the rural population rose by 237,019, to 2,597,448; the urban (dwelling in places of 2500 or more) by 164,328, to 974,175.

**Agriculture.** Farmers harvested, in 1940, 6,462,000 acres of the principal crops. Tobacco, on 511,800 acres, gave 506,820,000 lb.; in value on the farm, about \$86,524,000. Corn, 2,418,000 acres, grew 44,733,000 bu. (\$32,208,000); cotton, 833,000 acres, 740,000 bales (\$35,150,000); tame hay, 1,148,000 acres, 975,000 tons (\$13,942,000); peanuts, 255,000 acres, 325,125,000 lb. (\$11,379,000); potatoes, 80,000 acres, 8,720,000 bu. (\$5,319,000); sweet potatoes, 74,000 acres, 7,104,000 bu. (\$5,328,000); wheat, 438,000 acres, 6,132,000 bu. (\$5,641,000); oats, 248,000 acres, 5,952,000 bu. (\$3,036,000). Farms numbered 278,276 in 1940 and averaged 67.7 acres.

**Manufactures.** North Carolina manufactured products to the yearly value of \$1,420,638,883 (1939); \$1,384,737,686 (1937). Related totals for 1939 follow (each accompanied by that for 1937 in parenthesis): 3223 (2896) establishments, employing 270,042 (258,771) persons for wages of \$199,158,957 (\$189,265,474), paid for material, etc. and contract work \$874,940,925 (\$908,903,243), and added to material by manufacture \$545,697,958 (\$475,834,443).

**Education.** For the academic year 1938-39 (latest for data below), inhabitants of school age (from 6 years to 21) were reckoned at 1,121,912. Pupils' enrollments in all public schools numbered 892,543; in elementary study, 698,520; in high school, 194,023. Year's current expenditure for public schools, \$30,459,626. Teachers and principals numbered 25,776; among these, the teachers received salaries averaging \$860.

**History.** North Carolina's economic situation continued fairly satisfactory despite disturbance to some elements of the industries in tobacco and textiles by reason of interrupted trade with Europe. The State did not welcome the presence of William Dudley Pelley, leader of the reputedly fascistic Silver Shirt movement, who became particularly conspicuous early in the year in connection with maneuvers at Washington having to do with the Dies Committee (q.v.). His extradition was sought in Washington, that he might be brought to North Carolina and punished for breach of parole. He was at the time under a suspended sentence of imprisonment imposed some years before on conviction for stock fraud; the authorities were said to regard his behavior as subversive and therefore not in accord with the terms of his parole.

The U.S. Supreme Court voided (December 23) the State's tax of \$250 on outside merchants' displays of goods for retail custom.

A committee of 34 historians and antiquarians undertook a study of the "Dare stones," a series of inscribed stones and rocks purporting to tell of the wanderings and fate of members of the lost colony of Roanoke, sent to the Carolina coast by Sir Walter Raleigh. Some of the stones had been collected at Brenau College in Gainesville; since the first report of such a stone in 1937 the number of the finds had mounted, according to accounts in the press, to 46. Dr. Thomas English of Emory University issued a statement for the committee, that the preponderance of evidence yet noted pointed to the stones' authenticity but that further study must precede a conclusion. Some of the finds were made by hunters or hikers. Others reportedly turned up in frequented spots, one in the foundation of a barn, having previously been part of a grist mill. Some appeared along the Chattahoochee River; thirteen, near the Saluda River in South Carolina. The series gave details of a romance-like wandering of Virginia Dare and other colonists, in the hands of Indians, of Virginia's becoming the wife of an Indian, and the birth of her Indian child. One purported to mark her grave. Many took the form of messages and clues for hoped-for searchers. Skeptics recalled unconvincingly frequent finds of seeming relics of early white wanderers in various parts of the country.

**Elections.** The popular vote for President (November 5) totaled 609,015 for Roosevelt (Dem.) and 213,633 for Willkie (Rep.). J. M. Broughton (Dem.), 608,744 votes, was elected Governor, defeating Robert H. McNeill (Rep.), 195,402 votes. Eleven Democrats, all incumbents with one exception, were elected U.S. Representatives.

**Officers.** North Carolina's chief officers, serving in 1940, were: Governor, Clyde R. Hoey (Dem.); Lieutenant Governor, Wilkins P. Horton; Secretary of State, Thad Eure; Treasurer, Charles M. Johnson; Auditor, George Ross Pou; Attorney General, Harry McMullan; Superintendent of Public Instruction, Clyde A. Erwin.

**NORTH DAKOTA.** Area, 70,837 square miles; includes water, 654 square miles. Population (U.S. Census), April, 1940, 641,935, 1930, 680,845. Bismarck, the capital, 15,496 (1940). While the State's whole population decreased (1930-40) by 38,910, the urban group (dwellers in places of 2500 or more) increased by 18,617, to 131,923, the rural group diminishing by 57,527, to 510,012.

**Agriculture.** Farmers harvested (1940) 16,917,000 acres of the principal crops. Wheat, the main crop, on 8,293,000 acres, bore 97,054,000 bu., esti-

mated as worth \$64,056,000 to the growers. Corn, 1,020,000 acres, gave 24,480,000 bu. (about \$12,240,000); barley, 1,754,000 acres, 28,064,000 bu. (\$8,139,000); potatoes, 172,000 acres, 18,920,000 bu. (\$7,190,000); oats, 1,592,000 acres, 33,432,000 bu. (\$6,352,000); flaxseed, 648,000 acres, 3,888,000 bu. (\$4,782,000); tame hay, 975,000 acres, 1,109,000 tons (\$4,048,000); rye, 752,000 acres, 9,776,000 bu. (\$2,933,000).

**Education.** For the academic year 1939-40 North Dakota's inhabitants of school age (from 6 years to 21) were reckoned at 195,611. The year's enrollments in all public schools numbered 139,629: in the elementary group, 105,734; and in high school, 33,895. The year's expenditure for public-school education totaled \$9,979,781. The teachers numbered 7361; their salaries averaged \$722 yearly.

**History.** The decline in the number of North Dakota's population between 1930 and 1940, as shown in the Census, revealed that one in ten of the rural population had been driven out by hard times. The figures did not of themselves necessarily point to an adverse future; for the decline, as commonly interpreted, had resulted from a combination of dry seasons and of unremunerative prices for consequent scanty crops in the early and middle thirties; a pair of afflictions not often to be faced together. North Dakota's rate of depopulation ran a little higher than that for the "dust-bowl" States as a whole; but the end of the droughty period had apparently checked emigration. There were even reported evidences of re-immigration of farmers.

A joint commission recommended (November 2) a plan of accord on use of water of the Souris or Mouse River, in Canada and North Dakota.

William Langer, after years of ups and downs in State politics, again became a dominant figure. He had been convicted of unlawful political practices in 1934 and removed from office as Governor; had won a reversal of his conviction; had been re-elected Governor in 1936; and had failed to win the Republican nomination for Senator in 1938, largely through the opposition of U.S. Representative William Lemke. In 1940 he ran again, seeking the seat of U.S. Senator Frazier, won the Republican nomination, and was elected Senator, November 5, by 100,647 votes, defeating William Lemke, who ran as an independent candidate, polling 92,593 votes, and Charles J. Vogel (Dem.), 69,847 votes.

At the general election (November 5), beside electing Langer to the U.S. Senate, the voters gave the State to Willkie (Rep.) for President, by 154,590 as against 124,036 for Roosevelt (Dem.); John Moses (Dem.) was re-elected Governor, defeating Jack A. Patterson (Rep.). Two Republicans were elected U.S. Representatives.

**Officers.** North Dakota's chief officers, serving in 1940, were: Governor, John Moses (Dem.); Lieutenant Governor, Jack A. Patterson; Secretary of State, James D. Gronna; Auditor, Berta E. Baker; Treasurer, John R. Omland; Attorney General, Alvin C. Strutz; Superintendent of Public Instruction, Arthur E. Thompson.

**NORTH EAST NEW GUINEA.** See AUSTRALIA under *Area and Population*.

**NORTHERN RHODESIA.** See RHODESIA, NORTHERN.

**NORTHERN TERRITORY.** See AUSTRALIA under *Area and Population*.

**NORTHWEST TERRITORIES.** The vast area in northern Canada, east of the Yukon, provisionally divided, for administrative purposes, into

the districts of Franklin (554,032 sq. mi.), Keewatin (228,160 sq. mi.), and Mackenzie (527,490 sq. mi.). Total area, 1,309,682 square miles; population (1939 estimate), 10,000, as against (1931 census) 9723 (including 4670 Eskimos and 4046 Indians). Fur trapping and mining are the chief occupations. The Eskimos were being trained to look after the reindeer herd which numbered 5000 head early in 1940. Mineral production (1939) was valued at \$3,248,777, of which radium and uranium products accounted for \$1,121,553, gold (51,914 fine oz.) \$1,876,224, and silver (483,874 fine oz.) \$195,911. Small amounts of copper, natural gas, and petroleum were produced. Fur production (1938-39) was valued at \$1,205,600 (\$1,311,627 in 1937-38). The whole area is governed from Ottawa by a territorial council consisting of a commissioner, deputy commissioner, and five councillors. Commissioner, Charles Camself.

**History.** The radium-bearing pitchblende deposits are at Great Bear Lake while some distance to the south on the shores of Great Slave Lake is the gold-mining district of Yellowknife which had a population of 1000 at the beginning of 1940. Development was continued in the Yellowknife field and many new deposits were reported.

**NORWAY.** A European kingdom occupying the western and northern part of the Scandinavian peninsula; occupied by Germany in 1940. The kingdom's sovereignty included Svalbard (Spitsbergen and adjacent islands) in the Arctic Sea, 240 miles distant from the Norwegian coast; also Norway asserted sovereignty over Jan Mayen Island in the Arctic Sea, uninhabited, and certain uninhabited areas in the Antarctic region. Capital, Oslo.

**Area and Population.** Covering an area of 124,587 square miles (land area, 119,148 square miles), Norway proper had 2,937,000 inhabitants in December, 1939, by official estimate; by latest census, 2,814,194 in 1930. Only 28 per cent of the population of 1930 were classed as urban, and females exceeded males by about 71,000. The birth rate, per 1000, approximated 16 for 1939; the death rate, 10.1. Populations (1930) of chief cities: Oslo, 253,124; Bergen, 98,303; Trondheim (Nidaros), 54,458; Stavanger, 46,780.

Svalbard's area, 24,294 square miles; population, mainly employees of coal mines, varies seasonally, the wintering population numbering 2316 in 1938-39. This area's product, coal, totaled 626,516 tons for 1938.

**Education and Religion.** School is compulsory for the young and literacy is virtually universal. In the academic year 1936-37, public elementary schools numbered 5751; their pupils, 357,793; support for these schools amounted to 64,331,000 kroner, of which the state paid 27,572,000 and local sources the remainder. Secondary schools numbered 149 (including 42 private schools); their pupils, 25,357. The University of Oslo provided higher education; it had 4229 students in 1939.

The Evangelical Lutheran Church, under the monarchy, was politically established. All religions were tolerated (but not the Jesuit order). Apart from Evangelical Lutherans, persons reporting religious affiliation in 1930 numbered 91,459: among them, 12,207 Methodists, 7788 Baptists, 3325 Adventists, and 2827 Roman Catholics.

**Production.** In normal times 29 per cent of the workers followed agriculture or forestry, 27 industry, 10 commerce, 9 transportation, 7 fishing and whaling, 5 professions and public administration. Production of the chief crops in 1939 was

thus estimated, in bu., except for hay: potatoes, 38,143,895; oats, 10,500,000; barley, 5,316,800; wheat, 2,480,000; hay, 2,537,395 tons. The value of all agricultural production of 1938 was estimated to exceed 500,000,000 kroner. The catch of fish, for 1938, attained about 86,101,000 kroner; of whales, 42,900,000 kroner. Manufacturing production attained some 1,890,000,000 kroner for 1938; mines produced, in estimated value, 180,741,000 kroner. An important part of the country's revenue was normally derived from the operation of its merchant fleet, partly in the country's own commerce and partly as a carrier for others' trade. Under the Norwegian flag at the outset of 1940 were 1590 steamships, making 1,758,000 gross tons, and 2737 motorships, 3,083,000 gross tons. The merchant fleet's earnings of 1938 grossed 697,000,000 kroner and 1939's, by estimate, 800,000,000 or more.

**Foreign Trade.** Imports of 1939 were valued at 1,361,835,000 kroner; exports, at 808,172,000. In 1938 Germany sent 219,781,000 kroner of the Norwegian imports and took 121,509,000 of the exports; Great Britain, 193,295,000 and 193,910,000 respectively.

**Finance.** For the fiscal year ended with June 30, 1940, ordinary revenue, as voted, totaled 539,074,000 kroner; expenditure, 511,309,000. Actual ordinary receipts and expenditures of fiscal year 1939, 590,377,000 and 485,788,000. Budget proposals had been drawn for the fiscal year 1941, shortly before the fall of the kingdom: they called for 660,694,000 kroner of current revenue and 674,088,000 of current expenditure, not to count charges of 129,562,000 on State capital and capital expenditure of 116,168,000. Public debt totaled 1,528,400,000 kroner on June 30, 1939; of the amount, foreign debt made 596,400,000. The unit of currency, the krone, made stable on Aug. 29, 1939, in terms of the U.S. dollar, stood thereafter at 4.4 kroner to the dollar. Previously held in stable relation to the pound sterling, its value in U.S. money averaged \$0.2327 for 1939 and \$0.2457 for 1938.

**Transportation.** Norway had about 2500 miles of railway lines in operation prior to German occupation of the country. A line of 122 miles' length, in central Norway, from Grong to Mosjoen, under construction previously, was reported to have been opened after the German conquest. The State had owned and operated most of the railways. They earned gross revenue of 88,096,000 kroner in the fiscal year 1939, against expenditures of 99,686,000. Paved highways (1939) totaled 25,699 miles. Civil aviation performed (1938) 448,629 miles of flight; furnished 1,472,000 passenger-miles of travel; and transported 260 metric tons of material; regular schedules of flight applied only to the months from May to September, inclusive. The Norwegian merchant marine was the fourth largest in the world; see under *Production*, above.

**Government.** The Constitution of May 17, 1814, as amended, vests executive power in the King acting through a cabinet responsible to the Storting (parliament). Legislative powers rest with the Storting of 150 members elected for four years by universal suffrage. The Storting divides itself into two sections of 38 and 114 members, called the Lagting and Odelsting respectively. Bills affecting the legal position of Norwegian subjects are considered first by the Odelsting, then by the Lagting, and if agreement is not reached, by the whole Storting. Constitutional amendments require a two-thirds vote of the whole Storting. All other bills are dealt with by the whole Storting. The compo-

sition of the Storting elected in October, 1936, was: Labor, 70; Conservatives, 36; Liberals, 23; Agrarians, 18; others, 3. Premier in 1940, Johan Nygaardsvold (Labor), heading a Labor Government. King in 1940, Haakon VII, who was elected by the Storting, Nov. 18, 1905.

### HISTORY

Despite Norway's strict adherence to its traditional policy of neutrality (see YEAR BOOK, 1939, p. 578), the kingdom was swept into the vortex of the European War in the spring of 1940, after narrowly escaping involvement in the Russo-Finnish conflict.

**Policy Toward Finland.** The Norwegian Government followed the same policy as Sweden with respect to the Russo-Finnish conflict (see EUROPEAN WAR under *The Finnish Campaign*; FINLAND and SWEDEN under *History*). It permitted contingents of Norwegian volunteers to fight for Finland. It authorized the sale of Norwegian war supplies to the Finnish Government and the transit of foreign volunteers, arms, and supplies across Norwegian territory to Finland. Carloads of clothing and food and additional funds were donated to the Finns by Norwegian relief organizations. These activities provoked a Soviet protest to the Norwegian Government on January 5, but Oslo denied that they violated Norway's obligations as a neutral.

The Oslo Government, however, on February 16 rejected Finland's appeal for aid from the Norwegian army, and early in March it refused repeated Anglo-French requests for permission to send troops to Finland across Norway. This stand was based on the German threat to intervene if Allied troops were permitted to land in Norway. The Norwegians also felt that the Allies were more interested in securing a position in Scandinavia for a flank attack upon Germany than in aiding Finland. Nevertheless the forced capitulation of Finland on March 12 as a result of the Norwegian and Swedish policies provoked strong criticism of the Oslo Government among some Norwegians. Terms of the Russo-Finnish peace treaty aroused fear of future Soviet military and economic penetration into Norway. There was at the same time strong resentment of the pro-Soviet role played by the small Communist movement in Norway. During February the Oslo press launched a campaign for suppression of the Communist party.

**Strains on Neutrality.** In his address to the opening session of the Storting on January 12, King Haakon declared the government would make every effort to defend Norway's neutrality and that military and naval defenses would be strengthened with that end in view. He called for higher taxes and additional loans to finance the defense program. On January 19 the Storting endorsed Premier Nygaardsvold's declaration of "absolute neutrality" and his statement that any attack upon the kingdom would be met by armed resistance.

Nevertheless infringements of Norway's neutrality by Germany and the Allies became more frequent. Systematic attacks upon neutral ships in the North Sea by Germany accounted for the loss of 55 Norwegian ships and 377 seamen from the start of the war to Mar. 21, 1940. During the first months of 1940 repeated protests were made to Berlin against the sinking of Norwegian ships and, in some cases, the machine-gunning of lifeboats from these ships by German planes. On March 11 the German Government gave assurances that every effort would be made to respect Norwegian

ships not sailing in Allied convoys, but additional sinkings occurred.

While no Norwegian ships or sailors were lost through Allied action, the British Government brought increased pressure to bear upon Norway to reduce the supplies reaching Germany through that country and curtail German naval and merchant shipping operations in Norwegian territorial waters. By entering territorial waters in the far north and hugging the Norwegian coast on their voyages southward to Germany, German ships, and especially freighters carrying iron ore from the Norwegian port of Narvik, were in many cases able to slip through the British blockade.

**The Altmark Incident.** On the night of February 16 the British destroyer *Cossack* entered Gjessingfjord (Joelsing Fjord) about 60 miles south of Stavanger on orders of the British Admiralty and boarded the German prison ship *Altmark* that was returning to the Reich through Norwegian territorial waters. Ten members of the *Altmark's* crew were killed or wounded in hand-to-hand fighting and 299 British sailors imprisoned in the hold were released and taken back to a British port. The rescued sailors had been captured from seven British merchant ships sunk by the German pocket battleship *Graf Spee* before its destruction on Dec. 17, 1939 (see YEAR BOOK, 1939, p. 246).

Germany immediately protested to Norway against this alleged violation of Norwegian neutrality, threatened reprisals, and demanded compensation for the German losses. The Oslo Government protested vigorously to Great Britain, asking the return of the *Altmark* prisoners and financial amends. The London Government declined, stating that it had no apologies to make. It charged that the *Altmark* was a war vessel operating illegally in Norwegian waters and asked the Norwegian Government for an explanation of its failure to discover the captives on board the ship when granting the *Altmark* clearance. The British and French governments threatened to police Norwegian waters to prevent their use by German warships, while London rejected a Norwegian proposal for arbitration of the *Altmark* case.

**Defense Measures.** The threatening attitude of both Germany and Great Britain led to the Copenhagen Conference of the Norwegian, Danish, and Swedish Foreign Ministers on February 25. A program for the joint defense of their neutrality was decided upon (see DENMARK under *History*). The Norwegian Labor Government, long one of the most pacifistic in Europe, speeded up military defense measures. The number of conscripts called to the colors was increased and the small navy expanded in an effort to patrol the coastal waters.

These measures were undertaken half-heartedly, however, and proved to be too late. On March 11 Norway concluded a war trade pact with Britain that further plugged the leaks in the Allied blockade of the Reich. Norway was allowed to import her pre-war tonnage on condition that the transshipment of oil, copper, and food to Germany was curtailed. The Allied Supreme Council meeting at the end of March apparently determined to try to prevent iron-ore shipments from Narvik from reaching Germany. German attacks on Norwegian shipping were intensified.

On April 6 Premier Nygaardsvold and Foreign Minister Halvdan Koht again announced their determination to carry on normal trade with all belligerents and to defend Norway's neutrality. Two

days later the British and French Governments stated that in reprisal for Germany's actions "flagrantly violating neutral rights in order to damage Allied countries" they had sown mines at three points within Norway's territorial waters. This barred Norwegian coastal waters to German ore ships and other vessels.

The Oslo Government immediately lodged a vigorous protest in London and Paris. Foreign Minister Koht in a statement to a special session of the Storting declared the Allied action to be an "open breach of international law" and called for the immediate removal of the mines.

**The German Invasion.** Fear of retaliation from the Reich was widespread throughout Scandinavia. Yet the Norwegian Government and people were taken completely by surprise when Hitler launched his sudden blow at their country on the night of April 8-9. Aided by "fifth column" elements in Norway—principally German "tourists," Norwegian Nazis, and some traitorous Norwegian army officers—and taking advantage of the unpreparedness and confusion of the Norwegian Government and people, the Germans conquered all of Norway south of Namsos by the beginning of May. On June 10 the last of the Allied expeditionary forces that had gone to Norway's aid was forced to evacuate Narvik, leaving the Germans in complete control of the kingdom. See *EUROPEAN WAR* under *The Norwegian Campaign* for a full account.

Some hours after the German invasion began, the German Minister in Oslo, Dr. Curt Brauer, called on Foreign Minister Koht at 5 a.m. He presented a memorandum from the German Government and a note setting forth various demands.

The memorandum was identical with that presented to the Danish Government under similar circumstances at about the same time (see *DENMARK* under *History*). It declared that the German invasion was "intended to secure Norway against a planned occupation of Norwegian bases with Anglo-French forces." It warned that all resistance would be crushed and urged that the Norwegian Government avoid resistance and afford all possible facilities to the German advance in order to avoid "completely useless bloodshed."

The accompanying note made 13 demands upon the Norwegian Government. It was requested to: (1) issue a proclamation asking non-resistance to the German occupation, (2) arrange for "loyal co-operation" between the Norwegian army and the German commanders, (3) hand over coastal fortifications and other needed military establishments undamaged to the Germans, (4) reveal the position of Norwegian sea mines, (5) institute "a complete blackout of the Norwegian districts . . . from the evening after the first day of occupation," (6) maintain "all means of occupation and intercourse, all intelligence services" undamaged and transfer them to the occupationary forces "to such an extent as might be necessary," (7) prohibit Norwegian warships, merchant ships, and airplanes to leave their ports and stations, (8) place Norwegian sea pilots and lighthouses at the disposal of the German authorities, (9) maintain the meteorological service for the benefit of occupationary troops and ban "all intelligence and postal service for abroad," (10) submit all intelligence and mail service to all Baltic States to German control and censorship, (11) arrange for German censorship of military news issued by the Norwegian press and radio stations and place radio

stations at the disposal of the German command for broadcasting announcements, (12) forbid the export to foreign countries of all goods required in wartime, and (13) issue all proclamations and orders under the above provisions in a cipher code unknown to Germany's enemies or at the discretion of the German commander-in-chief.

**Government Flees Oslo.** In presenting these demands, the German Minister emphasized the necessity for their immediate acceptance if German military operations were to be stopped. Foreign Minister Koht at once submitted the German terms to the Norwegian Cabinet, which had already assembled in the Foreign Office. In a short time Koht informed the German Minister his government had decided no independent country could accept such demands. Professor Koht reminded the Minister of Hitler's recent statement that a people who submitted to an aggressor without resistance did not deserve to exist. He added: "We will maintain and defend our independence."

This decision was followed during the early hours of April 9 by the flight of King Haakon, the Crown Prince, Crown Princess, government, and Storting from Oslo by special train to avoid capture by the Germans. They took with them all gold reserves and bank notes of the Norges Bank. At the same time a general mobilization order was issued. At 1 p.m. the train arrived at the little interior town of Hamar, which became the temporary provisional capital. At a secret session of the Storting held in the provincial theater at 6 p.m., the Nygaardsvold Government offered its resignation to the Storting and King but it was unanimously rejected. The government asked for and received full powers to negotiate with the German invaders and three additional Ministers were added to the cabinet to conduct peace negotiations.

**Failure of Negotiations.** While King Haakon was presiding over a meeting of the Council of State in Hamar that evening, news came that a German detachment was approaching. The King, Council of State, government, and Storting immediately moved some 20 miles eastward to the town of Elverum. There a telegram was received from the German Minister at Oslo inquiring whether the King would receive the Minister to discuss peace proposals. The Storting agreed to these discussions and appointed Foreign Minister Koht and three of its members to conduct them. Thereupon the Storting disbanded and most of its members crossed the border into Sweden.

During the night of April 9-10, word came that the German detachment that had occupied Hamar was advancing upon Elverum. The King and the members of the government with the exception of Professor Koht left, but the German force of some 200 men was repulsed west of the town by a hastily assembled group of soldiers and peasants. This skirmish fought in the early hours of April 10 forced the Germans pursuing the King and his government to withdraw to Hamar, along with other factors, served to prevent the impending capitulation of the government.

**The Quisling "Government."** Another reason for the failure of the peace discussions was the action of Major Vidkun Quisling, head of the small Norwegian Nazi party, in proclaiming himself head of the Norwegian Government on the night of April 9. Acting in collaboration with the German forces in Oslo, he broadcast a warning to all Norwegians to cease all opposition to the invaders and co-operate with them.



Quisling was head of the "fifth column" conspiracy among Norwegian Nazis and some military and civilian leaders whose treachery had aided the Germans in securing the surrender of key fortifications. In the name of the Norwegian Government, he issued orders for non-resistance to many loyal garrisons and commanders that added to the confusion of the kingdom's armed forces. Minister of Defense during 1931-33 and for many years a member of the Norwegian general staff, Quisling had close contacts in army circles but his political following was so small that he controlled not a single seat in the Storting.

When the German Minister finally made contact with King Haakon and Foreign Minister Koht in Elverum at 3 p.m. on April 10, he added to the 13 demands made on April 9 the requirement that the King should appoint Major Quisling as Premier and approve the men chosen by Quisling as cabinet ministers. The King, supported by Foreign Minister Koht, declared he could not appoint a government that did not enjoy the confidence of his people. The Foreign Minister, stating that the Nygaardsvold Government had expressed its willingness to resign, asked the German Minister if his government would not accept a friendly Norwegian cabinet composed of other persons. The Minister replied that Chancellor Hitler insisted on Quisling as Premier.

**Haakon Defies Invaders.** King Haakon agreed to submit the new German demand to the Nygaardsvold Government. He did so and later that evening the German Minister was informed by telephone that the King could not appoint Quisling Premier and that Norwegian resistance against the invasion would continue as long as possible. That same evening the government drafted a proclamation calling on the Norwegian people to fight and commenced organization of military resistance. It also ordered the arrest of Major Quisling and the members of his puppet government; of Col. Konrad Sundlo, commander of the Norwegian garrison at Narvik, who betrayed that port to the Germans; and various other Norwegian officials and officers guilty of treason.

Abandoning efforts to win the co-operation of the King and his government, the Germans now undertook to destroy them. Their fighting planes harried the fugitive Norwegian leaders from place to place, forcing them to conceal their whereabouts. At Trysil on April 11 the King and his government were subjected to a severe air bombardment. From Eastern Norway they later crossed the Dovre Mountains to join the Norwegian and Allied forces fighting to encircle Trondheim. There again they narrowly escaped capture by German motorized forces advancing on Dombås. British troops held off the Germans long enough to enable Haakon and his entourage to reach the Allied base at Aandalsnes. Upon the withdrawal of the Allied forces at the beginning of May, the King and his associates were transferred in a British destroyer to an unnamed port farther north within territory controlled by his government. From this region he continued to organize and direct Norwegian military operations.

**The German Administration.** Meanwhile the invaders had been consolidating their political as well as military control of the occupied sections of the kingdom. Apparently believing that Major Quisling was more of a liability than an asset, the German military commander replaced him as "Premier" on April 15 by Ingolf Elser Christen-

sen, the governor of Oslo Province. It was announced that the administration of occupied districts would be carried on by a governmental council that had affirmed its loyalty to the German military authorities. Under German direction, the puppet regime carried into effect the control measures listed in the German note of April 9.

Berlin announced on April 18 that King Haakon had recognized the Christensen regime in Oslo. But on April 19 the Norwegian Legation in Stockholm, Sweden, made public a proclamation issued by the Norwegian Government "somewhere in Norway," stating that the Christensen council was "not representing the will of the Norwegian people and has no legal base in any Norwegian law." It called upon all Norwegians to "assist in this struggle for liberty" and "make the Norwegian people masters of their own country."

This proclamation led Berlin on April 19 to sever relations with the Norwegian Government by asking the Norwegian Minister in Berlin to leave. On April 24 the Christensen Council in Oslo was ousted and "unrestricted German control" over the occupied areas of Norway was proclaimed in Berlin. Josef Terboven, Nazi district leader of Essen, Germany, and publisher of Field Marshal Hermann Goering's newspaper, was named Commissioner of the German-occupied districts in Norway. He was responsible solely and directly to Hitler.

This establishment of a "completely German" regime, similar to that imposed on conquered Poland, was said by Berlin authorities to be due to the action of King Haakon and his government in "placing themselves on the side of the Allies." This move followed Haakon's firm rejection of a message from the Christensen Council in Oslo asking him to urge the Norwegians to cease resisting German rule. It was accompanied by increased severity in the application of German political and economic control measures.

**War Declaration.** Throughout this period the German Government had maintained its original contention that it was acting solely to protect Norway against alleged Allied plans for invasion. On April 27, however, it abandoned this course, formally declared war upon Norway, and made public in Berlin through Foreign Minister von Ribbentrop documents said to have been captured in Norway and purporting to prove that Britain and France on April 6 and 7 had sent troops to invade Norway. The Norwegian Government, it was charged, had "aided and abetted" these plans to strike at the Reich through Scandinavia.

C. J. Hambro, president of the Storting, replied to these charges from Stockholm, Sweden, on April 28. He pointed out that most of the documents produced in Berlin were dated early in January when the Allies had publicly announced preparations to send troops and material to the aid of Finland through Norway and Sweden. Both countries refused to permit use of their territories for this purpose. As proof that Britain was unprepared for any landing of troops in Norway at the time of the German attack, he pointed to the absence of British warships when the Germans occupied Norwegian ports and the fact that "the first British landing parties came only nine days after German troops were solidly established on Norwegian soil."

He charged that the German Government had planned the invasion of Norway for months ahead of the attack and that German merchant ships that

had been lying in the principal Norwegian ports for four or five days previous to the invasion disgorged fully armed troops and military equipment on April 9. The Norwegian Government, he said, had gathered evidence proving that these ships had sailed from German ports more than a week before the Nazi blow fell on Norway.

Similar charges were made in a declaration issued by the Norwegian Government from its secret headquarters in Norway on April 29. This document also accused the invaders of violating all rules of international law. It declared German bombers had "devastated defenseless Norwegian villages and towns," that members of the Norwegian Government had personally witnessed German troops firing at civilians who took no part in the fighting, but that nevertheless "the war . . . will last until the usurper has been hurled out of the country and Norway again is free."

**Haakon Continues Resistance.** This determination survived the marked disillusionment and criticism aroused by the withdrawal of Allied troops from the Namsos and Aandalsnes and the accompanying surrender of some Norwegian forces in that region. On May 3 the Norwegian Government issued a communiqué declaring that the war must go on. On May 5 Foreign Minister Koht and the Norwegian Defense Minister arrived in London to consult with Allied representatives and announced that their government was preparing for a long war with the aid of the Allies. Additional Allied forces were sent to the Narvik front and a joint high command was appointed for operations in Norway with the Norwegian, Gen. Otter Ruge, as its temporary chief. The great Norwegian merchant fleet, all but one-sixth of which was said to have escaped German control, was placed at the disposal of the Allies for war purposes. Substantial Norwegian gold reserves, previously removed to London and New York, likewise were added to the Allied war chest.

Although some guerrilla bands continued to harass German occupant forces from mountainous regions and fighting continued at various points in Northern Norway, Chancellor Hitler on May 9 signaled the virtual termination of hostilities in Central and Southern Norway by granting amnesty to all Norwegian prisoners of war except professional soldiers.

Following the evacuation of Narvik, King Haakon and his government established their headquarters in London. On June 10 the government issued a proclamation announcing its withdrawal from Norway and its determination to carry on the struggle for Norwegian liberty. It declared the King, the President of the Storting, the government, and the commanders of the army and navy were united in this aim. The reorganization of the government by the appointment of new Ministers representing all of the established parties was undertaken the same day.

The Norwegian naval, military, and air forces were reorganized and rebuilt in Britain and Canada. The navy and particularly the great Norwegian merchant fleet, manned by 30,000 sailors, proved of vital assistance to the Allied war effort. Payments on American loans were continued by the government in exile.

**German Rule in Norway.** Shortly after Haakon's arrival in London, the German Commissioner for Norway demanded that those members of the Storting remaining in Norway repudiate the King and Premier Nygaardsvold's government. If

this was not done, he threatened to put the Norwegians under full Nazi control and administration. Under this threat, four members of the Presidential Board of the Storting appealed to Haakon to abdicate. The King formally refused in a statement issued in London July 8, declaring that to abdicate would be to "betray" his constitutional duties.

Commissioner Terboven attempted for three months to form a Norwegian Government that would be acceptable to both Berlin and the Norwegian people. Failing to enlist the co-operation of any responsible Norwegian leaders, he turned again to Major Quisling, who on September 25 was permitted to form a so-called National Council composed of 13 Norwegian Nazis and sympathizers. The other political parties, which on September 7 had merged in a united anti-Nazi front, were dissolved. At the same time, Terboven announced the abolition of the monarchy and of Parliament.

Quisling, with full German support, then set out to Nazify Norway by the methods developed in Germany. Secret police, concentration camps, censorship, arrests of all critics of the regime, attempted control of propaganda and of education and religion, and other repressive measures failed to break the mass resistance offered by the great majority of the people. There were riots, demonstrations, and boycotts against Quisling and his adherents. One Quislingist was murdered. The trade unions, teachers, and clergymen defied threats and violence designed to force them to accept the new regime. In December the members of the Supreme Court resigned in a body when Commissioner Terboven issued decrees intended to Nazify the judicial system.

Large-scale sabotage and espionage on behalf of the British became more troublesome to the German authorities, despite the execution of several Norwegians and repeated warnings to the populace. Meanwhile the food and commodity shortage became acute, primarily because reserve stocks of oil, raw materials, and foodstuffs had been shipped to the Reich. At the end of the year, the kingdom seemed on the verge of serious outbreaks.

See GERMANY, GREAT BRITAIN, and SWEDEN, under *History*; INDUSTRIAL CHEMISTRY; LABOR CONDITIONS; LEAGUE OF NATIONS; NOBEL PRIZES. **NORWEGIAN CAMPAIGN.** See EUROPEAN WAR under *The Norwegian Campaign*.

**NORWEGIAN LITERATURE.** See SCANDINAVIAN LITERATURE.

**NOVA SCOTIA.** An eastern maritime province of Canada. Area, 21,068 square miles; population (1939 estimate), 554,000 compared with (1931 census) 408,219. Vital statistics (1939): 11,800 living births, 6321 deaths, and 4993 marriages. Chief cities (1931 populations): Halifax, the capital (59,275), Sydney (23,089), Glace Bay (20,706), Dartmouth (9100), New Glasgow (8858), Truro (7901), Sidney Mines (7769), New Waterford (7745), Amherst (7450), Yarmouth (7055). Education (1938): 138,746 students enrolled in all schools and colleges.

**Production.** The gross value of agricultural production in 1939 was \$28,803,000. In 1939 the value of all field crops from a total of 551,900 acres was \$12,659,000. Chief field crops (1939): Oats 3,325,000 bu., potatoes 101,650 tons, roots 150,000 tons, hay and clover 605,000 tons. Live-stock (1939): 240,000 cattle (including 118,000 milch cows), 144,000 sheep, 45,000 swine, 44,000

horses, and 1,256,000 poultry. Apple crop (1940): 1,500,000 barrels. Fur production (1938-39) was valued at \$601,800. The 1939 output of the forests (equal to 132,938 M cu. ft.) was worth \$7,475,200. Fisheries catch (1939): 141,050 tons with a marketed value of \$8,754,000, including cod \$2,305,000, lobsters \$2,011,000, haddock \$1,310,000, mackerel \$723,400, halibut \$596,800, herring \$405,000. During 1939 the fisheries employed 17,544 fishermen and 3272 persons in the fish curing and canning establishments.

Mineral production (1939) was valued at \$30,-746,200, including coal (7,051,176 tons) \$25,611,-271, gypsum (1,298,618 tons) \$1,340,830, gold (29,943 fine oz.) \$1,082,170, zinc (9,152,856 lb.) \$280,901, copper (1,269,179 lb.) \$128,086, silver (175,877 fine oz.) \$70,399, salt (47,885 tons) \$213,-029. Manufacturing (1938): 1102 factories, 16,810 employees, \$31,375,251 net value of products. On Nov. 30, 1939, there were 14,983 miles of roads, of which 900 miles were paved.

**Government.** Financial estimates (year ending Nov. 30, 1939): Revenue, \$12,126,105; expenditure, \$11,850,075. The King is represented by a lieutenant governor (appointed by the governor general in council) who is advised by a ministry, which is responsible to the house of assembly and resigns office when it fails to enjoy the confidence of that body. In the house of assembly there are 30 members (including those in the ministry) all elected for a five-year term by popular vote. Ten senators and 12 commoners represent Nova Scotia in the Canadian parliament at Ottawa. Lieutenant Governor, Frederick F. Mathers (appointed May 31, 1940); Premier, A. S. MacMillan (Liberal) who succeeded A. L. MacDonald when the latter became Dominion Minister of National Defense for Naval Affairs on July 8, 1940. See CANADA.

**NURSE-TRAINING.** See SCHOOLS.

**NYA.** See NATIONAL YOUTH ADMINISTRATION.

**NYASALAND.** A British East African protectorate. Land area, 37,374 square miles; population (1938), 1,679,977, including 1,676,382 natives. Chief settlements: Zomba, the seat of the government; Blantyre, the commercial capital; Limbe; Cholo; Lilongwe; Mlanje; Salima; Fort Johnston.

**Production.** Chief products: tobacco, cotton, tea, maize, coffee, rubber, rice, sisal, and tung oil. Livestock (1938): 247,089 goats, 234,708 cattle, 59,544 swine, 51,924 sheep. Trade (1939): total imports, £715,391; total exports, £823,823.

**Government.** Finance (1939): estimated revenue, £832,970; estimated expenditure, £850,940. Nyasaland is under the control of a governor, aided by an executive council. Laws are enacted by the Governor with the advice and consent of the Legislative Council. Governor and Commander-in-Chief, Sir Donald Mackenzie-Kennedy (appointed Feb. 24, 1939).

**History.** Preparing to take part in the defense of the British East African territories against a threatened invasion from Italian East Africa, the Legislative Council in mid-year, 1940, passed an ordinance making male British subjects and British-protected persons of European or Asiatic extraction between the ages of 18 and 55 liable for compulsory service. Compulsion did not apply to military service, for which only volunteers were accepted. Nyasaland volunteers participated in the campaign on the Kenya-Italian East Africa border during the latter half of the year. See EUROPEAN WAR under *Campaigns in Africa*.

The British Government during 1940 accepted recommendations for increasing the membership of

the Legislative Council of Nyasaland and including unofficial members in the Executive Council.

**NYLON.** See CHEMISTRY, INDUSTRIAL; TEXTILES under *Silk*.

**OATS.** The oats crop of 1940 in the United States was estimated by the U.S. Department of Agriculture at 1,235,628,000 bu., about a third more than the 1939 crop of 935,942,000 bu. and one-fifth larger than the 1929-38 average of 1,024,852,000 bu. The relatively high production total was due primarily to record or near record high acre yields over most of the Corn Belt. The acreage not harvested for grain, 3.8 per cent of the acreage planted, was considerably less than in 1939. The harvested acreage of 34,847,000 was about 6 per cent larger than that of 1939 and 6 per cent less than the 1929-38 average of 37,005,000 acres. Yield per acre averaged 35.5 bu. in 1940 and 28.4 bu. in 1939. Leading oats-producing States were: Iowa with 206,640,000 bu., Minnesota 180,795,000, Illinois 152,496,000, Wisconsin 96,793,000, Michigan 60,489,000, South Dakota 53,240,000, and Indiana 49,950,000 bu. The seasonal average price per bu. (preliminary) received by farmers was 29.1 cents and the estimated value of production was \$359,819,000 in 1940 compared to 31.1 cents and \$290,922,000 in 1939. See *Crop Production Table* under AGRICULTURE.

**OBITUARIES.** See NECROLOGY.

**OBSERVATORIES.** See the article on ASTRONOMY.

**OCCUPATIONAL DEATHS AND INJURIES.** See ACCIDENTS; LABOR LEGISLATION.

**OCEANIA, French.** The French possessions in the Pacific, comprising the main groups of islands, as follows: Society, Marquesas, Tuamotu, Leeward (Iles sous le Vent), and the Gambier, Austral, and Rapa. Tahiti (600 sq. mi.; pop., 19,-029 in 1936), of the Society group, is the principal island. Total area 1520 square miles; total population (Jan. 1, 1938), 45,000. Capital, Papeete (on Tahiti), 8456 inhabitants. Chief products (1939 exports in parentheses): copra (23,000 tons), vanilla beans (206 tons), phosphate rock (160,680 tons), and mother-of-pearl. Trade (1939): imports, 80,482,000 francs; exports, 63,536,000 francs (franc averaged \$0.0251 for 1939). Budget (1939): balanced at 27,560,000 francs. Dr. D. E. Curtin replaced Chastenet de Géry as governor Sept. 2, 1940, as the result of a plebiscite in which the supporters of Gen. Charles de Gaulle defeated those of the Vichy Government by 5251 votes to 18. See FRANCE under *History*.

**OCEAN ISLAND.** See BRITISH EMPIRE.

**OFFSET LITHOGRAPHY.** See NEWSPAPERS AND MAGAZINES; PHOTOGRAPHY.

**OHIO.** Area, 41,040 square miles, exclusive of the State's part of Lake Erie, but includes other water, 300 square miles. Population (U.S. Census), April, 1940, 6,907,612; 1930, 6,646,697. Cleveland (1940), 878,336; Cincinnati, 455,610; Columbus (the capital), 306,087; Toledo, 282,349; Akron, 244,791; Dayton, 210,718. The State's entire population gained (1930-40) 260,915, or 3.9 per cent. While the urban group (those in places of 2500 or more) rose by 105,615, or 2.3 per cent, to 4,612,986, the smaller rural population increased more rapidly, by 155,300, or 7.3 per cent, to 2,294,626. Thus 33.2 per cent of the population of 1940 was rural. Three among the six cities of more than 200,000 lost somewhat in population, but hardly more than might be ascribed to movement into suburbs; Columbus and Dayton made moderate gains, and Cincinnati gained just under 1 per cent.

**Agriculture.** Ohio's harvest of 1940, close to 11 years' average in extent, covered 10,191,000 acres. Corn, on 3,220,000 acres, produced 120,750,000 bu., \$79,695,000 in estimated value to the farmer. Wheat, 1,960,000 acres, bore 43,137,000 bu. (\$31,603,000, estimated); tame hay, 2,923,000 acres, gave a big crop of 4,241,000 tons (\$29,263,000); oats, 1,020,000 acres, 44,880,000 bu. (\$14,810,000); potatoes, 118,000 acres, 11,800,000 bu. (\$9,558,000); soy beans, 560,000 acres, 8,400,000 bu. (\$6,720,000); apples, 5,074,000 bu. (\$4,567,000); tobacco, 30,000 acres, 26,430,000 lb. (\$3,096,000). Farms numbered 233,783 in 1940 and averaged 93.7 acres.

**Mineral Production.** Ohio's production of its native minerals as stated in 1940 by the U.S. Bureau of Mines, amounted to \$104,812,531 for 1938. Of the total, coal provided nearly one-third; clay products and natural gas, about one-sixth each. The coal mines' output increased to some 19,632,000 tons for 1939, from 18,590,618 tons (value \$33,073,000) for 1938, and approximately 22,092,000 tons for 1940. The marketed production of natural gas totaled 35,257 millions of cu. ft. (1938); this total had a value of \$17,550,000 at the points of consumption. It came to only one-third of the natural gas consumed in the State, the greater part being imported. After years of gradually dwindling production, natural gas indicated a rising yield in 1939, a change attributed to better-than-average new wells, mainly in the Clinton sand formation. Ohio's clay products (other than pottery and refractories) totaled \$17,679,691 (1938). Producers' shipments of portland cement rose to 6,140,125 bbl (1939), from 5,258,603 (1938); by value, to \$8,233,817, from \$7,094,745. Producers disposed of 1,794,788 tons of salt (1939) as against 1,489,270 (1938); respective values, \$2,647,355 and \$2,562,620. The production of petroleum, 3,298,000 bbl., value \$3,860,000, for 1938, continued with slight diminution through 1939 and 1940; while relatively small, it included over 1,000,000 bbl. yearly of the Pennsylvania grade, higher in price. Ohio, the Union's chief producer of lime, totaled 1,106,250 short tons of lime (sold or used), for 1939; for 1938, 836,589 tons: value \$8,907,195 (1939) and \$6,658,853 (1938).

Apart from the exploitation of its own minerals, Ohio conducted long-established industries in the processing of minerals from elsewhere: particularly, the production of coke, pig iron, and steel. The yearly output of coke recovered to 6,135,949 net tons (1939) from 3,699,995 (1938); by value, to \$28,502,924, from \$18,413,808. In like manner furnaces' shipments of pig iron rallied to a yearly total of 7,249,172 gross tons (1939) from 4,186,217 tons (1938); by value, to \$147,154,864, from \$85,186,824. Likewise the output of open-hearth steel ingots and castings rose to 8,851,298 gross tons (1939) from 5,372,234 (1938).

**Manufactures.** Ohio's manufactured products totaled \$4,584,606,792 for 1939: \$5,099,816,893 for 1937. Other related totals for 1939 follow (each with that for 1937 in parentheses): 10,070 (9138) establishments, employing 598,392 (694,205) people for wages of \$812,676,444 (\$967,650,237), paid \$2,459,191,656 (\$2,793,189,697) for material, contract work, etc., and added by manufacture a value of \$2,125,415,136 (\$2,306,627,196). Ohio stood fourth highest in the Union, for value of manufactured products of 1939.

**Education.** Ohio's public schools reported, for the academic year 1939-40, 1,223,993 enrollments of pupils; this comprised 22,444 in kindergarten, 691,235 in elementary study, 93,727 in junior high

school, 392,308 in high school, 22,931 special students, and 1348 post graduate students. The year's expenditure for public-school education was estimated at \$106,000,000. The teachers numbered 41,378 in 1940; teachers' salaries averaged \$1600.44 for 1939.

**History.** The State's great industries producing or fabricating iron, steel, machinery, tools, and articles of rubber attained a high activity under the impulsion of demand created by the European war and by the Federal program of increasing armament. General business and construction improved conformably. The burden of supporting indigents at public cost diminished well below the levels that had become familiar. Most of the economic improvement came after the midyear: on October 21, for instance, the Wright Aeronautical Corporation started building at Lockland, near Cincinnati, works expected to pay \$20,000,000 in wages yearly.

**Legislation.** A special session of the Legislature met on June 17 and adjourned on the 20th. Being under Republican control, it dealt promptly with the matters put before it by Governor Bricker: further appropriation for poor-relief, increase of the maximum on old-age pensions to \$40 a month, separation of the National from the State ballots in the general election, and alteration of the State law on dependent children in conformity with new features of the Federal law. Old people entitled to the full pension were to get \$40 a month by an act becoming effective Jan. 1, 1941. Additional money was provided for the purpose. The change, encouraged by recent Federal increase to \$40 as the maximum toward which the Government would pay half, was also prompted by the desire to leave as little room as possible for the renewal of the Bigelow higher-pension agitation of 1939. The act segregating the National ticket from the State part of the ballot was advocated as a beneficent plan to discourage those voters who might otherwise vote a straight ticket to the neglect of proper attention to State candidates and issues; the Democratic members, who might be expected to think that the prestige of their party's National ticket would waft a good many votes to Democratic State candidates, opposed the change without avail. Local governments got the authority to fund deficits that they had incurred before 1940 through their appropriations for poor-relief.

**Administration and Courts.** The incoming Republican government of the State, the year before, had done some close figuring to bring down appropriations. There arose question, before the special session, whether it had provided enough to see the State through the biennium. State's Auditor Ferguson, a Democrat, refused late in May to allow certain further current payments of State money; it would take an overdraft of \$4,000,000, he declared, to pay all obligations and vouchers outstanding; Governor Bricker notified Ferguson that unless the required payments were made a mandamus against Ferguson would be sought; payments were thereafter put through. President Roosevelt's unexpected veto of an act of Congress to make good to Ohio the payments for October, 1938, which the Social Security Board had withheld because of doubt of the workings of the State's old-age pensions as then administered, left the State government a loser by the amount that it had met in place of the Federal government. The veto of the Federal Rivers and Harbors bill put into abeyance some of the plans for works to restrain floods in Ohio.

Among decisions of the State Supreme Court, one denied reinstatement to a State employee, on the ground that his original appointment had been irregular, and thus cast doubt on the security of several thousand jobs bestowed without recourse to civil service; another decision, upholding a lower court, required members of the Legislature of 1936 to restore to the State about \$27,000 that they had individually collected in allowances, by mileage, for imaginary travel between their homes and the capital on the occasions of "constructive" meetings, between adjournments, that never actually assembled; a third decision, rendered in September, refused Communists' demand that, though their petition to the Secretary of State had lacked the number of signatures required by statute, the Communist nominees should be designated on the November ballot.

**Municipal Affairs.** The troubles that *Cleveland* had had in 1939 in providing for its numerous dependents on poor-aid did not return on any similar scale in 1940; Cuyahoga County having created (December, 1939) a special tax on property, took up its share of the city's remaining burden. *Cincinnati's* City Council approved a new street-railway and bus franchise running for 25 years, leveling all fares to a uniform rate for travel within the city, and requiring the giving of transfers universally between lines, at points of contact; a decision of the State Supreme Court, denying a plea to the contrary on behalf of City Manager Sherrill, approved an order to compel him to sign and execute contracts for two housing projects, Winton Terrace and English Woods. *Toledo's* supply of gas for fuel was cut short early in February by a strike of a C.I.O. organization among the men operating the gas works. See AQUEDUCTS; FIRE PREVENTION; WATER WORKS AND WATER PURIFICATION.

**Elections.** At the general election (November 5) the popular vote for President gave Roosevelt (Dem.) 1,733,139 and Willkie (Rep.) 1,586,773.

Harold H. Burton (Rep.), the Mayor of Cleveland, was elected U.S. Senator, to succeed Vic Donahey, who had refused to seek a Democratic renomination; the defeated Democratic nominee was John McSweeney. John W. Bricker (Rep.); 1,825,312 votes, was re-elected Governor by a great plurality of more than 350,000 over ex-Governor Martin L. Davey (Dem.), 1,460,653. In spite of Bricker's strength the Democrats re-elected two minor officers of the State (one of them Auditor Joseph T. Ferguson, who had controverted Bricker on State finances); increased the Democratic share of the U.S. Representatives by 4, to 12 or an even half, and reduced the Republican majorities in both houses of the State Legislature.

**Officers.** The chief officers of Ohio, serving in 1940, were: Governor, John W. Bricker (Rep.); Lieutenant Governor, Paul M. Herbert; Secretary of State, Earl Griffith (died) and George M. Neffner (successor); Auditor, Joseph T. Ferguson; Treasurer, Don H. Ebricht; Attorney General, Thomas J. Herbert; Director of Education, E. N. Dietrich.

**OIL.** See PETROLEUM. For cottonseed oil, see COTTON.

**OKLAHOMA.** Area, 70,012 square miles; includes water, 643 square miles. Population (U.S. Census), April, 1940, 2,336,434; 1930, 2,396,040. Oklahoma City, the capital (1940), 204,424; Tulsa, 142,157. The decline (1930-40) of 59,606 in the State's population occurred in the rural group, which diminished by 117,588, to 1,456,771, whereas

the urban population (those in places of 2500 or more) increased by 57,982, to 879,663.

**Agriculture.** Oklahoma's harvest of 1940 covered 13,208,000 acres. Cotton, on 1,846,000 acres, grew 805,000 bales, \$35,822,000 in estimated value to the producers. Wheat, on 3,885,000 acres, 56,332,000 bu. (\$34,926,000) nearly equaled cotton in estimated value. Corn, 1,877,000 acres, made 40,356,000 bu. (\$21,792,000); grain sorghums, 1,560,000 acres, 17,160,000 bu. (\$8,408,000); oats, 1,403,000 acres, 32,269,000 bu. (\$8,390,000); tame hay, 680,000 acres, 983,000 tons (\$6,488,000); barley, 340,000 acres, 5,780,000 bu. (\$2,196,000); potatoes, 34,000 acres, 2,550,000 bu. (\$1,556,000).

**Mineral Production.** Oklahoma's production of its native minerals, as stated in 1940 by the U.S. Bureau of Mines, totaled \$272,860,078 for 1938; this lacked nearly \$95,000,000 of the previous year's aggregate. Petroleum contributed more than three-fourths of the total; natural gas and gasoline derived therefrom, most of the remainder. The production of petroleum, continuing a decrease already evident in 1938, fell to 160,072,000 bbl. for 1939, and to 155,952,000 for 12 months of 1940, from 174,994,000 bbl., in value \$209,500,000, for 1938. The Seminole district, by reason of increasing production, surpassed and largely offset the declining Oklahoma City field (long the State's chief producer of petroleum) in 1940. While the booming production of Illinois, hurting Oklahoma's market, tended to discourage Oklahoman drilling operations, numerous wells, driven nevertheless in 1939, fell short of restoring reserves of petroleum for future production.

Natural gas produced and delivered to consumers totaled 263,164, million cu. ft. for 1938; by value at points of consumption, \$27,391,000; the domestic and commercial use of natural gas was reported to have made a moderate increase in 1939. The production of gasoline from natural gas decreased to 434,800,000 gal., approximately (1939), from 468,499,000 gal., value \$14,373,000 (1938). Zinc in ore mined yearly in the State rose to 158,000 tons, valued at \$20,450,000 (1940), from 140,379 tons (1939), \$14,599,416, and 112,924 tons, \$10,840,704 (1938). Lead, likewise in ore, increased to 27,720 tons (1939), from 21,004 tons, value \$1,932,368 (1938), the coal output was 1,613,000 tons for 1940, 1,178,000 for 1939, and 1,178,000 tons (valued at \$2,947,000 for 1938).

**History.** Governor Phillips waged strenuous opposition to the Federal construction of the Denison Dam, in the Red River, and the Grand River Dam, near Disney in the northeastern part of the State. The Denison Dam, the greater enterprise of the two, was to generate hydroelectric power to the potential gain of Dallas and Fort Worth, Tex.; and it was to flood a great acreage of good farming land in Oklahoma without apparent equal advantage to that State. Oklahoma applied to the U.S. Supreme Court for an injunction to restrain the Secretary of War from proceeding with construction at Denison; the Court refused to entertain the suit (February 12), and this cleared the way for the Army Engineers to let a contract in April for the main earthen embankment. But in October a Federal 3-judge court undertook to hear Oklahoma's suit to stop the Denison undertaking.

Against the Grand River Dam enterprise, a \$20,000,000 project financed by the PWA, under an agency entitled the Grand River Dam Authority and wholly within Oklahoma, the Governor proceeded in March by posting a force of the National Guard at the site and getting a State court's in-

junction against completing the dam. The Authority in turn sued out a Federal injunction against the Governor's keeping the troops posted and against the continuance of the State court's injunction. The dam was then quickly completed and began to flood land before settlement of claims, which the Governor championed, for indemnity to the State on account of its loss of highways to be submerged.

In *Oklahoma City* the activity of Communists moved the authorities to take steps against them. The City Manager and City Council denied them, in March, the use of the Municipal Auditorium for their meetings; the local secretary of the party was found guilty, in October, of criminal syndicalism, a verdict carrying 10 years' prison and a fine. See COMMUNISM.

**Elections.** The popular vote for President (November 5) totaled 474,313 for Roosevelt (Dem.) and 348,872 for Willkie (Rep.). Eight Democrats and one Republican were elected U.S. Representatives. There was no election of Governor or U.S. Senator.

**Officers.** Oklahoma's chief officers, serving in 1940, were. Governor, Leon C. Phillips (Dem.); Lieutenant Governor, James E. Berry; Secretary of State, C. C. Childers; Auditor, Frank C. Carter; Treasurer, Carl B. Sebring; Attorney General, Mac Q. Williamson; Superintendent of Public Instruction, A. L. Crable

**OLD-AGE ASSISTANCE, INSURANCE, AND PENSIONS.** See LABOR LEGISLATION; RAILWAYS under *Railroad Retirement Board*; RELIEF, SOCIAL SECURITY BOARD; also, COLORADO, INDIANA, OHIO under *History*.

**OMAN.** See ARABIA

**ONTARIO.** A Canadian province. Area, 412,582 square miles, including 49,300 square miles of fresh-water area. Population (1939), 3,752,000, as against (1931 census) 3,431,683. Vital statistics (1939): 64,000 living births, 37,502 deaths, and 34,657 marriages. Chief cities (1931 populations): Toronto, the capital (631,207), Hamilton (155,547), Ottawa, the capital of Canada (126,872), London (71,148), Windsor (63,108). Education (1938): 778,364 students enrolled in schools and colleges of all kinds.

**Production.** The gross value of agricultural production in 1939 was \$365,614,000. Field crops covered an area of 9,086,600 acres in 1939 and were valued at \$149,672,000. Chief field crops (1939): Wheat 23,821,000 bu., oats 86,639,000 bu., barley 16,600,000 bu., mixed grains 35,662,000 bu., corn for husking 8,097,000 bu., potatoes 362,350 tons, roots 1,051,800 tons, hay and clover 4,682,000 tons, alfalfa 1,568,000 tons, fodder corn 3,545,000 tons, sugar beets 343,000 tons. Livestock (1939): 2,488,000 cattle (including 1,183,000 milch cows), 1,546,000 swine, 847,000 sheep, 559,500 horses, 22,841,000 poultry. Apple crop (1940): 707,300 barrels. Fur production (1938-39) was worth \$2,527,700. Forestry output (1938) was equivalent to 576,278 M cu. ft. of standing timber and was worth \$34,797,120. Fisheries (1939): 16,871 tons of fish valued at \$3,007,300.

Gold (3,168,623 oz.) and silver (577,864 oz.), valued at \$122,232,970, were produced during 1940 from 11,687,412 tons of ore milled.

Mineral production (1939) was valued at \$232,519,948, including gold (3,086,076 fine oz.) \$111,533,873, nickel (226,105,865 lb.) \$50,920,305, copper (328,429,665 oz.) \$32,637,305, platinum (148,877 fine oz.) \$5,221,712, palladium, rhodium, iridium (135,402 fine oz.) \$4,199,622, silver (4,689,422 fine

oz.) \$1,898,653, cobalt (732,561 lb.) \$1,213,454, natural gas (11,966,581 M cu. ft.) \$7,261,928, salt (370,843 tons) \$2,200,189. Manufacturing (1938): 9883 factories, 311,274 employees, \$757,620,632 net value of products.

**Government.** Finance (1939-40): Revenue and expenditure were expected to show a deficit of \$4,444,929. Budget (1940-41): Ordinary revenue \$99,891,361, ordinary expenditure \$99,535,122. The King is represented by a lieutenant governor (appointed by the governor general in council) who is advised by a ministry, which is responsible to the legislature and resigns office when it fails to have the confidence of that body. There are 90 members (including those in the ministry) in the legislative assembly, all elected for a five-year term by popular vote. At the provincial general election of Oct. 6, 1937, there were elected 64 Liberals, 23 Conservatives, and 3 others. Twenty-four senators (appointed for life) and 82 commoners represent Ontario in the Dominion parliament at Ottawa. Lieutenant Governor, Albert Matthews; Premier, Mitchell F. Hepburn (Liberal). See CANADA under *History*.

**OPERA.** See MUSIC.

**OPIUM AND OPIUM ADVISORY COMMITTEE.** See NARCOTIC DRUGS CONTROL.

**OPM.** Office of Production Management. See DEFENSIVE PREPARATIONS

**ORAN, Battle of.** See EUROPEAN WAR; ALGERIA, FRANCE under *History*.

**ORANGE FREE STATE.** See SOUTH AFRICA, UNION of under *Area and Population*.

**ORCHESTRAS.** See MUSIC; RADIO.

**OREGON.** Area, 96,699 square miles; includes water, 1092 square miles. Population (U.S. Census), April, 1940, 1,089,684; 1930, 953,786. Portland had (1940) 305,394; Salem, the capital, 30,908. The State's population increased (1930-40) by 135,898, or 14.2 per cent. The urban (dwellers in places of 2500 or more) total rose by 41,929, to 531,675; the rural total rose by 93,969 to 558,009.

**Agriculture.** Oregon harvested, in 1940, 2,625,000 acres of the principal crops. Wheat and tame hay each occupied somewhat under one-third of this total. Wheat, on 850,000 acres, made 17,184,000 bu. (estimated value to the growers, \$11,513,000); tame hay, 823,000 acres, came to 1,532,000 tons (\$11,337,000). Among other leading crops: hops, 19,600 acres, produced 19,992,000 lb. (\$5,152,000); potatoes, 46,000 acres, 8,510,000 bu. (\$4,936,000); pears, 4,418,000 bu. (\$3,093,000); apples for market, 3,160,000 bu. (\$2,370,000); oats, 318,000 acres, 7,950,000 bu. (\$2,782,000); corn, 60,000 acres, 1,860,000 bu. (\$1,414,000).

**Mineral Production.** Oregon's yearly production of its own minerals (\$7,536,091 for 1938) consists—except for the stone, sand, and gravel for such uses as ballast and concrete—mainly of gold; with the gold come subordinate totals of silver and other metals. Gold in the material mined yearly rose to 112,700 fine oz., for 1940 (preliminary estimate), from 93,372 oz. for 1939; by value, to \$3,944,500, from \$3,268,020. Silver and a little copper and lead, virtually all from the gold ore, were valued at some \$149,000 for 1940. Oregon's production of mercury, 4592 76-lb. flasks (value, \$477,293) for 1939, came to one-fourth of the Union's output; in 1940 a strong demand for mercury in the war-serving industries and the fruition of additional development at the Bonanza mine in Douglas county worked together to bring about sharp rises in monthly output.

**Education.** For the academic year 1939-40, Or-

egon's inhabitants of school age (from 4 years to 19, inclusive) were reckoned at 264,743. The year's enrollments of pupils in all public schools numbered 205,928; this comprised 142,871 in elementary study and 63,057 in high school. Outside of these totals, 10,967 enrollments of other sorts were reported. The year's expenditure for public-school education, except some of that connected with service of debt, amounted to \$18,581,108. The teachers numbered 8057; their salaries for the year averaged \$1333.73.

**History.** The State Supreme Court, accepting the precedent set by the Federal Supreme Court earlier in the year as to laws restricting picketing, rendered a decision late in October declaring the State's law of 1938 for the regulation of the conduct of labor organizations to be unconstitutional in its vital provisions, the prohibition of unrestrained picketing and of industrial boycotts. Oregon's law had been reputed the most thoroughgoing effort on American statute books to limit violence and similar excesses in connection with the action of labor organizations against employers. The overthrown act had been adopted in a referendum by 197,771 votes to 148,460. The C.I.O., A.F.L., and railroad-employees' brotherhoods had all sought to bring about its termination. Its operation had mitigated violence and economic harm but had by no means done away with strikes themselves. One of the extensive strikes that checkered the career of the shipping business of the Pacific Coast was in progress at the time, interrupting the movement of lumber from the Pacific Northwest, wanted for the Army's cantonments.

The White House announced (August 24) that a single agency, at Portland, would thereafter manage the sale of hydroelectric power from both the great Federal generating works on the Columbia River—at Bonneville and at Grand Coulee.

**Elections.** The popular vote (November 5) for President totaled 258,415 for Roosevelt (Dem.) and 219,555 for Willkie (Rep.). The incumbent U.S. Representatives (2 Rep., 1 Dem.) were re-elected. No election for Governor or for U.S. Senator fell due.

The popular vote rejected 9 submitted proposals, of which 5 would have amended the State's constitution and 4 would have made statutes. One of the defeated proposals would have permitted certain commercialized games of chance. Another would have legalized some sorts of private sale of liquor.

**Officers.** Oregon's chief officers, serving in 1940: Governor, Charles A. Sprague (Rep.); Secretary of State and Auditor, Earl Snell; Treasurer, W. E. Pearson; Attorney General, I. H. Van Winkle; Commissioner of Labor, C. H. Gram; Superintendent of Public Instruction, Rex Putnam.

**OUTER MONGOLIA.** See CHINA; MONGOLIA.

**OVERTIME PAY.** See WAGE AND HOUR DIVISION.

**OYSTERS.** See ZOOLOGY.

**PAHANG.** See BRITISH MALAYA.

**PAINTING.** In November the Art Section of the Public Buildings Administration, Federal Works Agency, made it known that \$9000 was available for the purchase of water colors, at \$30 each, for the decoration of Marine Hospitals, especially that for lepers at Carville, La. Ten thousand paintings in this medium were submitted by artists throughout the country at their own expense, many by well-known painters.

Several competitions were held by the Federal Government for mural paintings to be placed in public buildings, and works previously commissioned were completed and placed. Among the former mention should be made of the competition for murals for the new Social Security Building, Washington, D.C.; 375 painters competed for this \$19,980 contract and Ben Shahn of New Jersey was declared the winner. With the latter should be included twenty large murals by Maurice Sterne, depicting "The Struggle for Justice," purposed for the library of the Department of Justice Building, Washington, and shown in the Fine Arts Building, New York, early in the year. Also a series of twelve murals, "Life in Rhinebeck County" (New York) by Olin Dows, for the Rhinebeck Post Office, which likewise had a first showing in New York City.

As a WPA Art Project Edward Laning produced four handsome murals representing important stages in "The Story of the Recorded World" for the main hall on the third floor of the Public Library, New York.

Thornton Oakley completed a very distinguished series of six mural paintings representing the development of science from the days of alchemy to those of Benjamin Franklin, for the auditorium of the Franklin Institute, Philadelphia. For Penn State College, Henry Varnum Poor executed a large mural representing the historic "Land Grant." A number of murals depicting Indian life by Indian artists in traditional Indian style were given permanent placement in the cafeteria and recreation room of the Department of the Interior. Jose Clemente Orozco, of Mexico, executed during the summer of 1940 a huge mural in six panels representing a "Dive-Bomber and Tank," dread instruments of present warfare, in the Museum of Modern Art, New York.

The Edwin A. Abbey Memorial Scholarship for Mural Painting was awarded for the first time on Nov. 15, 1940. Founded in memory of the great American painter and illustrator, this award is open to art students under 25 in this country and Great Britain. Through grants from the Carnegie Corporation of New York an exhibition of studies for mural paintings entered in the 48 States Competition conducted by the Division of Fine Arts, P.B.A., after being shown in the Whitney Museum, New York, was sent during the summer on a circuit of cities in Canada, and later on a two-year circuit of museums in this country.

Death took heavy toll among American painters in 1940. Among those whose notable careers were thus ended were Ernest Lawson, Charles H. Woodbury, Jerome Myers, Harry W. Watrous, F. Luis Mora, Jonas Lie, Frederick J. Waugh, Henry Rankin Poore, Ellen Day Hale, Ernest Peixotto, Giovanni Battista Troccoli, and Fred Wagner. (See also ART.)

LEILA MECHLIN.

**PAINTS.** See CHEMISTRY; CHEMISTRY, INDUSTRIAL. For sales, see BUSINESS REVIEW.

**PALAU.** See JAPANESE PACIFIC ISLANDS.

**PALESTINE.** A territory on the east coast of the Mediterranean, administered by Great Britain under the mandate of the League of Nations since Sept. 29, 1923. Capital, Jerusalem.

**Area and Population.** Area, 10,429 square miles; population (Dec. 31, 1939), 1,435,145 permanent residents, of whom 60 per cent were Moslems, 31 per cent Jews, and 8.2 per cent Christians. The net increase by births and immigration since



the 1931 census was 468,384, divided as follows: Jews, 270,851 or 155.1 per cent; Moslems, 167,433 or 24.2 per cent; Christians, 28,051 or 31.6 per cent. United States citizens in Palestine on Jan. 1, 1940, numbered 8500. About 24,000 Jewish refugees were estimated to have entered Palestine during 1940. Estimated populations of the chief cities in 1939 were: Tel-Aviv, 130,300 (all Jews); Jerusalem, 129,800; Haifa, 104,800; Jaffa, 77,400; Nablus, 19,900; Gaza, 19,900; Hebron, 19,000.

**Education.** In 1937-38 there were 402 public schools for Arabs, with 49,300 pupils (mostly Moslems); 184 private Moslem schools, with 14,052 pupils; 622 Jewish schools, with 71,376 pupils; 193 Christian schools, with 24,046 pupils. The Hebrew University at Jerusalem had 733 students; Hebrew Technical Institute, Haifa, 499.

**Production.** Agriculture is the main occupation, although manufacturing is rapidly growing in importance. The chief crop is citrus fruit (1938-39 exports, 15,310,436 cases valued at £P4,370,078). Because of the war, exports declined to less than 7,000,000 cases in 1939-40. Yields of other leading crops were (1939, in metric tons): Wheat, 89,200; barley, 78,000; corn, 6200; potatoes, 10,400; sesamum, 3800; olive oil, 3000. The output of potash in 1939 was 63,527 tons; refined bromine, 589 tons; cement, 112,350 tons; salt, 9000 metric tons (1938).

There were 5606 Jewish industrial enterprises in 1939 with an annual output valued at just over £9,000,000 (sterling), a capital investment of £11,637,000, and 106,500 horse power. Chief manufactures: Clothing, textiles, leather, timber products, metals and machinery, printing and paper, food, chemicals, cement. Olive oil, soap, and wine are other products. A large oil refinery at Haifa began production early in 1940.

**Foreign Trade.** Excluding military stores, imports in 1939 totaled £P14,632,822 (£P11,356,963 in 1938) and exports £P5,117,769 (£P5,020,368). Re-exports were valued at £P419,347 (£P762,649 in 1938) and transit trade at £P549,872 (£P671,915). Of the 1939 imports, the United Kingdom supplied £P2,391,250; United States, £P1,953,457; Germany, £P1,621,929; Syria, £P1,355,203; Rumania, £P1,200,217. Exports went mainly to the United Kingdom, £P2,440,098; Netherlands, £P452,098; Syria, £P389,223.

**Finance.** Budget results for the fiscal years 1938-39 and 1939-40, respectively (in Palestine pounds): Revenue, 5,940,000 and 6,768,000; expenditure, 5,690,000 and 6,005,000; surplus, 250,000 and 763,000. The figures for revenue include grants-in-aid from the British Government totaling £P1,700,000 in 1938-39 and £P2,132,000 in 1939-40. The budget expenditure authorized for 1940-41 was £P8,858,000, including £P2,000,000 for the construction of police posts throughout the country. Palestine pound (£P) = £1 sterling.

**Transportation, etc.** With about 328 miles of line, the railways in 1939 carried 912,458 tons of freight and 746,162 passengers with gross revenues of £P533,952. The deficit for the fiscal year 1938-39 was £P282,000. Highways (1939), 2201 miles, including the Palestine section of the newly completed road from Haifa to Baghdad. Palestine's position as an important stopping point for British, Dutch, Egyptian, Polish, and Italian air lines was affected during 1939 and 1940 by the extension of the European War. Construction of permanent buildings at the new Lydda airport was completed late in 1939. A total of 1971 steamers of 5,201,473 tons entered Palestine ports during 1938.

**Government.** The government is administered

by a High Commissioner (Sir Harold Alfred MacMichael assumed office Mar. 1, 1938), who is appointed by the British Crown and assisted by executive and advisory councils. Commander-in-Chief of the British forces in Palestine and Trans-Jordan, Lieut. Gen. Philip Neame, who assumed command Aug. 6, 1940. The Jewish, Moslem, and Christian communities have autonomous control of their religious, cultural, and communal affairs. Official languages, English, Arabic, Hebrew.

#### HISTORY

The first weeks of 1940 were marked by the continuance of the peaceful Arab-Jewish relations established late in 1939 as a result of the crushing of the Arab revolt and the rallying of both Arabs and Jews to the British cause in the European War. The severe economic depression brought about by the war led Arab and Jewish citrus fruit growers to unite in seeking assistance from the British authorities. There was similar co-operation between the two races in the organization of air raid precautions in Haifa and in many other directions. However neither Arabs nor Jews withdrew from their opposing positions on the fundamental issues of Jewish immigration, land settlement, etc., which led the British Government to adopt the program set forth in the White Paper issued May 17, 1939 (see YEAR BOOK, 1939, p 591).

**Land Sales Restricted.** This period of calm was broken when the British Government on Feb 28, 1940, promulgated regulations severely restricting Jewish land purchases from Arabs in most of Palestine. Applying one of the cardinal principles of the 1939 White Paper, the regulations divided the mandated territory into three zones. In the first, comprising municipal areas and a strip of coastal plain some 50 miles long, the Jews retained complete freedom to buy land. In the second zone, including the fertile valleys of Esdraelon and Jezreel and other territory, Jews and other non-Arabs were forbidden to acquire land except to improve irrigation facilities; to enable the division into lots of land held jointly by Jews and Arabs; and to encourage plans for special joint Arab-Jewish land development schemes approved by the British High Commissioner. All land sales to Jews were barred throughout the third zone, comprising the hill country and certain parts of the Gaza and Beersheba subdistricts, where according to the British "the land available already is insufficient for the support of the existing population."

**Jews Protest Regulations.** The British regulations were greeted with approval by the Palestine Arabs and their supporters in other Arab and Moslem countries. They provoked violent protests from the Jews in Palestine and elsewhere and from their supporters in the British Parliament. The Jewish Agency declared the regulations made "a mockery of the obligation placed upon His Majesty's Government by the mandate to encourage close settlement by Jews on the land and would discriminate against Jews on the grounds of race and religion." Labor spokesmen in the British Parliament demanded a vote of censure against the government on the ground that its Palestine policy favored the Arabs over the Jews and flouted the authority of the League of Nations. They held the regulations should not have been promulgated except with the prior consent of the League Council. There was also criticism be-

cause the government had acted when political conditions in Palestine appeared relatively quiet and when thousands of persecuted Jews were seeking a refuge in the Holy Land.

Malcolm MacDonald, Secretary of State for Colonies, replied before the House of Commons on March 6. He pointed out that all the commissions that had studied the Palestine land problem had recommended restricting Arab land sales to prevent the development of a large group of landless Arabs. He said that immediate action was necessary to check "a growing unrest in the Arab villages, and a growing suspicion that His Majesty's Government were not sincere in their professions that they would protect the interests of the Arab cultivators, peasants, and laborers . . ." The land regulations were not only morally right, he continued, but were necessary to prevent a revival of Arab outbreaks which would have adverse repercussions throughout the Arab and Moslem world at a time when Britain was engaged in a life and death struggle with Germany. The Labor motion of censure was defeated in the House of Commons on March 6, 292 to 129.

Meanwhile in Palestine the announcement of the land sale regulations had provoked a one-day Zionist general strike and wide-spread Jewish demonstrations marked in Jerusalem, Tel-Aviv and other cities by serious disorders. After 2 persons were killed and some 300 injured in clashes between police and demonstrators, the British authorities imposed a drastic curfew law that brought the riots to an end. Several leaders of the Jewish Labor party were imprisoned for organizing the demonstrations and the permits of some Zionist newspapers were revoked.

**Immigration Issue.** Friction between Arabs and Jews and between the Jews and the British Government also continued over the question of Jewish immigration into Palestine. Mr. MacDonald stated in his Commons speech of March 6 that the immigration quota had been raised to 20,000 for the year as a contribution toward the solution of the Jewish refugee problem. Hundreds of Jews continued to enter Palestine illegally. Those caught by the British authorities were held for proper certification and counted as part of the quota. On November 21 the British authorities decided to send nearly 1800 Jewish immigrants, who had arrived without legal status, to another British colony for detention until the end of the war. While 1771 of these refugees were waiting on the steamer *Patria* in Haifa harbor on November 25, an explosion sank the ship. There were 55 known deaths and 190 persons missing.

**Economic Measures.** The unemployment crisis resulting from the cutting off of European markets for citrus fruits and other exports, the suspension of Jewish capital investments, and continued immigration was particularly severe among the Jews. Remedial measures were taken by both the Jewish community and the government. The Jews levied a voluntary emergency tax upon incomes for unemployment relief. The government on January 3 appropriated £P750,000 for relief grants and loans for public works and other purposes in both Arab and Jewish communities. On April 15 additional governmental aid was extended to the citrus growers.

**Military Preparations.** Palestine during 1940 became one of the main bastions protecting British communications and interests in the Near East. During the first months of the year there were further concentrations of Anglo-French forces in

Palestine and Syria (q.v.). In April the Second Australian Imperial Force arrived in Palestine and occupied barracks prepared in advance by Arab and Jewish laborers. A large number of airplanes and part of the British Mediterranean fleet were stationed at Palestine airports and the Haifa naval base. Air raid shelters were erected and other precautions taken in the cities and additional Arab and Jewish forces were mobilized for defense and related activities. One of the Arab-Jewish volunteer units—a transport section 700 strong—arrived in France on February 28 to join the British Expeditionary Force. It returned to Jerusalem on September 28.

With the entrance of Italy into the war on June 10, Palestine was placed on a war basis. The blackout was made permanent for all cities. On June 21 the British High Commissioner assumed power to draft the services and property of Palestinians for defense purposes, including the maintenance of public order and of essential supplies. Commencing July 16, the Italians began air raids on Haifa and other Palestine centers from their base in the Dodecanese islands. Some of the raids caused heavy casualties. A raid on Tel-Aviv on the night of September 9 cost 150 lives. The new oil refinery at Haifa also was reported bombed.

With the collapse of France, many Polish, Czech, and French troops crossed from Syria into Palestine to join the British forces. Considerable numbers of Arabs and Jews also were recruited into the British forces and on December 21 the formation of a volunteer mixed force was announced. Its function was to assist the regular forces in maintaining internal security and prosecuting the war.

See IRAQ AND SYRIA AND LEBANON under *History*; *Jews*.

**PALMYRA.** A coral atoll consisting of a group of small islets surrounded by a reef 5 miles long and  $1\frac{1}{2}$  miles wide, in the central Pacific ( $6^{\circ}$  N. and  $162^{\circ} 30'$  W.). Area,  $1\frac{1}{2}$  square miles. The U.S. Naval Appropriations Bill of 1939 called for the establishment of a naval base on one of the islets at a cost of \$13,000,000. A suit to acquire title to Palmyra was filed by the U.S. Government in Federal Court, Honolulu (Dec. 12, 1939) after a group of Hawaiians had asserted private ownership of the atoll. On Dec. 23, 1940, Federal Judge Delbert Metzger denied the petition of the government to quiet the title to Palmyra. The government contended that title to the land had remained with the United States since the annexation of Hawaii. Attorneys for the government said that they would appeal the decision.

**PANAMA.** A republic of Central America, bisected by the Panama Canal Zone (q.v.). Capital, Panamá.

**Area and Population.** Area, 34,169 square miles; population (estimated, September, 1940), 650,000 excluding the Canal Zone. Racial division of population (1930 census): 78,813 whites, 69,583 Negroes, 42,897 Indians, 4138 Orientals, 249,583 mestizos. Census populations of the chief cities were Panamá, 123,270 (1940); Colón, 46,000 (1940); David, 8000 (1930). United States citizens residing in the republic on Jan. 1, 1940 numbered 6356. Passengers debarking at Canal Zone ports in 1939 exceeded those embarking by 7344.

**Education and Religion.** About half the adult population is illiterate. There were 61,706 pupils in 629 public elementary schools (1938-39), 3830 in secondary schools (1937), 1012 students in the Instituto Nacional or college for higher instruction,

and about 500 students in the University of Panamá, besides various special, normal, and vocational schools. Roman Catholicism is the dominant religion but other faiths have a considerable following.

**Production.** The chief occupations are agriculture, cattle raising, lumbering, pearl fishing, commerce, and the tourist business. Bananas are the chief domestic export; shipments were about 5,413,154 stems valued at \$2,429,921 in 1939. Sugar production in 1939 was 7727 metric tons. Some gold and salt is mined and there is manufacturing on a small scale for local consumption. A total of 118,833 passengers transited the Panama Canal during 1939, an increase of 1392 over 1938, and the tourist trade benefited.

**Foreign Trade.** Imports in 1939 were valued at \$20,464,000 (\$17,651,000 in 1938); exports and re-exports, \$6,826,000 (\$7,669,000). The United States furnished 58.2 per cent of the 1939 imports (Japan, 9.8; Germany, 7.9) and purchased 85.8 per cent of the domestic exports (Germany, 4.0). See TRADE, FOREIGN.

**Finance.** Budget receipts and expenditures for the biennial period 1939-40 were estimated to balance at \$22,795,000. For the period Jan. 1, 1937 to June 30, 1938, actual budgetary revenue was \$14,441,000; expenditure, \$15,171,000. The public debt on Dec. 31, 1939, totaled \$21,567,961 (internal, \$2,833,390; held in United States, \$18,684,571). The unit of currency is the balboa, equivalent to one U.S. dollar.

**Transportation.** Including the Canal Zone, Panama has 230 miles of railways; 726 miles of roads (248 miles of modern surfaced highways); a local air service linking Panamá with David (233 miles) and San José, Costa Rica; and the Panamá-Cristóbal air service (35 miles), connecting at Panamá with Pan American Airways' international network. Practically all overseas trade passes through the Canal Zone ports of Cristóbal (serving Colón) and Balboa (serving Panamá). Congestion at these ports in 1940 led the government to authorize a survey for a modern port at Panamá. For shipping, see PANAMA CANAL.

**Government.** The Constitution of 1904, amended in 1918 and 1928, vested executive power in a President elected by direct popular vote for four years and ineligible for re-election. Legislative power was placed in a National Assembly of 32 members elected for four years, meeting biennially on September 1. For the new Constitution adopted in 1940, see below under *History*. President at the beginning of 1940, Dr. Augusto S. Boyd, who assumed office on the death of President Juan Demóstenes Arosemena Dec. 16, 1939.

## HISTORY

**Presidential Election.** The presidential campaign started in 1939 (see YEAR BOOK, 1939, p. 593) reached the expected conclusion on June 2, 1940, when Dr. Arnulfo Arias, candidate of the government coalition, and the government's candidates for the National Assembly were elected without opposition. Dr. Ricardo J. Alfaro, former Provisional President and former Minister to Washington, entered the presidential race with the support of the Socialists and three other small parties. However the electoral battle engendered extreme bitterness and on May 31 Dr. Alfaro issued a manifesto asking his supporters to boycott the polls on the ground that the government machine had made a fair election impossible.

During the campaign Dr. Alfaro repeatedly

charged the government parties with using violence, coercion, and petty persecution to elect their candidates. Acting President Ernesto Boyd in turn accused the Alfaro supporters of subversive and provocative actions. On April 28 police seized an arms cache, arrested a number of opposition politicians and charged them with plotting a revolution. On May 26, 10 more leading members of the parties supporting Alfaro were jailed on conspiracy charges. Dr. Alfaro and many other oppositionists took refuge in the Canal Zone, where they remained until requested to leave by Maj. Gen. Daniel Van Voorhis, United States military commander of the Zone, on June 4. Dr. Alfaro then returned to Washington, where he had resided previous to the presidential campaign. He declared the conspiracy charges against his followers were frameups to justify the suppression by the government of "every right, every liberty, and every constitutional guarantee."

**New Constitution.** Upon his inauguration on October 1, President Arias outlined his policy as one of "peace and friendship toward all nations." Urging improved educational facilities and control of public information, he called for a revision of the Constitution along "democratic and unitarian" lines. The draft of the new Constitution was submitted to the National Assembly on October 17. It was unanimously approved on November 22, ratified by a plebiscite on December 15 (the vote was officially reported at 144,312 to 1865), and went into effect on Jan. 2, 1941, under a decree promulgated by President Arias on December 24.

The new Constitution extended the terms of office of the President and members of the National Assembly from four to six years and increased the powers of the President. It guaranteed the right of private property but stipulated that "private interest must give way before public social interest," and that "for reasons of public utility or of social interest" expropriation might take place by judicial decree and with "just previous indemnity." Labor was declared a social obligation and placed under the special protection of the State, which was authorized to regulate the relations of capital and labor. The right to strike was guaranteed except as to public services. Entry into Panama of members of the Negro race whose original language was not Spanish, the yellow race, and the original races of India, Asia Minor, and Northern Africa was prohibited. The government was authorized to operate public utilities, regulate prices, and establish monopolies for raising revenue, but private monopolies were prohibited. The Roman Catholic Church was recognized as the church of the majority of the people, but freedom of religion, speech, and assembly was guaranteed. Provision was made for reconstitution of the Supreme Court through appointment by the President, with the consent of the National Assembly, of five principal magistrates and five alternates, one of each being appointed every two years for a period of 10 years.

**Criticisms of Government.** The nationalistic economic and political provisions of the new Constitution aroused much criticism among Panamanian leaders not affiliated with the government. Former President Harmodio Arias, brother of the new President, led the attack upon the new administration in his newspaper the *Panama American*. The President was accused of totalitarian tendencies and of disregarding the provisions of the 1904 Constitution in securing the enactment of the new fundamental law. The 1904 document pro-

vided that constitutional amendments must be approved by two separate sessions of the National Assembly, and made no provision for a national referendum such as that of December 15. Nevertheless the Supreme Court accepted the legality of the new Constitution in a decision of December 28.

Seventy revolutionist attacked the police station at Chorrera, 20 miles from Panamá, on October 20 but were beaten off. A number of arrests were made of persons charged with plotting a general revolt throughout the interior.

**Relations with United States.** Steps were taken by the governments of Panama and the United States to carry out the highway projects agreed upon in 1939 (see 1939 YEAR BOOK). Early in 1940 the Export-Import Bank at Washington advanced a \$2,500,000 loan to Panama for the construction of the strategic and commercial concrete highway between La Chorrera and Río Hato, the new United States auxiliary air base. The United States Congress contributed \$1,500,000 toward this project. The joint highway board called for under the Trans-Isthmian Highway Convention was established early in 1940 to supervise the Panamá-Colón highway project. Meanwhile Panama proceeded with construction of part of the roadbed. During his visit to the Canal Zone in February, 1940, President Roosevelt conferred with President Boyd and other Panamanian officials. He later announced that the Panamanian Government had authorized use of airfields anywhere in the republic by American military planes if necessary for the wartime defense of the Canal.

Following the German conquest of Norway and the Low Countries, Panama curbed the activities of Germans and pro-German elements. A number of German-born teachers in the Instituto Nacional, some naturalized in Panama, were dismissed. In August the government barred entry to 25 Costa Ricans who had signed a pro-German manifesto. At the same time the police made a checkup of aliens in the republic. They were reported to have found more than 1200 German Nazis, Italian Fascists, and others having passports issued by countries conquered by Germany. The newspaper *Panama American* on September 8 declared it significant that "the defeated, Nazi-dominated France of Pétain" had assigned military and naval attachés to the French Legation in Panama although the French Republic had never considered such a step necessary. The National Assembly on September 25 unanimously adopted a resolution urging the Spanish Government not to join Germany and Italy in the European War.

On April 13 fire swept through the tenement section of Colón, destroyed hundreds of frame dwellings, and left 10,000 persons homeless. A third of the city was destroyed, with damage estimated at \$4,000,000. On April 5 the Panamanian Government announced that, subject to the approval of 80 per cent of the bondholders, the two outstanding dollar bond issues would be refunded at lower interest rates and provision made for repayment of interest arrears.

See COLOMBIA under *History*; PAN AMERICAN-ISM.

**PANAMA CANAL.** The Panama Canal crosses the Isthmus of Panama between Limón Bay on the Caribbean coast and Panama Bay on the Pacific Coast. Its length from shoreline to shoreline is 40.27 miles. The U.S. Government owns and operates the canal. A strip of territory bordering either side, held and governed by the

United States, constitutes the PANAMA CANAL ZONE (q.v.).

**Yearly Traffic.** For the calendar year 1940, ships crossing the Isthmus of Panama numbered 6026 (for 1939, 6845); the tolls paid to the Panama Canal for such crossings amounted to \$19,981,248 for 1940 (\$23,744,476 for 1939). German ships ceased crossing when Germany went to war; Italian ships in 1940.

More detailed data covered the fiscal year 1940, which ended with June 30. The following figures deal with fiscal years. Crossings made by commercial vessels of at least 300 net tons (Panama Canal measurement) numbered 5370 for 1940 (5903 for 1939); in this group the individual vessels that made the crossings numbered 1613 and averaged about  $3\frac{1}{2}$  crossings for 1940 (1609 vessels averaging about  $3\frac{1}{2}$  crossings for 1939). Other crossings that paid tolls were made by non-cargo vessels of foreign governments—23 by naval ships, of which 17 British, one by a dredge of the Soviet Government; and 973 by vessels of under 300 tons, commercial and other. Crossings free of toll in 1940 included 255 by vessels of the U.S. Navy, 294 by those of the U.S. Army, 24 by others of the U.S. Government, 6 by those of the Colombian government, and 22 by vessels proceeding only to undergo repairs.

Tons of cargo crossing in the commercial ships of 300 or more tons totaled 27,299,016 for the fiscal year 1940 (27,866,627 for 1939); but in net tonnage, as measured under the rules of the Canal, the totals were much lower, being only 24,144,366 for 1940 (as against 27,170,007 for 1939). The collections of tolls, exclusive of some thousands on vessels under 300 tons, amounted to \$21,144,675 for 1940, a sharp drop from 1939's total of \$23,661,021. Net revenue from operation was \$11,253,773 for 1940, \$13,841,071 for 1939.

Data on the movement of freight through the canal in the fiscal year 1940 showed divers effects that the European war had on trade. The westward-bound (Atlantic-to-Pacific) part of the freight crossing the Isthmus rose to 9,819,600 long tons for the fiscal year 1940, from 9,011,267 for 1939. The eastward-bound (Pacific-to-Atlantic) part diminished to 17,479,416 for 1940, from 18,855,360 for 1939. In general, trade via the canal to or from Europe fell off and that to or from the United States, via the canal, except with Europe, increased. By conspicuous instances, U.S. inter-coastal trade increased to 2,795,708 tons (1940) westward bound, from 2,391,523 (1939), and to 4,918,629 tons (1940) eastward bound, from 4,493,203 (1939). U.S. Atlantic coast's trade with the Far East, exclusive of the Philippines, rose to 2,888,160 tons (1940) westward bound, from 2,593,808 (1939), and to 585,304 (1940) eastward bound, from 280,593 (1939). Between the U.S. Atlantic coast and the South American Pacific coast, trade augmented to 501,511 tons (1940) westward, from 192,732 (1939), and to 2,757,412 tons eastward (1940) from 2,447,257 (1939). On the other hand, between Europe and Pacific South America, shipments fell to 259,700 tons westward (1940), from 415,697 (1939) and to 1,474,874 eastward (1940) from 2,481,541 (1939). Between Europe and the Pacific coast of the United States, movement dropped to 192,374 tons westward (1940) from 337,401 (1939), and to 1,099,296 tons eastward (1940) from 2,349,888 (1939).

By tons of cargo, U.S. shipping through the canal increased to 12,384,617 for 1940, from 9,909,380 for 1939, and attained 45.4 per cent of all ton-



*Wide World*

PAN AMERICAN CONFERENCE IN HAVANA, CUBA  
President Laredo Bru of Cuba addressing the assembly



*Wide World*

A GROUP OF LATIN-AMERICAN ARMY OFFICERS ARRIVE IN NEW YORK  
A welcoming committee of United States Army officers (center) greet the visitors preparatory to a tour of military establishments



*Wide World*

INAUGURATION OF PRESIDENT MANUEL AVILA CAMACHO OF MEXICO  
His predecessor, Gen Lázaro Cárdenas, (facing the camera) offers his congratulations, Dec 1, 1940



*Wide World*

PRESIDENT AVILA CAMACHO (LEFT) RECEIVES THE GOOD WISHES OF U S VICE-PRESIDENT-ELECT  
HENRY A WALLACE IN MEXICO CITY

nage of cargo passing through in 1940. The tonnage of British cargo dropped to 5,182,351 (1940) from 6,801,556 (1939); that of Norway to 2,905,772 (1940) from 3,408,078 (1939). That of Japan rose to 1,863,619 (1940) from 1,710,303 (1939). With regard to all the preceding figures on tonnage, however, it must be borne in mind that totals of the bulk of freight should not be confused with totals of commerce, having to do with value.

**Work on Additional Locks.** The U.S. Congress voted in 1940 authorization of \$99,000,000 in contracts for the construction of a third set of locks in the canal; it also appropriated \$15,000,000 for the initial costs of the undertaking. Contractors' bids were obtained in December for work to be done on the first stages of the project. The time set by engineers for the accomplishment of the necessary work was six years, according to original estimates. It was furthermore reported that the Government intended to reserve the third set of locks, when completed, for the sole use of its own vessels: this course might be expected to preserve the third set from obstruction through treachery.

**Administration.** The administration of the Panama Canal is that also of the Panama Canal Zone.

**PANAMA CANAL ZONE.** A strip of territory extending, in general, five miles to either side of the Panama Canal, across the Isthmus of Panama. The area also includes extensions into parts of the watershed feeding the canal and extends as far as the farthest borders of Gatun Lake, the chief reservoir. The United States has perpetual use, control, and occupation of the Zone, as granted by the Republic of Panama in a treaty of 1903. Area, 552.95 square miles; includes water, 190.94 square miles.

The population, exclusive of officers and enlisted members of the U.S. Army and Navy, was 28,978 in June, 1939. On Apr. 1, 1940, the total population (without the foregoing specified exclusion), was 51,827 (U.S. Census). Employees of the Panama Canal and of the Panama Railroad Company numbered 24,149 but did not all live within the Zone. The death rate among the Zone's inhabitants (many of whom eventually departed by reason of retirement and not of death) was 6.32 per 1000 for 1939; birth rate, 10.76. Sufferers from malaria among the civil employees came to 14 per 1000, but none had died of the disease in seven years. None of the sicknesses requiring to be excluded by quarantine entered the zone in the fiscal year 1940, nor did the inspection of arrivals and the quarantine of a few suspected cases reveal any actual arrival of contagious persons. The separate white and colored public schools had respectively, in 1940, an average attendance of 2798 and 2686 pupils.

**Government.** The Panama Canal Zone has a civil government, prescribed by the U.S. Congress in the Panama Canal Act of 1912, subsequently modified. It is also the seat of a Department of the U.S. Regular Army. The civil government is headed by the Governor of the Panama Canal, an appointee of the President; and it is under the supervision of the Secretary of War. The Governor operates and maintains the canal itself, with its auxiliary services; is president ex officio of the Panama Railroad Company; and holds authority to maintain law and order, health, and education and to deal with related matters, among the inhabitants. The Military Commander of the Panama Department (U.S.A.) has normally to do only with the military forces; but on Sept. 25, 1939, an executive order of the President put the Gov-

ernor, canal, and Canal Zone temporarily under the direction of the Military Commander. In 1940 the Governor was Brig. Gen. C. S. Ridley, (until the end of June), succeeded by Col. (later Brig. Gen.) Glen E. Edgerton. Military Commander, Maj. Gen. Daniel Van Voorhis.

**History.** The start of the great task of giving the Panama Canal a third system of locks is discussed under PANAMA CANAL.

The Army's forces defending the zone were reorganized in February on the lately approved basis of functional distinctions among the troops. Uneasiness over suspected activities of agents of anti-democratic belligerent governments continued. According to a report current in June, several hundred Germans and Austrians were supposedly among the persons employed in the zone. A man giving the name of Emil Wolff, on his way from Germany via the Pacific Ocean and the Panama Canal, ostensibly to work for a drug firm in Buenos Aires, was taken from a Japanese vessel, with a trunk containing German official matter not disclosed. He pleaded guilty of failure to comply with the U.S. requirements as to agents of foreign governments. The U.S. District Court in the zone fined him \$2000 and imposed, but suspended, a sentence to prison.

The problem of dealing with possible disturbers was to have been lightened by a measure in Congress, to restrict skilled and other superior employment in the zone to citizens of the United States. But in view of the provisions of the U.S. treaty of 1936 with the Republic of Panama, the President, in March, found it proper to intimate objection to the bill. Late in May, several political fugitives from the Republic of Panama, having entered the zone, were arrested. General Van Voorhis issued (May 27) a ruling that such refugees, in order to avoid arrest, must register with the police of the zone. A few days later, June 4, he urged the Panamanian refugees to depart. By executive order the President, June 20, gave the Governor of the zone authority to exclude, as undesirable, persons engaging in or inciting a strike against the U.S. Government. An Army transport conveyed 134 aliens from the zone to New York in September. In spite of efforts against disturbers, a brief strike of possibly 1000 unorganized unskilled workers started on September 5. Most of the strikers went back to work on the 9th, upon warning that otherwise they would be discharged.

**PAN AMERICAN AIRWAYS.** See AERONAUTICS.

**PAN AMERICAN HIGHWAY.** See AUTOMOBILES.

**PAN AMERICANISM.** The Pan American movement, after many years of pioneering, offered in 1940 many well-explored methods for the common action of American nations, as they came to face a mass of economic and political difficulties brought upon them by the war in Europe. Some of these troubles had begun in 1939, when the operations of the German warship *Graf Spee* and her pursuers brought warfare almost to the harbor of Montevideo. As the war went on, the trade of the American countries almost universally suffered from the impossibility of dealing with the European continent and the great restriction of commerce with Great Britain. Agents of Germany, bent on disturbing governments aligned with Great Britain by business interest, created alarm and, in the case of Uruguay (q.v.), came somewhat near to maturing a plot for overthrowing the government. Interruption of economic activity introduced



new risk of social upheaval in a number of the greater Latin American republics. The situation heightened the influence of the United States; and the U.S. Government took the opportunity to offer economic aid and to further a united public policy among its neighbors, as to defense of territory, the safeguarding of European nations' American colonies from conquest, and the protection of the American countries' economic and social systems.

The year's foremost event in the Pan American field was the Havana Conference, which dealt with

many of the common problems and, in particular, drew up measures for action to prevent European colonies in the Americas from falling into conquerors' hands. The Inter-American Financial and Economic Advisory Committee, established late in 1939, in accordance with a resolution of the Panama Conference, carried out or advanced the chief matters put in its hands by that conference and its successor the Havana Conference of 1940. Its earliest effort, the preparation of a plan for an Inter-American Bank, was followed by the crea-



tion of the Inter-American Development Commission, a permanent agency for promoting trade and industry, and by the settlement of difficulties over the quotas of coffee-producing American countries' future sales of coffee to the United States. Later, the Commission brought about a maritime conference of the American nations (November 25 to December 2).

**Havana Conference.** The U.S. Department of State convoked in June a conference of the Foreign Ministers of the governments of the American countries. Its immediate predecessor, the Panama Conference, had met in September, 1939, just after the start of the European war (see *YEAR BOOK*, 1939, p. 595). The new conference met at Havana on July 21 and continued until July 30. It followed closely upon the German victory over western Europe; yet more closely, upon President Roosevelt's announcement, June 21, of an intended "system of joint marketing of the important staple products of the American republics," to constitute part of a "program of economic defense." The proposed agenda included not only possible measures of economic co-operation but steps to be taken if European possessions in the Western Hemisphere should be lost or impaired and such other defensive preparations as might seem prudent.

The Havana Conference provided against the transfer of any possession in the Western Hemisphere from one non-American sovereignty to another. This was accomplished by the adoption of two measures: the one, submitting to the American republics, for ratification, a convention providing for action against such occurrence; the other, the Act of Havana, which made provisional safeguards to the same purpose, for such time as might precede the necessary ratifications of the convention.

The Havana Convention required that any such possession, in case another non-American power should attempt to acquire or control it, should pass under the administration of one or more of the American governments. It created an Inter-American Commission for Territorial Administration having power to authorize such an administration. It required ratification by two-thirds of the American Republics to render it effective. The substantive part of the text was as follows:

If a non-American state shall directly or indirectly attempt to replace another non-American state in the sovereignty or control which it exercised over any territory located in the Americas, thus threatening the peace of the continent, such territory shall automatically come under the provisions of this convention and shall be submitted to a provisional administrative regime.

The administration shall be exercised, as may be considered advisable in each case, by one or more American states, with their previous approval.

The Act of Havana declared that regions in the Americas, when in danger of passing from one non-American sovereignty to another, might be placed by the American nations under a provisional administration. It created an emergency committee (of one member from each American republic), authorized to administer any such region until the Havana Convention should come into effect. But in case of pressing need, it allowed any of the American republics to act in such manner as individual defense and that of the continent might require, reporting thereon to the committee. This act was to serve only until the convention's coming into effect.

In dealing with the Americas' economic troubles the Havana Conference did not generate any full, detailed system of common policy to mend them. Nor did the United States press the economic pro-

gram outlined in President Roosevelt's announcement of June 21. On the contrary, Secretary of State Hull, in his speech at the outset of the conference declared that his government would try to effect the completion of steps already in progress before starting to deal with monetary and exchange matters and that "a broader system of inter-American co-operative organization in trade" would meanwhile remain under consideration. The idea of a Pan American marketing organization or cartel did not crystallize at Havana. The conference did adopt a resolution on economic and financial co-operation. This resolution laid down liberal principles for trade, envisaging its eventual resumption with the entire world (an implied denial of intent to blacklist Germany). It strengthened the authority and broadened the field of the Inter-American Financial and Economic Advisory Committee; and instructed this committee to perform several tasks, notably, to provide storing, financing, handling, and equitable terms of trade for the countries' surplus of commodities.

As to good relations among the American governments, the conference resolved to recommend to the governing board of the Pan-American Union the creation of a committee of representatives of five countries, for noting and helping to solve disputes. Hostile acts in territorial waters and in the marine zone of security proclaimed by the Panama Conference were condemned, but no particular sanctions against them were adopted. Governments were urged to "use the necessary means" to prevent plots of civil war, disturbance, or dissemination of subversive ideas in neighboring countries.

As to an existing dispute between Chile (q.v.) and Spain, the conference declared "sympathy and fraternal solidarity" with Chile's attitude. As to current signs of German plots against some of the republics, a resolution declared that each of the American republics "shall adopt within its territory all necessary measures in accordance with its constitutional powers" against foreign efforts to subvert the domestic institutions.

**Emergency Committee.** The Emergency Committee provided by the Act of Havana as the agent in case of the impairment of a foreign sovereignty in an American possession became effective on October 24, two-thirds of the republics having named members to it. The recent entry of British forces in the Netherland West Indies might have been interpreted as a case within its province, under the very general terms of its mandate. But the committee obviously followed its judgment that the British occupation tended to preserve rather than impair the sovereignty of the Netherland government in exile, and took no action.

**Neutrality.** Great Britain replied, January 16, to the American republics' protest of 1939 against violation of marine zone of security that the Panama Conference had declared. The reply was deemed a refusal to keep the restrictions set up for the zone, for Britain agreed to conform only if German activity in the zone were restricted to an impracticable extent. There followed, on March 16, a further protest to Great Britain, dispatched by the President of Panama on behalf of all the American republics. It declared that a British warship's sinking of the German freighter *Wakama* off the Brazilian coast on February 12 had violated the zone. Again, on May 24, a similar protest followed a British warship's interception of the German ship *Hannover* off the coast of the Dominican Republic.

Other belligerents replied to the 1939 Pan American protest. France (January 23) asserted the right to take counter-measures in the zone, as the German navy had not respected it. Germany (February 14) held that the zone made a sanctuary of the British and French territories in the New World and that Britain and France had already rejected the idea of the zone. The Inter-American Neutrality Committee showed some disposition to seek fuller authorization for dealing with the maintenance of the Declaration of Panama. It proposed a plan for shutting out of American ports any ships transgressing the restrictions of the security zone and in some cases also excluding all ships of the transgressing nation. The proposal was not adopted.

**Inter-American Bank.** Progress toward the establishment of an Inter-American Bank was one of the most notable steps on the way to full economic linking of the republics. The Inter-American Financial Economic Advisory Committee, which started to operate on Nov. 2, 1939, made the creation of this bank its first task. Shares, at \$100,000 each, were allotted to each republic, in number proportional to its part of the combined republics' foreign commerce. By May 10 five governments, the United States included, had signed a convention for the establishment of the bank, rendering the convention effective. It remained to have the signatures ratified and to incorporate the bank by act of the U.S. Congress. In the meantime, the United States gave extensive credit to some of the other republics through the Export-Import Bank.

See ARGENTINA, BRAZIL, BRITISH WEST INDIES, CHILE, COLOMBIA, CUBA, CURAÇAO, ECUADOR, PERU, MARTINIQUE, MEXICO, URUGUAY, and the other American republics and colonies under *History*; also NATIONAL DEFENSE ADVISORY COMMISSION; EDUCATION; INTER-AMERICAN UNION OF THE CARIBBEAN; PAN AMERICAN UNION.

**PAN AMERICAN UNION.** The Pan American Union is an official international organization founded in 1890 as the International Bureau of American Republics and maintained by the 21 republics of the Western Hemisphere for the development among them of good understanding, friendly intercourse, commerce, and peace. It is controlled by a Governing Board, composed of the Secretary of State of the United States and the diplomatic representatives in Washington of the other republics, and is administered by a Director General and an Assistant Director chosen by the Board.

The Union publishes a monthly Bulletin which is issued in three editions, English, Spanish, and Portuguese, as well as numerous special reports on the countries which are members of the Union. These are widely distributed in all the republics of the American continent and are intended to make available information on the various aspects of inter-American activity.

The Pan American Union acts as the permanent organ of the International Conferences of American States which meet at intervals of five years. The last or Eighth of these Conferences was held at Lima, Peru, Dec. 9-27, 1938. The program and regulations of each Conference are prepared by the Governing Board of the Union, and in the interval between the Conferences the organization is engaged in giving effect to the resolutions adopted and also co-operates in securing the ratification of the treaties and conventions signed at each Conference.

The Lima Conference resulted in a considerable

enlargement of the duties and responsibilities of the Pan American Union which during 1940 was engaged in giving effect to the conclusions adopted at the Conference. A new Division of Labor and Social Information was organized which began to function on Jan. 1, 1940, and the scope of other administrative divisions was broadened.

Apr. 14, 1940, marked the 50th anniversary of the founding of the Pan American Union, an occasion which was observed throughout the American Continent with appropriate ceremonies. At Washington a special session of the Governing Board of the Pan American Union was held at which President Roosevelt delivered the principal address. At the meeting of the Governing Board held on Nov. 6, 1940, the Secretary of State of the United States was re-elected Chairman of the Board for the ensuing year. Francisco Castillo Nájera, Ambassador of Mexico, was at the same time elected Vice Chairman to succeed Hector David Castro, Minister of El Salvador. Headquarters of the Union are at the Pan American Building, Washington, D.C.; L. S. Rowe, Director General; Pedro de Alba, Assistant Director. See PAN AMERICANISM; STAMP COLLECTING.

**PANTELLARIA.** An Italian island (32 sq. mi.; pop., 9082) in the Mediterranean 45 miles from the coast of Tunisia and 62 miles from the Sicilian coast. Strategically situated to dominate the shipping route between the eastern and western Mediterranean, it was fortified by Italy during the crisis of 1935-37 in Anglo-Italian relations. The island has two small ports and is said to be equipped for use as an auxiliary air and submarine base (see map, 1938 YEAR BOOK, p. 360).

**PAPER AND PULP.** Paper production for 1940 reached an all-time record of 14,372,000 tons, an increase of 6.5 per cent over 1939. The production ratio of leading mills averaged 87.6 per cent, compared with 84.9 per cent for 1939. The average operating ratio of paper board mills was 71.0 per cent, compared with 70.0 per cent for 1939.

The European war increased the demand for paper and paper products to a substantial extent and the inability of European paper and pulp manufacturers to supply non-producing countries resulted in an acute shortage of paper, particularly newsprint, in international trade. The United States and Canada were called upon to supply the deficiency. As a result production of paper and pulp in the United States and Canada steadily increased.

Newsprint production in the United States totaled 1,013,437 tons, an increase of 7.9 per cent over 1939. Canada produced 3,418,803 tons, an increase of 19.2 per cent, and Newfoundland 352,585 tons, an increase of 14.5 per cent over 1939. Prices remained stable at \$50 per ton. Paper imports were more than 2,345,000 tons and exports over 505,000 tons.

Wood pulp production of all grades in the United States totaled 9,007,000 tons, which is the highest annual production on record. Wood pulp imports for 1940 totaled 1,218,070 tons, of which 828,046 tons came from Canada; Sweden supplied 279,022 tons; Finland 87,134 tons; Norway 17,190 tons; Estonia 3579 tons; Rumania 3089 tons, and France 10 tons. United States exports approximated 480,000 tons. Pulpwood imports aggregated 1,065,695 cords.

Prices during 1940 fluctuated to a substantial degree. The price level on Dec. 30, 1940, compared with Dec. 30, 1939, showed the following changes in the most important raw, semi-finished, and finished materials: Average price of the major grades

of wood pulp, excepting groundwood pulp, advanced 40.3 per cent; raw paper, excepting newsprint and paper board, advanced 9.1 per cent; chip and news board declined 7.1 per cent. Ten important paper-making chemicals showed an average advance of 5.0 per cent. No important advances and some small declines occurred in paper-making rags, but gunny advanced 8.1 per cent, Manila rope 8.0 per cent, and No. 1 mixed paper declined 9.0 per cent. See *CHEMISTRY, INDUSTRIAL; ELECTRICAL INDUSTRIES under Electric Drive; TEXAS.*

STILLMAN TAYLOR.

**PAPUA.** See *AUSTRALIA under Overseas Territory*

**PARACHUTE TROOPS.** See *MILITARY PROGRESS.*

**PARAGUAY.** An inland republic of South America. Capital, Asunción.

**Area and Population.** Area, about 169,266 square miles (61,647 square miles east of the Paraguay River, and about 107,619 square miles west of the river confirmed to Paraguay by the arbitral award of Oct. 10, 1938 which ended the Bolivian-Paraguayan dispute over the Chaco Boreal). The estimated population on Dec. 31, 1939, was 1,000,000 including about 32,000 Paraguayans, 4000 Mennonite farmers, and 8000 aborigines in the Chaco. With the exception of the small white ruling class, the people are of mixed Spanish and Guaraní Indian blood. Spanish and Guaraní are the spoken languages; Spanish the language of government, commerce, and education. The estimated population of Asunción on Dec. 31, 1939, was 104,819; of other cities in 1934. Villarrica, 35,760; Itá, 30,252; Capiatá, 19,923.

**Education and Religion.** There is widespread illiteracy. In 1937 there were 139,466 pupils in 1742 primary schools, 2034 in secondary schools, and 350 students in the National University. Roman Catholicism is the State religion. Freedom of worship is guaranteed other faiths.

**Defense.** Paraguay on Nov. 1, 1940, had an active army of about 6000, an air force of 170, and a trained reserve of 80,000 (mostly veterans of the Chaco War). The navy consisted of two armored gunboats and two other armed river boats.

**Production.** Yields of the chief crops in 1937-38 were (in metric tons): Cotton, 41,180; yerba maté, 14,415; tobacco, 3620; corn, 69,247; manioc, 502,530; beans, 22,193; sugar cane, 289,900; peanuts, 16,908; sweet potatoes, 103,248; rice, 9386; bananas, 6,703,004 stems. On Dec. 31, 1939, there were 3,506,727 cattle, 205,501 horses, and 195,264 sheep. Production of industrialized agricultural and forest products in 1938 was (in metric tons): Quebracho extract, 35,242; sugar, 7620; petit-grain oil, 110; cotton fiber, 12,478; wheat flour, 514; and of other products (in liters, equal to 0.264 U.S. gal.): Alcohol, pure, 376,464; alcohol, denatured, 91,103; castor oil, 18,949; wines, 360,000; peanut oil, 11,270; coconut oil, 561,630; cottonseed oil, 3,147,444. Cheap textiles, shoes, leather goods, soap, furniture, matches, cigarettes, foodstuffs, etc., are manufactured for domestic consumption.

**Foreign Trade.** Imports in 1939 were 12,603,834 gold pesos (13,082,101 in 1938); exports, 13,163,516 (12,017,228 in 1938). Value of leading 1939 exports (in gold pesos): Quebracho extract, 3,321,468; canned meat, 1,799,990; cattle hides, 1,637,724; yerba maté, 1,311,583; meat extract, 1,167,680. For distribution of trade by countries in 1938, see 1939 *YEAR BOOK*.

**Finance.** The Minister of Finance on Feb. 26,

1940, announced an accumulated budget deficit of 300,000,000 gold pesos from the fiscal year 1935-36 to Dec. 31, 1939, inclusive. The budget for the last seven months of the 1938-39 fiscal year estimated revenues at 1,764,890 gold pesos and 1,054,688,000 paper pesos and expenditures at 1,454,000 gold and 1,231,154,000 paper pesos. On Dec. 31, 1938, the external debt was 8,715,906 gold pesos; internal debt, 20,019,087 gold pesos and 758,474,347 paper pesos (see *History*). Average exchange rate of the Paraguayan gold peso, \$0.6134 in 1939 (\$0.6866 in 1938); of paper pesos, \$0.00373 in 1939 (\$0.00426 in 1938). Par value of the gold peso, \$1.63.

**Transportation.** Railways in 1940 extended 713 miles, all privately owned. Air lines connect Asunción with Buenos Aires, Rio de Janeiro and Santos. Asunción, 950 miles from the sea, is accessible to river vessels of 12 foot draft at all times of the year; in 1937 4503 steamers of 251,331 tons entered the port. A 100-mile highway from Asunción to Villarrica was under construction by American engineers in 1940. Roads of all types extended 3759 miles, of which only about 30 miles were improved with gravel surface.

**Government.** A state of siege, or modified martial law, was in effect in Paraguay almost continuously from the outbreak of the Chaco War in 1932 through 1940. The Constitution of 1870 was suspended following the successful military revolt of Feb. 17, 1936. A Congress of 20 Senators and 40 Deputies, elected Sept. 25, 1938, was composed exclusively of Liberals as the opposition National Republican (Colorado) party boycotted the polls. On Apr. 30, 1939, Gen. José Félix Estigarribia (Liberal) was elected President, with the Colorado party again refusing to vote. He assumed office Aug. 15, 1939. For developments in 1940, see *History*.

## HISTORY

**Dictatorship Established.** The efforts made by President Estigarribia to restore orderly, constitutional government encountered unexpected difficulties early in 1940 and on February 18 he assumed dictatorial powers. The two primary factors influencing his decision were the outbreak of student disorders and his failure to obtain the cooperation of the Colorado party, which had refused to participate in elections since 1931.

The President's negotiations with the Colorados appeared to be nearing success in the first weeks of the year. A tentative agreement was reached under which the Liberal Congress would resign, the state of siege would be ended, and new Congressional elections held with both parties competing. Ratification of this accord was delayed by dissension within the Liberal party between a youthful faction of Estigarribia supporters and old-line Liberals led by ex-President José P. Guggiari and Geronimo Zubizarreta (see *YEAR BOOK*, 1938, p. 132).

Meanwhile the government became involved in controversy with students at the National University. The Minister of Justice and Education, Efraim Cardozo, banned a meeting of students who sympathized with bitter attacks made upon the Minister of Foreign Affairs, Justo Prieto, by the pro-Fascist newspaper *El Tiempo*. When the governing council of the autonomous university censured Dr. Cardozo for this action, President Estigarribia intervened and with Congressional assent placed the university under the Minister of Education's direct supervision. A number of prominent members of the faculty were dismissed and

Congress voted funds to hire foreign professors to replace them. The students then started a strike that spread to the secondary schools and commenced distribution of handbills calling for the overthrow of the government. The government retaliated by arresting student leaders and segregating them in small towns near the Brazilian border.

The time limit set for state of siege expired on February 15, with the student strike still under way. In view of this situation, President Estigarribia obtained from Congress a law restricting the rights of assembly and free speech. The Colorado party then announced that because of this law and the government's intervention in the National University it had decided not to participate in the elections. On February 16 the cabinet resigned to give the President a free hand in meeting the political crisis. He appointed a new ministry of nine instead of seven members. Congress then met in extraordinary session on February 17 and resigned collectively after authorizing the convening of a Constituent Assembly one year later to draft a new Constitution. The law barred any change in Article I of the 1870 Constitution which provided that the government must be democratic and representative in form.

On the following day President Estigarribia in a radio address to the nation announced that he had assumed dictatorial powers to check "anarchy and social decomposition." He called for a new form of democracy, based on collective co-operation, that would be social and economic as well as political in its application. Once anarchy had been ended and the people had demonstrated their fitness to rule themselves, he promised to call elections for a Constituent Assembly. In the meantime, all political activities were banned. These measures and the elimination of Dr. Cardozo from the cabinet soon calmed the political atmosphere.

**The New Constitution.** On February 18 a committee of university professors headed by Dr. Cecilio Báez, rector of the National University, was appointed to draft a new Constitution. Its work was completed July 9 and on July 10 the new organic law was signed by President Estigarribia. Instead of submitting the Constitution to a freely elected Constituent Assembly, as originally planned, the President called a national plebiscite, held August 4, at which the document was approved by a vote of 163,628 to 13,521. It was promulgated on August 15, when the President, the cabinet, and other high government officials swore to observe it.

The Constitution vested executive power in a President, a State Council representing economic groups on a corporative basis, and a cabinet. A unicameral Congress was given legislative authority. President and Congress were to be elected for four-year terms by compulsory, secret suffrage. Women received the right to vote along with other civil rights. President Estigarribia's term was to expire Aug. 15, 1943. The Constitution guaranteed the right to work and freedom of assembly, petition, press, and association. Congress was forbidden to grant special powers to the President but the government was authorized to limit constitutional liberties if necessary to the preservation of order. It was also empowered to regulate economic life and control all labor contracts to prevent the "exploitation of man by man." Class war, price-fixing and monopoly were outlawed and the priority of individual rights over public interest was ended. The right of private property was guaranteed in limited form, but it was stipulated that

every home should stand on land owned by the occupant. In other respects the Constitution embodied the fundamental principles of the Constitution of 1870.

**Death of President.** Three weeks after the Constitution was promulgated, President Estigarribia and his wife were killed in an airplane crash. They were buried in the National Pantheon. The government raised General Estigarribia posthumously to the rank of marshal and named the new Asunción-Villarrica highway in honor of the commander who led Paraguay to victory in the Chaco War. On September 7 the cabinet designated the Minister of War, Gen. Higinio Morinigo, as Provisional President pending election of a successor to Estigarribia.

**Morinigo Becomes Dictator.** Although the Provisional President promised early elections to select a new President, he proceeded step by step to transform his regime into a personal dictatorship. Commencing with the cabinet reorganization of September 30, supporters of Estigarribia's liberal policies were forced out and replaced by army officers and civilians described as reactionary. Col. Ramón Paredes, appointed Minister of Interior and Labor on September 30, warned the "professional politicians" that the army would direct political affairs.

He in turn was forced out of the cabinet on November 25 when President Morinigo shook up both the ministry and the high command of the army. As the new Minister of Interior, Lt. Col. Dámaso Sosa Valdés became a key figure in the government, which relied upon the support of the younger army officers. The Provisional President on November 30 promulgated a decree establishing an absolute dictatorship. He was reported to have arrested many leaders of the long-dominant Liberal party. Travelers reaching Buenos Aires from Paraguay reported the country at the year's end in a state of virtual anarchy, but in Asunción, where strict censorship was in force, these reports were denied.

**Economic Developments.** Previous to his death President Estigarribia had pressed forward with the program of public works and economic and financial rehabilitation made possible by credits obtained from the Export-Import Bank of Washington and by economic accords with Argentina and Brazil (see YEAR BOOK, 1939, p. 599-600). The depreciation of the paper peso was checked during the latter part of 1939. On Apr. 9, 1940, a commission was established to liquidate the floating debt and a 200,000,000-peso bond issue was authorized for this purpose. On February 29 the import control system established the previous June was abolished. On May 24 the government undertook to purchase the remainder of the cotton crop from the growers and hold it until prices increased. On June 8 the mining laws were amended to make the natural resources of the country a public utility and to encourage their exploitation.

At President Estigarribia's initiative, two experts of the U.S. Tariff Commission and Federal Reserve Bank were loaned to Paraguay to reorganize the tariff system and serve as economic adviser to the Paraguayan Government, respectively. A third expert from the U.S. Bureau of Mines visited Paraguay to study the feasibility of developing its mineral resources. However the benefits derived from these measures were more than offset by the spread of the European war, depriving Paraguay of additional markets for her slender exports. In the hope of finding new trade outlets,

a commercial delegation was sent to Japan and Paraguay joined with her former enemy, Bolivia, in promoting an economic conference of the countries of the Plata River basin. The political disturbances of the last quarter had a further adverse effect upon the economic situation.

See BOLIVIA under *History*.

**PARDONS.** See LAW.

**PARI-MUTUEL BETTING.** See COLORADO; FLORIDA; NEW JERSEY; NEW YORK.

**PARKS, National.** See NATIONAL PARK SERVICE; TRAVEL BUREAU, U.S.

**PAROLE.** See PRISONS, PAROLE, AND CRIME.

**PASSPORTS.** The Passport Division of the U.S. Department of State reported that the number of passports issued and renewals granted during 1940 totaled only 26,253, as compared with 89,850 in 1939 and 134,737 in 1938. This very sharp decline indicated the extent to which foreign travel on the part of United States citizens has been hampered by war conditions.

Restrictions governing the use of passports, issued by the Secretary of State immediately after the outbreak of the war, continued in effect throughout the year. It was required that passports previously issued be submitted to the Department of State for validation for travel to any country in Europe, that documentary evidence be submitted showing the imperative necessity for such travel, and that all passports be returned to the Department of State for safe keeping upon the return of Americans from abroad. Travel on a vessel of a belligerent country was prohibited on the Atlantic Ocean north of 35 degrees north latitude and east of 66 degrees west longitude except when specifically authorized.

These restrictions were further strengthened by an executive order of Oct. 11, 1940, requiring validation of passports for travel to all countries outside of the Western Hemisphere, although it was stated that a more lenient policy would be followed in cases where travel was reasonably safe. Persons submitting passports for validation were required to state the names of the countries they intended to visit and the object of the visit in each country.

The new regulations were described as due to the increasing hazards of foreign travel and to the fact that, after Oct. 16, 1940, male citizens between the ages of 21 and 35 would be required to obtain a permit to leave the country. In connection with the order, the Department of State called attention to the President's proclamation of 1940 as "Travel America Year" with the object of increasing understanding between countries of the Western Hemisphere.

**PATENT OFFICE, U.S.** Widespread observance of the sesquicentennial of the patent system marked the year 1940. Apr. 10, 1940, was designated by President Roosevelt as "Inventors and Patent Day" to commemorate the anniversary of George Washington's approval of the first patent law on Apr. 10, 1790. In his proclamation calling for celebration of the occasion President Roosevelt described the enactment and approval of that statute as an event which "had proved important and salutary to this nation." By joint resolution the U.S. Senate and House of Representatives named a Commission to plan for the appropriate observance of the sesquicentenary. Private organizations throughout the country also sponsored commemorative exercises.

Important changes in the patent laws, enacted by Congress in 1939, became effective in 1940. Most significant of these is the statute curtailing

from two years to one year the period of publication and public use precluding the issuance of a patent. On June 30, 1940, there became effective the law transferring from the Patent Office to the Library of Congress the function of registering copyrights covering prints and labels used for articles of merchandise. In 1874 Congress assigned to the Patent Office the duty of registering such copyrights. All other copyrights continued to be registered in the Library of Congress.

On July 2, 1940, the President approved an Act of Congress amending the tariff laws so as to prohibit, under certain circumstances, the importation of products made by processes covered by United States patents.

As a part of the program of national defense, it was provided by Congress on July 1, 1940, that the Commissioner of Patents could order held in secrecy such inventions as relate to the public safety and defense, and withhold the grant of a patent when the publication or disclosure of the invention might be prejudicial.

Nine months of war in Europe, overthrowing Governments, creating economic dislocations, and hampering communication and exchange, had its reflex in the Patent Office during the fiscal year 1940. The number of applications from European countries declined below the total of recent years and there was a corresponding decrease in the fees from those sources.

In the fiscal year 1940 an aggregate of 61,425 applications for patent were filed, as against 66,166 in the preceding 12 months. The number of patents granted, including those covering reissues, designs, and plants, was 47,924, and exceeded by 451 those issued in 1939.

CONWAY P. COE.

**PEACE AIMS.** See GERMANY, GREAT BRITAIN, ITALY, JAPAN, and NEW ZEALAND under *History*.

**PEACE MOVEMENT.** See CARNEGIE ENDOWMENTS; NOBEL PRIZES; the organizations listed under SOCIETIES.

**PEACHES.** See ENTOMOLOGY, ECONOMIC.

**PEARS.** See ENTOMOLOGY, ECONOMIC.

**PEMBA.** See ZANZIBAR PROTECTORATE.

**PENANG.** See BRITISH MALAYA.

**PENNSYLVANIA.** Area, 45,126 square miles; includes water, 294 square miles (but not the State's part of the waters of Lake Erie). Population (U.S. census), April, 1940, 9,900,180; 1930, 9,631,350. Philadelphia (1940), 1,931,334; Pittsburgh, 671,659; Scranton, 140,404; Reading, 110,568; Harrisburg, the capital, 83,893. Of the State's whole gain in population (1930-40) of 268,830, the urban population (dwellers in places of 2500 or more) accounted for 53,366, while the rural population increased by 215,464. The urban total (1940) was 6,586,877; the rural, 3,313,303.

**Agriculture.** Pennsylvania harvested, in 1940, 6,211,000 acres of the principal crops. Corn, on 1,341,000 acres, grew 53,640,000 bu. (\$41,839,000 in estimated value to the farmers). Tame hay, 2,400,000 acres, 3,228,000 tons (\$32,056,000); potatoes, 189,000 acres, 24,570,000 bu. (\$16,953,000); wheat, 917,000 acres, 18,789,000 bu. (\$15,219,000); oats, 888,000 acres, 31,080,000 bu. (\$12,743,000); tobacco, 33,300 acres, 48,324,000 lb. (\$6,040,000); apples, 9,100,000 bu. (\$7,280,000); peaches, 2,356,000 bu. (\$2,238,000); barley, 155,000 acres, 4,030,000 bu. (\$2,216,000).

**Mineral Production.** Pennsylvania's yearly production of minerals native to its territory, as

stated in 1940 by the U.S. Bureau of Mines, totaled \$472,773,327 for 1938; this amount was only about four-fifths of 1937's total. Texas and California exceeded it, among the members of the Union. About seven-tenths of the total came from anthracite and bituminous coal; petroleum, natural gas, and clay products supplied most of the remainder.

Mines' production of anthracite rallied to 51,487,000 net tons (value, \$187,175,000) for 1939 and thereafter sagged somewhat again to some 49,700,000 tons for 1940, as against 46,099,027 tons (value, \$180,600,167) for 1938. The yearly-mined tonnage in all three cases lacked much of corresponding figures for former years; as an example, 73,828,000 tons had been mined in 1929. Competition from other domestic fuels, rather than any deficiency in the mines themselves, was the cause. The figures presented on anthracite failed, however, to show the subject entire: anthracite was "bootlegged" (mined by non-owners without owners' permission) on a huge scale. The State's Department of Mines, after a survey late in 1939, estimated that about 2500 bootleg operations employed 9000 men, producing 340,000 tons in a month, or around 4,000,000 tons a year; whereas figures in general covered only lawful operations, this survey implied that the generally quoted totals fell short by a possible one-twelfth of covering all production. As the bootlegger depleted other capital investment than his own, he could afford to sell at prices below the lawful operator's range, and thus further to increase his share of the industry.

The mining of bituminous coal made a substantial rally, to a yearly total of some 92,190,000 net tons (1939), from 77,704,537 tons (value, \$100,965,000) for 1938; it was further stimulated by the Federal armament program's activation of many heavy industries late in 1940, in which year the output was estimated at 112,907,000 tons.

The production of petroleum, 17,337,000 bbl. (1939), as against 17,426,000, value \$32,760,000 (1938), attained about the same level of volume for 1940. In each year all but a few thousand bbl. ranked as Pennsylvania grade, source of lubricants and priced accordingly. Natural gas produced and delivered to consumers totaled 76,574 million cu. ft. (1938); in value at points of consumption, \$29,544,000. In 1939 new wells in known fields added to the available reserve, but no new fields of apparent promise were found. Clay products (exclusive of pottery and refractories) totaled \$8,844,284 for 1938.

Apart from the data above, the great industries treating minerals wholly or largely from outside regained much ground lost after the economic slump of 1937. The production of coke mounted to 12,120,225 net tons (1939), from 7,601,433 (1938); by value, to \$49,015,558, from \$32,016,406; and in 1940 the output of largely supplanted beehive coke ovens, still available in times of extra demand, more than doubled their total of 1939. Furnaces' shipments of pig iron rose to 8,979,649 gross tons (1939), from 4,684,017 (1938); by value, to \$186,302,533, from \$101,266,844. Open-hearth steel ingots and castings likewise augmented to 12,162,743 gross tons for 1939, from 7,072,157 tons for 1938. Ferro-alloys made in 1938 amounted to \$19,624,173; in 1939, apparently to more, as the Union's output of ferro-alloys for 1939 exceeded those of 1938 by 80 per cent in value.

**Manufactures.** Pennsylvania produced the second-highest value of manufactured goods in the

Union for 1939; its yearly manufactures attained \$5,473,317,408 (1939); \$5,032,083,005 (1937). Other related totals for 1939 (each with that for 1937 in parentheses): 13,802 (13,084) establishments, employing 858,307 (954,340) wage-earners at a year's wages of \$1,003,347,730 (\$1,176,957,270), paid for materials, contract work, etc., \$2,980,948,116 (\$3,367,672,686), and added to material by manufacture the value of \$2,492,369,292 (\$2,664,410,319).

**Education.** For the academic year 1938-39 (latest covered as to data that follow), Pennsylvania's inhabitants of school age (from 5½ years to 18) were reckoned at 2,131,800. Enrollments of pupils in all public schools numbered 1,877,235; this comprised 1,166,274 in elementary study, 675,637 in high school, and 35,324 in kindergarten. Expenditure of the year for public-school education totaled \$212,590,949. The teachers in public schools numbered 63,988.

**History.** A broad gain in industrial activity, particularly through the latter half of 1940, carried away many of Pennsylvania's economic troubles. In its earlier stages this gain responded to foreign demand created by the war in Europe; later the gigantic task of building up armament, hastily undertaken by the Federal Government under the pressure of the German conquests in Western Europe piled orders on the numerous Pennsylvania manufacturers capable of handling them. As in other States having important industries for working steel and for heavy fabrications, payrolls grew phenomenally, dependence on public support diminished, and public revenues rose. The case of the Cramp shipyards at Philadelphia furnished an extreme example: they had lain idle since 1927 and owed huge sums in unpaid taxes and in defaulted interest; for the greater part of 1939-40, efforts to arrange a composition that would permit of their reopening and getting some of the increasing orders for new naval vessels had gone on without avail; but on Nov. 29, 1940, the Navy announced contracts to these yards for building six cruisers, expected to cost nearly \$114,000,000, and for restoration and expansion of the yards' facilities with \$9,000,000 or more of the Government's money. See FLOOD CONTROL.

**Legislation.** Improvement reached no such brilliant stage early in the year. The reduction in the number of recipients of the State's poor relief, in anticipation of which Governor James and the Legislature had put through a frugal budget in 1939, still lagged. As the money for poor-relief began to run low, the Governor had to summon (April 29) a special session of the Legislature to provide more; the summons also submitted several other subjects. The session convened May 6, adjourned May 16. It granted \$71,850,000 for additional expenditure on poor-relief; by transferring sums from previous appropriations for other purposes it found a temporary escape from need to impose additional taxation, and thus made good the Governor's promise to manage without adding to the load of taxes that the Earle administration had left. Another enactment permitted the extension of the great east-west "superhighway," the Pennsylvania Turnpike—then about completed in its original extent—all the way into Philadelphia; the Legislature did not deal with the means for getting the \$75,000,000 that this extension was expected to cost. (See ROADS AND STREETS.)

**Administration and Courts.** In order to hasten the return of the destitute to regular employment and get them off the relief rolls, the Secretary of



Assistance undertook, in June, the task of purging the rolls; this involved finding among some 500,000 dependents on the State's support the men able to work and notifying them to cease relying on public support. Earlier, the State had prevailed on the WPA to relieve it of 5000 clients (February 1) thus raising the number paid by the WPA in the State to about 165,000. In the effort to put the self-supporting but law-breaking "coal bootleggers" in the anthracite fields on a lawful basis the Governor urged upon the mining companies a plan for giving the illicit miners a status as lessees. Dealing with the possible risk of seditious plots, the State detailed an officer of the National Guard to compile communicated information on the subject; the registration of aliens was required, and there followed litigation in the U.S. Supreme Court, in which the U.S. Solicitor General intervened to ask a decision against a State's right to register its alien population (December 6).

Former Democratic State Chairman David L. Lawrence and Ralph M. Bashore, both formerly high in the Earle administration, were tried at Harrisburg, with several others, on charges of conspiracy to compel political contributions from State employees; all were acquitted (April 12). The U.S. Supreme Court held (June 3) that a Pennsylvania school board could compel a pupil to salute the American flag, despite pupil's conscientious objection. The State Supreme Court granted a new trial to Herman Petrillo, former head of a Philadelphia "arsenic ring," on the ground of faulty procedure in the original trial; he was again convicted and (October 2) condemned to death.

**Philadelphia.** Mayor Robert E. Lamberton took office on January 1. He declared his intention to carry out a program for augmenting the municipal water system and completing the system for the disposal of sewage, in about 2½ years, at an outlay of \$60,000,000. The City Council authorized (March 7) an initial loan, for repairs to the water system, of \$18,000,000. The municipal tax of 1½ per cent on incomes, on which the local government relied for keeping clear of further deficits in current operations, was declared valid by the State Supreme Court at the beginning of February.

Having come through a protracted reorganization, Philadelphia's system of street railways and buses, under the name, Philadelphia Transportation Company, arranged early in the year to add to its equipment by substantial purchases of buses, trolley cars, and trackless trolleys.

**Elections.** At the general election (November 5) the popular vote for President totaled 2,171,035 for Roosevelt (Dem.) and 1,889,848 for Willkie (Rep.). U.S. Senator Joseph F. Guffey (Dem.) was re-elected, defeating Jay Cooke (Rep.). In the vote for State officers the Democrats took minor State offices and regained a majority in the State House of Representatives, lost in 1938; the State Senate remained heavily Republican. Nineteen Democratic U.S. Representatives were elected: a gain of 4, reducing Republican seats to 15. There was no election of Governor.

**Officers.** Pennsylvania's chief officers, serving in 1940, were: Governor, Arthur H. James (Rep.); Lieutenant Governor, Samuel S. Lewis; Secretary of Internal Affairs, William S. Livenood, Jr.; Secretary of the Commonwealth, Sophia M. R. O'Hara; Auditor General, Warren R. Roberts; Treasurer, F. Clair Ross; Attorney

General, Claude T. Reno; Superintendent of Public Instruction, Francis B. Haas.

**PENOLOGY.** See PRISONS, PAROLE, AND CRIME.

**PENSIONS.** For old-age pensions, see LABOR LEGISLATION; SOCIAL SECURITY BOARD. For veterans' pensions, see VETERANS ADMINISTRATION.

**PERAK.** See BRITISH MALAYA.

**PERIM.** See ARABIA under *Aden*.

**PERLIS.** See BRITISH MALAYA.

**PERMANENT CHARITY FUND.** See BENEFACTIONS.

**PERMANENT COURT OF INTERNATIONAL JUSTICE.** See WORLD COURT.

**PERSIA.** See IRAN.

**PERSONNEL ADMINISTRATION, COUNCIL OF.** See CIVIL SERVICE COMMISSION, U.S.

**PERU.** A republic on the west coast of South America. Capital, Lima.

**Area and Population.** Area, variously estimated at from 430,000 to 482,100 square miles, excluding more than 100,000 square miles in dispute between Peru and Ecuador. Estimated population in 1939, 7,500,000. With the exception of about 600,000 whites, 30,000 Japanese, and a few other Asiatics, the inhabitants are of Indian and mixed Indian and white blood. Foreigners in 1940 included about 7000 Italians, 3000 Germans, and 1489 U.S. citizens. Populations of the chief cities (est., 1936): Lima, 370,000; Callao, 75,000; Arequipa, 46,000; Cusco, 40,000; Iquitos, 40,000.

**Defense.** Military service is compulsory, but the number of conscripts is limited. As of Nov. 1, 1940, the active army numbered 14,550, the active air force 1935, and trained army reserves about 32,000, besides 8000 men in the police and gendarmerie. The navy comprised 2 obsolete cruisers, 2 destroyers, 1 torpedo boat, 4 submarines, 7 river gunboats, and 3 auxiliary craft. The army is French-trained. On July 31, 1940, Peru renewed the contract of the U.S. naval mission and arranged for a U.S. aviation mission to replace Italian instructors.

**Education and Religion.** About half the population is illiterate. Education statistics for 1937 showed 4697 primary schools with 471,304 pupils, 147 secondary schools with about 22,474 students, 7 normal schools with 649 students, 26 vocational schools, and 5 universities, with some 4500 students. The Roman Catholic Church is protected by the State and only Roman Catholic religious instruction is permitted in State and private schools.

**Production.** Agriculture supports 85 per cent of the population. Stock raising and mining are other leading occupations. Mineral products accounted for 59.6 per cent of all 1939 exports; agricultural, 33 per cent; animal, 5.7 per cent. Yields of the chief crops were (in metric tons): Cotton, 89,658 in 1939; cane sugar, 394,000 in 1939-40; wheat, 103,100 in 1938; rice, 90,700 in 1937; coffee exports, 3400 in 1939, cotton seed, 141,400 in 1938. The 1938 wool clip was 9400 metric tons. The chief mineral products in 1939 were (in metric tons): Petroleum, 1,796,000; coal, 148,000; copper ore (metal content), 35,500; lead ore (metal content), 45,000; zinc ore exports (metal content), 17,000; tungsten, 159; antimony ore (metal content), 1688; molybdenum ore (metal content), 180; silver, 584.8. Gold production in 1939 was 8471 kilograms; guano collections, 152,788 tons. The chief manufacturing lines are oil refining, and the making of cotton textiles, knit goods, hats, food products, beverages, leather, shoes, etc.

**Foreign Trade.** Including specie, imports in 1939 totaled 255,787,376 soles (260,158,735 in 1938); exports, 381,421,389 soles (342,128,640). The value of leading exports (in soles) was: Cotton, 75,191,000; copper bars, 67,462,000; crude petroleum, 56,530,000; petroleum derivatives, 54,327,000; sugar, 41,020,000; wool, 14,430,000; gold bars, 13,706,000; mineral concentrates, 13,550,000. Chief imports: Machinery and vehicles, textiles, metals and products, foodstuffs, chemicals, etc. Of the 1939 imports the United States supplied 41.1 per cent (34.3 in 1938); Germany, 14.7 (20.3); Great Britain, 8.4 (10.1). Of the 1939 exports, 30.4 went to the United States (26.8 in 1938); Great Britain, 19.6 (20.0); Germany, 6.0 (10.6).

**Finance.** Budget revenues and expenditures for 1940 were estimated to balance at 216,000,000 soles, including 28,000,000 soles of revenues and expenditures under special laws introduced for the first time; for 1941, 278,375,000 soles. Actual returns for 1939 were: Total receipts, 179,935,000 soles; expenditures, 184,878,000 soles.

The public debt on Dec. 31, 1939, was 833,110,266 soles (external funded, 506,123,276; internal funded, 85,301,761; floating and short-term, 241,685,229), or an increase of 54,810,095 soles from Dec. 31, 1938 (see *History*). Average exchange rate of the sol, \$0.1875 in 1939 and \$0.1588 in 1940.

**Transportation.** As of Jan. 1, 1940, Peru had about 2760 miles of railway line (over 600 miles state-owned); 16,361 miles of highways, of which 1696 miles were completed since 1937; and five commercial air systems, which in 1939 flew a total of 1,910,430 miles, carrying 29,360 passengers, 559 tons of express, and 26,833 lb of mail. A total of 10,453 ships of 16,469,922 tons entered Peruvian ports during 1938.

**Government.** The Constitution of Apr. 9, 1933, as amended by the plebiscite of June 18, 1939, vested executive power in a President elected for six years and ineligible for re-election. Legislative authority was vested in a Senate of 40 and a Chamber of Deputies of 140 members, all elected for six years. The suffrage in national elections is restricted to literate males of 21 years and over. President in 1940, Dr. Manuel Prado y Ugarteche, candidate of President Benavides' dictatorial regime, who was elected Oct. 22, 1939, and inaugurated December 8. Most of the government candidates for the Senate and Chamber of Deputies were successful in the 1939 elections as the strongest opposition group, the so-called Apra party, was forbidden to present candidates (see 1939 *YEAR BOOK*, p. 609).

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**Political Trends.** President Prado's government made notable progress during 1940 in its efforts to liquidate the Benavides dictatorship of 1933-39. The President's simple and democratic conduct during the first year of his administration reconciled many anti-Benavides groups to his regime and contributed to the stabilization of internal order. Coincidentally, the political importance of the outlawed Apra party was reported to have declined. In March Parliament approved a motion making all decree-laws of the Benavides Government valid unless specifically amended or repealed. This action was strongly criticized as undemocratic by the anti-Benavides press and political leaders. In September the Chamber of Deputies approved changes in the 1939 constitutional amendments to make certain that all Deputies elected in October, 1939, would remain in office for the full six-year

term and that elections to the Chamber would take place at the same time as the Presidential election.

**Economic Developments.** The two main problems confronting the Prado Government during the year were the adverse economic repercussions of the European War and the political and propagandist activities of the totalitarian powers, designed to wean Peru away from the Pan American front. The extension of the European War deprived Peru of additional important export markets. The resulting shortage of foreign exchange caused a further depreciation of the sol, curtailing domestic purchasing power and imports. The severe earthquake that shook the Lima-Callao district on May 24 was another economic setback. More than 322 persons were killed and nearly 5000 injured by the collapse of buildings in Lima, Callao, and surrounding towns and villages. Over 1000 buildings and dwellings were wrecked and several thousand persons made homeless. Another adverse factor was the curtailment of the heavy public works expenditures made during the Benavides regime.

Although eliminating European markets, the war brought improved prices for Peru's export crops and minerals. New markets were found in the United States and Japan. At the same time, the curtailment of imports and the depreciation of the sol aided all branches of domestic manufacture. The government also took measures to support economic activity. In April Congress authorized a 20,000,000-sol increase in the 6 per cent public works loan. On May 27 the government appropriated 20,000,000 soles, exclusive of municipal contributions, for the rebuilding of cities damaged by the earthquake. In August an agreement was reached with American bankers for repayment of a \$1,131,000 credit advanced in 1931, on which interest and principal were in arrears.

The social welfare program was expanded through additional social security and unemployment taxes authorized on Nov. 16, 1939. Price control measures introduced in 1939 were strengthened and extended. On May 29 the tariff was raised to curtail imports and encourage domestic manufacturing. The government also extended loans under liberal terms to small manufacturing enterprises, reserved unclaimed coal deposits for the State, commenced construction of roads into inaccessible regions to facilitate production of gold and other products, and encouraged the culture of flax. The Mining Bank of Peru was established under a law of July 24, 1940, to stimulate exploitation of minerals by Peruvian firms. Steps were also taken to consolidate the short-term floating debt at lower amortization and interest rates.

**Foreign Relations.** Sentiment in Peru became increasingly pro-Ally as a result of European War developments during 1940 and there was a marked trend toward closer co-operation with the United States in hemispheric defense policies. Disorders in Lima theaters attending the showing of British and American propaganda films early in the year caused the authorities to ban the showing of these movies. This action was severely criticized in the Senate on March 19 by Senator Pedro Ruiz Bravo, who charged that the disorders were the work of the Gestapo and the German legation. His resolution calling on the government to investigate "the intrusion of German elements" into Peruvian affairs was unanimously adopted by the Senate. A week later the Ministry of Education rejected the long-standing application of the German College to adapt its courses to the German secondary

school plan. However German and Italian propaganda agents redoubled their activities following the entry of Italy into the war and the collapse of France.

The Peruvians were even more alarmed by the activities of the large Japanese colony. Rumors that the Japanese had smuggled large quantities of arms and munitions into the country led in May to widespread attacks upon the Japanese in Lima. Many were injured and much property damaged. The Peruvian Government on May 17 expressed its regret over these disorders and promised Japan to pay for the damage to Japanese-owned properties and punish those responsible. However the Lima authorities suspended further Japanese immigration and President Prado in his message to Congress on July 28 stressed the danger to Peru posed by the German and Japanese doctrines of double nationality. At the same time he emphasized Peru's support of inter-American defense policies.

This policy was in line with a manifesto issued June 25 by leading Peruvian intellectuals, journalists, business men, and political figures calling upon the American republics to unite in defense of liberty. Other related developments followed. Col. Armando Revoredo, noted Peruvian aviator, was sent to Washington as head of an air mission to discuss hemisphere defense problems. The government in August decided to purchase the airplane factory and equipment in Peru of the Italian Caproni company. The leader of the Apra party, Dr. Raúl Haya de la Torre, in his new book *Normas Apristas*, repudiated the violent attacks upon "Yankee imperialism" characteristic of Apra's previous policy and came out in favor of co-operation with the United States as long as President Roosevelt's Good Neighbor policy was maintained. In October the Chief of the Peruvian General Staff visited the United States to inspect its military preparations and discuss mutual defense policies. A survey of Peru's sea-fishery resources by three U.S. Government experts was arranged for late in the year. The U.S. Export-Import Bank on December 18 approved a \$10,000,000 credit to the Central Reserve Bank of Peru to cover purchases in the United States. Also see under *National Defense* above.

See *ECUADOR* under *History* for the revival of tension over the boundary dispute; *INTERNATIONAL LABOR ORGANIZATION*, for the Inter-American Conference on Social Security in Lima; *PAN AMERICANISM*.

**PETRILLO CASE.** See *PENNSYLVANIA* under *History*.

**PETROLEUM.** During 1940 the industry began to feel the full effect of the war. Every production, manufacturing, and consumption record of the industry was broken. Exports declined materially from 1939. Motor fuel particularly was affected, and exports dropped more than 40 per cent from the preceding year, due not only to decreased foreign buying but also to embargoes and export licensing by the United States. According to the Petroleum Institute crude petroleum production in the United States increased nearly 7 per cent in 1940 to 1,354,423,000 bbl., compared with 1,264,962,000 bbl. in 1939. A decline of 2 per cent occurred outside the United States, with an estimated world total production of 2,149,741,000 bbl. The United States' share of this production increased slightly to 63 per cent. Domestic refineries processed 1,291,516,000 bbl. of crude in 1940, an increase of 4 per cent over 1939. Production of motor fuel in 1940 totaled 614,459,000 bbl.,

against 611,043,000 bbl. in 1939. Domestic demand for motor fuel increased 6 per cent over 1939 to 590,737,000 bbl. in 1940.

The industry drilled 30,264 wells in 1940, of which 21,277 were completed as oil wells and 2,224 as gas wells. Crude oil prices remained at \$1.02 a bbl. throughout 1939 and were expected to approximate that average in 1940. The average retail price of motor fuel in 50 representative cities dropped in 1940 to 12.75¢, the lowest since 1919 except for 12.41¢ in 1933. The all-time high was 29.74¢ in 1920. Average gasoline taxes amounted to 5.66¢ a gal., aggregating \$1,146,000,000 in 1940. The average motor vehicle consumed 740 gal. of motor fuel in 1940 at an average cost of \$94.35.

See *CHEMISTRY, INDUSTRIAL*; *CO-OPERATIVE MOVEMENT*; *ELECTRICAL INDUSTRIES*; *MINES, BUREAU OF*; *NATIONAL DEFENSE ADVISORY COMMISSION*; and the oil producing States under *Production and History*. For oil tankers, see *SHIPBUILDING*.

H. C. PARMELEE.

**PHENOL.** See *CHEMISTRY, INDUSTRIAL*.  
**PHILADELPHIA MUSEUM.** See *ART* under *Museums*.

**PHILANTHROPY.** See *BENEFACTIONS* and the articles there referred to.

**PHILATELY.** See *STAMP COLLECTING*.

**PHILIPPINES.** A group of islands lying in the northern tropics, between the Pacific Ocean and the China Sea; former possession of the United States; since 1935, a commonwealth, designed to become independent in 1946. Capital, Manila.

**Area and Population.** The combined area is 114,400 square miles. This comprises 7083 islands, of which, however, only 466 cover as much as one square mile apiece. Two islands, Luzon (40,814 square miles) and Mindanao (36,906 square miles) account for more than two-thirds of the whole area. Others of important size, with their respective areas in square miles, are Samar, 5124; Negros, 4903; Palawan, 4500; Panay, 4448; Mindoro, 3794; Leyte, 2799; Cebu, 1695; Bohol, 1534; Masbate, 1255.

The inhabitants, by census of 1939, numbered 16,000,300; census of 1918, 10,304,310. The city of Manila had (1939) 623,362 inhabitants. Persons from the United States, other than members of its armed forces and their families, numbered 4144 in 1939. There were 117,461 Chinese; the Japanese numbered 29,262, of whom 17,888 were in and about Davao, on Mindanao Island. The Commonwealth made a law in 1937 declaring Tagalog (the most prevalent native tongue) the official language, but its full introduction awaited a dictionary and other aids. About one in eight of the population are estimated to have some knowledge of the English language; about one in 16, of Spanish. The Roman Catholic Church holds the greater number of the people of religious affiliation. An independent Filipino Church (Christian) has many worshippers. Mohammedans number not far from half a million. Worshippers of the Protestant denominations are estimated at 250,000.

**Education.** Public schools numbered 10,924 in 1938; 9489 were primary, 1316 intermediate, 114 secondary, and 5 junior colleges. These schools had 1,738,868 enrolled pupils. An Office of Adult Education, created in 1936, had 2057 special schools by the end of 1938, instructing 125,783 adults. Higher education is imparted in several technical institutions and two important universities: The University of the Philippines, state-supported, with

7711 students (1938); and the University of Santo Tomas, conducted by the Dominican Order.

**Production.** The islands produce for export a considerable variety of tropical products of the soil, such as sugar, abacá (Manila hemp), and the coconut; and several minerals, especially gold and the ores of iron and of chromium. They raise food sufficient for the inhabitants, save for a few items, such as wheat flour. They require from other sources mineral fuels, textiles, machinery, and a variety of other fabricated goods.

The mines' production of gold was estimated, for 1939, at 1,024,000 troy oz.; by value, \$35,840,000 in U.S. money. The year's output of gold continued a rise that had already multiplied the yearly total by five in the course of nine years. Iron ore was steadily mined, mainly for the Japanese market; ore of chromium likewise. Agricultural production of 1938, in quintals of 2.2 lb. av., included corn, 5,138,000; rice, 1,520,000; sugar, 9,283,000; copra, 6,049,000 (and for 1939, 6,646,000); abacá, 1,649,000. For the next crop year, 1939-40, first official estimates by value were available, in pesos: All crops, 381,067,000 (includes rice, 159,741,000; sugar, 97,524,000; coconuts, 52,439,000; abacá, 15,053,000; corn, 18,986,000).

**Manufacture,** which the government of the commonwealth particularly sought to develop, remained largely in the stage of trials and beginnings. The widely known Philippine embroidery, however, produced by hand in some 30 establishments, had a definite foreign market. Under the National Development Company, an agency of the government, cotton was spun and cement was made, while another governmental instrument, the National Rice and Corn Corporation, sought to develop the canning of fish and of vegetable foods.

**External Trade.** Total imports of 1940 were provisionally valued at 269,720,000 pesos (peso equals 50 cents, U.S. money), as against 245,535,000 for 1939; exports, at 231,830,000 pesos, as against 242,450,000. The totals for exports omitted gold and silver; there were exported, however, 77,750,000 pesos of these metals (almost all gold) in 1940 and 73,670,000 in 1939; and thus exports, the two metals included, amounted to some 309,580,000 pesos for 1940 and 316,125,000 for 1939. The lower value of exports in 1940 coincided with the loss of access to markets shut off by war and with a dearth of ships to carry exportable goods.

The Philippines regularly do the bulk of their external trade with the United States. The yearly report of U.S. foreign commerce indicated Philippine imports of U.S. merchandise to the value of \$93,335,474 for 1940 and of \$99,938,557 for 1939 (equivalent to twice as many pesos), and Philippine exports to the United States totaling \$89,670,500 for 1940 and \$91,927,137 for 1939, exclusive of gold and silver. Gold—mainly output of Philippine mines—exported to the United States amounted to \$38,630,151 for 1940 and \$35,637,107 for 1939; silver, similarly, to \$1,026,103 for 1940 and \$836,576 for 1939.

**See CUSTOMS, BUREAU OF,** for quotas on Philippine imports into the United States

**Finance.** The outline of the budgets subsequent to 1937 included not only an approximate balance of ordinary expenditures and receipts but also heavy capital expenditures otherwise met—principally out of a lump sum of over 111,000,000 pesos received in 1937 from the U.S. Government as an offset for the latter's collection of a tax on imported vegetable oils. The Philippine budget prepared for submission in 1941 called for expenditure

of 111,676,000 pesos, this including 12,397,000 of capital expenditure; it put ordinary income at 82,310,000 pesos and proposed to put receipts up to 112,982,000 by taking 20,672,000 from surplus and issuing bonds for 10,000,000 pesos. The budget for 1940 had called for expenditure of 89,149,000 pesos and had estimated receipts at 91,178,000; but there had occurred a deficit, from the operations of 1940, of some 10,000,000 pesos, and this was extinguished by drawing on divers surpluses and funds. Net bonded debt of central, municipal, and provincial governments: \$74,468,500 on Dec. 31, 1938.

**Transportation.** The island of Luzon has about 700 miles of railway, the greater part of all the rails in the Philippines. The Manila Railroad Company operates the lines in Luzon; the government of the Commonwealth owns this company's common stock. The Philippine Railway Company operates lines on the islands of Panay and Cebu, aggregating 133 miles. The Manila Electric Company runs a system of tramway lines and busses. Producers of sugar and of lumber have an aggregate of thousands of miles of rails, which they use in hauling their own goods. Two companies, in 1939, operated airplanes serving seven routes, 1097 miles in combined length, among the islands. Pan American Airways maintain regular service with the United States and Hong Kong. By sea, liners sail weekly to and from the United States. In 1940 the European War had the effect of depriving the Philippines of the usual supply of freighters for the bulky exports; the government of the Commonwealth created and financed the National Trading Corporation for the purchase and leasing of needed shipping.

**Government.** The system of government in operation in 1940 rested on the Philippine Independence Act, passed by the U.S. Congress in 1934. Under this act a constitution, written by a Philippine constitutional convention and approved by popular vote, went into effect Nov. 15, 1935. A President, elected by popular vote for a term of six years, exerts great executive authority. The power of legislation resides in a National Assembly of a single chamber of 96 members elected for three years. Under constitutional amendments adopted in 1940, the term of a President, after the end of the current six-year term, was cut to four years; his re-election, previously forbidden, was allowed, and in the special case of the immediate incumbent only, he could be re-elected for a term of two years to follow the six-year term. The National Assembly, after the close of the members' current terms, was to consist of two houses, through the addition of a Senate with its members elected at large. An electoral commission also was created.

The U.S. Government, pending the completion of independence in 1946, retains a measure of authority. The Commonwealth is limited as to public debt and some features of taxation. The United States keeps charge of foreign relations. Constitutional changes and such acts as affect currency, coinage, imports, exports, and immigration require the approval of the President of the United States. Appeal may be taken from Philippine courts to the U.S. Supreme Court. The Commonwealth's President must report periodically to the U.S. Congress and President on divers governmental operations. The U.S. Government maintains as its representative in the Commonwealth a High Commissioner.

President of the Commonwealth, Manuel Luis Quezon. U.S. High Commissioner, Francis Bowes Sayre.

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**Disturbing Factors of 1940.** The European War cut off the access of Philippine products to some markets in 1940 and restricted commerce with other customers. The prices obtainable for goods to be exported sank to figures in a number of cases below any previously touched in decades. The course of the Japanese Government in the lands across the China Sea made the informed fraction of the population uneasy, particularly about the somewhat concentrated colonization of Japanese in the Davao area of Mindanao. Belief in the wisdom of the intended dissolving of the political tie with the United States was shaken by continued evidence of Japanese determination to expand. Economic distress invited further exercise of the Commonwealth's policy of directing industry by governmental authority.

**Legislation.** The Assembly voted amendments to the Commonwealth's constitution, later adopted; they altered the duration of tenure of the Presidency (for provision as to President Quezon see above, under *Government*), added a Senate to the legislative body, and provided a powerful constitutionally entrenched electoral commission. By a vote of 67 to 1 was enacted an immigration law limiting the allowable ingress of immigrants from each other country to 500 a year; impartial in its form, this measure was expected to restrict only the admittance of Japanese. A tax was imposed on the milling of sugar cane by the centrals; its proceeds were to defray efforts of the government to improve the conditions in the sugar-making industry. Lengthening the list of corporate instruments for projecting state direction into economic activity, the Assembly created a National Trade Corporation, to promote oversea trade; a Coconut Corporation, to help sustain the depressed commerce in the products of the coconut, and a Tobacco Corporation, to perform a like service in its designated field. A labor act created a Court of Industrial Relations, the five judges were to have authority to investigate, settle, or decide all disputes between employer and employee; they went armed with power to impose serious punishment for contempt, either of explicit orders or of an implicit agreement, as envisaged by the act, against strike or lockout in any dispute, during the court's proceedings; employer and laborers' representative stood equally amenable to the court's orders. The session's appropriations were reported to total 208,139,600 pesos, not all for the ensuing fiscal year; of the whole, 80,452,000 fell within the general budget, 80,000,000 were to come from the coconut-oil excise receipts; 30,000,000 were for financing the coconut and tobacco corporations.

**Relations with Japan.** The U.S. Government, conducting diplomatic relations with Japan for the Philippines, agreed to the extension, for one year from July 31, 1940, of an existing understanding by which Japan might export cotton piece-goods to the Philippines; the admissible quantity of such goods for the stated year was set at 45,000,000 square meters. The arrangement tended to facilitate Japanese importation of Philippine ores of iron and other metals, even while the U.S. policy tended to cut down the exportation from the Union of such goods as might help Japanese aggressive warfare; but the Philippines' need of such markets as they could find was particularly strong at the time. A captain of Philippine Scouts, Rufo Romero, was convicted by court martial, November 25, of conspiring to sell to an unrevealed party

maps taken from Fort McKinley. No indication of the identity of those seeking military information transpired, but the incident tended further to stir doubt of the Japanese intentions in the Islands. See JAPAN under *History*.

**Relations with the United States.** U.S. High Commissioner Sayre declared, in an interview published at Manila, February 25, his belief that the taxpayers of the United States would be unwilling to support a force for the defense of the Philippines after their scheduled attainment of independence in 1946. He further expressed doubt whether the Philippine Government, having moved so far toward an independent status, could avoid going the rest of the way, even if it would. President Quezon in an address on March 27 declared his doubt of the Islands' sufficiency for their own defense against conquest and suggested the possibility of a continued bond, sufficiently loosened to let the islands make treaties, particularly for the improvement of their commerce. In September, Minister of Finance Roxas, endorsed by Quezon, broached the idea of a continued commercial bond with the United States and of the latter's continuing military aid to the Philippines. It thus appeared, as the intermediate period prior to independence reached the middle of its duration, that definite efforts to shield the Commonwealth from the rigors of an isolated freedom would not be lacking. The United States sent considerable forces of naval craft and airplanes to the Islands late in the year.

**Measures to Check Depression.** The National Trade, Coconut, and Tobacco corporations were all established and put to work during the year. The prices of securities in the market at Manila were pegged on June 11 to check their collapse. Depression started to ease toward the end of 1940.

**PHILOLOGY, Classical.** Certain tendencies adumbrated in this place in previous years are becoming more definite. The humanities are being given an increasingly important place in American education (see e.g. Patricia Beesly, *The Revival of the Humanities in American Education*), perhaps because of the crisis in human affairs and the growing feeling that the social and natural sciences alone are inadequate for complete education. New courses have been introduced in several colleges in which the Greek and to a less degree the Latin authors occupy the center of attention. The work is naturally done in translation, but even so it appears to be gradually affecting philological study. With edification rather than erudition as the avowed purpose of the new humanism, attention is centered on content rather than on form, on doctrine rather than on language. More narrowly philological studies thus tend to give way to studies upon the place of a given author or movement in the spiritual history of mankind. Attention is therefore focussed upon authors that merit a place in such a history, and not only the lesser writers but the lesser questions involved in the greater writers tend to be neglected. Lesser writers and lesser questions tend to be examined only for the help they provide in understanding a major figure or period. General works tend to deal with philosophy and religion and with the interpretation of political and economic phenomena with the classicist ends of *acumulatio* and even *imitatio* in mind.

The tendency to extract useful doctrine from the study of antiquity is even more marked, though less objectively pursued, in the totalitarian countries. Political theorists of antiquity are shown to prescribe the "Leader principle," the discipline of

Sparta is extolled at the expense of more democratic forms, and all that can make for national pride is underscored. The subservience of scholarship to the dominant political beliefs in Germany and Italy may be illustrated by a single example. An imposing history of Latin literature comes from the hand of Augusto Rostagni (*La letteratura di Roma repubblicana ed augustea*) from whom much was to be expected. But instead of objective scholarship as ordinarily understood the book is an extended argument, with rhetoric serving for demonstration, for the independence of Latin literature from foreign influence, especially Greek, though such influence is beyond question and was freely acknowledged by the Romans themselves. *Gnomon*, the German periodical with the greatest reputation for sound reviews of books in classical philology, proceeds to praise Rostagni's book in high terms.

Except from the conquered countries the stream of publications continues almost unabated. Bibliographical works, text collections, lexicographical works in progress, periodicals, and serial publications are listed in articles for previous years and will not be repeated here. Most continue to appear, though somewhat irregularly and in reduced volume. The major philological work of the year comes from England; it is the completed revision of the Liddell-Scott Greek lexicon by H. S. Jones and R. Mackenzie, both now deceased. Another great work completed in England this year is A. B. Cook's *Zeus*; both parts of the third and final volume are now published. A number of the year's other books must be mentioned: W. F. Albright, *From the Stone Age to Christianity, Monotheism and the Historical Process*; W. N. Bates, *Sophocles*; J. Carcopino, *Daily Life in Ancient Rome*; C. N. Cochrane, *Christianity and Classical Culture*; L. V. Cummings, *Alexander the Great*; R. J. Deferrari and others, *A Concordance of Lucan*; G. E. Duckworth, *Plautus, Epidicus*; E. R. Goodenough, *An Introduction to Philo Judaeus*; A. H. M. Jones, *The Greek City from Alexander to Justinian*; H. D. F. Kitto, *Greek Tragedy*; H. Michell, *The Economics of Ancient Greece*; Gilbert Murray, *Aeschylus*; M. P. Nilsson, *Greek Popular Religion*; Inez S. Ryberg, *An Archaeological Record of Rome from the Seventh to the Second Century B.C.*; V. H. Scramuzza, *The Emperor Claudius*; D'Arcy W. Thompson, *Science and the Classics*.

The character and volume of American work in classical philology may be gauged from the *Bibliographical Record* of the thousand-odd members of the American Philological Association, published in the Association's *Transactions and Proceedings*. Volume lxx (for 1939, published 1940) reports the seventy-first annual meeting of the Association, held at Ann Arbor December 27-29. Its nearly 700 pages contain thirty-seven complete articles, abstracts of thirty others, matter dealing with the organization of the Association and its work, and a list of the members and their bibliographical record.

MOSES HADAS.

**PHILOSOPHY.** The fortieth annual meeting of the Eastern Division of the American Philosophical Association at the University of Pennsylvania (December, 1940) brought together philosophers representing most of the schools and directions of thought in this country. Sessions were devoted to the philosophy of science, the nature of the mind, ethics and art, symbolic logic, religious philosophy,

and phenomenology, while a final symposium, sponsored by the American Association for the Advancement of Science as well as the A.P.A., took up the problem of science and value.

Ray H. Dotterer, in one session, argued that the paradoxes which seem to follow from the "principle of insufficiency" or "indifference" disappear if it is remembered that probability judgments are meaningless "except in relation to the data with respect to which they are asserted to be true." Victor Lowe attempted to define a naturalistic "temporalism" in the context of Whitehead's philosophy, while Erwin Biser argued that Heisenberg's uncertainty relations "are fundamental in nature and not merely due to the perturbation incident to the act of measurement and observation; nor to the fallibility of our concepts."

In another session, Ronald B. Levison concluded that, since Plato in the *Lawus* asserts that an act may be just although its consequences are bad, the gaps between Platonic and Kantian ethics is not so broad as has been supposed. Two papers on esthetics took Croce as a starting point. Helmut Kuhn, vindicating a problem rejected by Croce, asserts that "the festival is the focus of art in life." The interpenetration of the arts *inter se*, and with moral and social life, is also stressed by D. W. Gotschalk. He attempts, following in the path of Croce, to effect a synthesis of romantic and classic doctrine of art without isolating art, and the arts, from other phases of life.

W. H. Sheldon, speaking in the symposium on "mind," endeavored to combine conflicting theories in a sweeping perspective. "Philosophers," he said, "have usually taken mind as primarily cognitive, due to class bias, because they are themselves thinkers rather than doers; this abstract view is the main source of the oppositions." C. I. Lewis made the interesting point that although "my mind" can be defined as something with which I am directly acquainted, but you are not, solipsism does not follow from the alleged fact that other minds are not verifiable. Brand Blanchard, on the other hand, approached "mind" through the concept of teleology. The idealistic emphasis was also evident in a symposium on religious knowledge. Horace L. Friess, using the experience of the sacred to delimit the religious, argued that a liberalistic, historical approach to religious experience would serve to give us "our exact bearings spiritually," while J. S. Bixler upheld a religious knowledge, different from the scientific, but capable of some kind of confirmation. R. L. Calhoun, however, contrasted knowledge with the assurance, or faith, that the world makes sense. The latter is "a dynamic orientation of thought, feeling, and will, that underlies and sustains the more concrete efforts of reason."

Of the symbolic logic papers, the most interesting philosophically was "Towards a Basic Logic," by Frederic B. Fitch. A basic logic was set forth "within which it seems possible to give a non-semantic description of any system of logic whatsoever."

The symposium on science and value brought together some of the leading figures in American philosophy and science. Wilbur M. Urban, Frank H. Knight, Ralph B. Perry, and Professor Singer read papers, while Gregory Bateson, M. R. Cohen, Harlow Shapley, and O. H. Taylor led the discussion. The clearest, most decisive thesis was put forward by Perry. It was developed in his *General Theory of Value* (1926). Value is determined essentially by interest which develops and changes with evolution and environmental alterations.

One section of the program of the A.P.A. was devoted to a phenomenology which, exiled from Germany, has recently developed a new momentum in this country. Marvin Farber, Alfred Schuetz, Dorion Cairns, and Herberg Spiegelberg discussed different aspects of Husserl's phenomenological philosophy: Farber giving a general description of the phenomenological method, Schuetz relating it to William James' "stream of thought," Cairns maintaining that expressions "are ideal individuals," while Spiegelberg sought to determine the meaning of "self-evidence." All of these speakers, and a number of other students of Husserl, are represented in the *Philosophical Essays in Memory of Edmund Husserl* (1940). Some of the essays, such as those of Farber and Cairns, are purely expository of the descriptive, subjective, transcendental, *a priori* philosophy of Husserl. Others, such as those of Charles Hartshorne and V. J. McGill, are highly critical, the former in loyalty to certain religious and ethical conceptions, the latter from the point of view of materialism. Evidently the program of the new phenomenological movement is not to be thought of as narrow and sectarian. Jacob Klein in the same volume discusses the development of science in relation to recent writings of Husserl: *Eine Einleitung in die phänomenologische Philosophie*, and *Die Frage nach dem Ursprung der Geometrie als intentional-historisches Problem*. "The 'intentional history,' as suggested by Husserl, may accomplish this task: it may 'reactivate' the 'sedimented' 'evidences,' may bring to light the forgotten origins of our science. A history of science which fails to tackle this task does not live up to its own purpose, . . ." According to Klein, the "sedimented" understanding of numbers "is superposed upon the first stratum of 'sedimented' geometrical 'evidences.' The complicated network of sedimented significances underlies the arithmetical understanding of geometry. The second task involved in the reactivation of the origin of mathematical physics is, therefore, the reactivation of the process of symbolic abstraction and, by implication, the rediscovery of the original arithmetical evidences." Klein stresses the two most important Husserlian concepts, intention and evidence. Hermann Weyl also writes on the scientific implications of Husserl's thought. His subject is modalities in logical systems. Felix Kaufmann, on the other hand, explores the relation between phenomenology and a rival school of philosophy, logical empiricism, while Gerhart Husserl presents a phenomenological analysis of "Men and the Law." The journal *Philosophy and Phenomenological Research*, two issues of which appeared in 1940, carries on the kind of investigations initiated by the Husserl memorial volume.

Another school of philosophy which has become increasingly prominent in this country in the past few years is Neo-Thomism. The recent visits of such famous Thomists as Gilson, Maritain, and D'Arcy have doubtless stimulated interest. Another contributing factor has been the new educational policies sponsored by President Hutchins, Dean McKeon, and Professor Adler of the University of Chicago and Dean Buchanan of St. Johns College. This educational program emphasizes principles as against mere collocations of facts, deduction, and intuition as against crude empiricism. It prefers classics to modern opportunistic text books and orientation courses, and it insists that metaphysics reserve its medieval dignity as queen of the sciences and hub of the university. At times it appears that it is not metaphysics, but theology, which is to

be the final arbiter of truth, and sovereignty is not usually assigned to theology in general, but to Catholic theology and specifically to Thomism. Thus Professor Adler in his Aquinas Lecture, *St. Thomas and the Gentiles*, argued that if Shakespeare is the universal poet, St. Thomas is, by the same reasons, the universal philosopher. The same writer, in an address before the Conference of Science, Philosophy, and Religion in New York (1940), entitled "God and the Professors," excoriated positivism in all its forms, maintaining that at bottom it is "the affirmation of science and the denial of philosophy and religion." In Adler's opinion, "the most serious threat to Democracy is the positivism of the professors, which dominates every aspect of modern education and is the central corruption of modern culture. Democracy has much more to fear from the mentality of its teachers than from Hitler." Because of its challenging and programmatic character, this speech received much publicity and criticism. Adler went so far as to state seven propositions which must be affirmed. "He who denies any one of them denies philosophy." The third of these principles asserts that philosophical and scientific truths are logically independent of one another. The fourth asserts philosophy is "superior to science both theoretically and practically," while the fifth denies that there can be a conflict between the two orders of truth. Other principles affirm that the foundation of all philosophies must be metaphysical and that metaphysics is able to demonstrate the existence of God "without any reliance upon articles of religious faith." Naturally critics were quick to point out that these requirements disqualify almost all American philosophers, and even many Medieval philosophers to whom Adler defers as authorities. But the address was printed under the imprimatur of the Church. In the same conference views conflicting with Adler's were heard. Professor Albert Einstein, for example, argued that the belief in a personal God is unscientific and pernicious.

The Thomist view of politics is set forth authoritatively by Jacques Maritain in his *Scholasticism and Politics* (translation edited by M. J. Adler). The central emphasis in Maritain's integral humanism or organic democracy is upon the *value of the person*, which, he believes, could be preserved and enhanced in a hierarchical system of persons, if the higher governed the lower as persons, not as things. The advocacy of organic democracy and corporatism is expressed more clearly by the various contributors to *The Philosophy of the State*, Vol. XV of the Proceedings of the American Catholic Philosophical Association. The Church criticizes totalitarianism, according to Waldemar Gurian, not because it is opposed to modern democracies, but because it makes religion subservient to the state which then usurps the place of God. Charles A. Hart claims that what the Church deplores is the modern laicized state, whether fascist, liberal democratic, or communist. The ideal upheld in this book is the corporate state, outlined by Leo XIII and Pius XI, and partially realized in Italy, i.e. an authoritarian hierarchical state, ruled from the top down, but consistent nonetheless with democracy.

The positivists, specifically the logical positivists, were under fire this year from another quarter to which Thomism is altogether hostile. Bertrand Russell's criticism of the school in his *An Inquiry into Meaning and Truth* is especially noteworthy inasmuch as he and his pupil, Ludwig Wittgenstein, were the greatest formative influences on the



original Vienna Circle. While in sympathy with many phases of logical positivism, Russell objects to panlogism, the transformation of the whole subject-matter of philosophy into words, and he insists that the evidence for a factual premise "is the event to which it refers . . . a unique occurrence, not a sentence or proposition or belief; . . ." He argues that while Rudolf Carnap's language seems to suggest that something can be learned from a single observation (because Carnap states that in testing a factual statement we make a set of simple observations), he never tells us *what* we learn from any one of these observations. Russell's espousal of the correspondence theory of truth also brings him into opposition with John Dewey. Rejecting Dewey's proposal to substitute "warranted assertibility" for truth, he holds fast to the concept of truth. Dewey, he contends, makes the goal of inquiry, "not the attainment of truth, but presumably some kind of harmony between the inquirer and the environment. . . . Dr. Dewey rejects the traditional answer, that I come to *know* something, and that, as a consequence of my knowledge, my actions are more successful. He eliminates the intermediate stage of 'knowing,' and says that the only essential result of successful inquiry is successful action." But Russell's book is not mainly polemical. Many of the logical and epistemological problems with which he has been occupied for the last forty years are resolved anew in the light of current philosophical developments.

Bertrand Russell also contributed an essay this year to *The Philosophy of George Santayana*, Vol. II of the Library of Living Philosophers. One of his criticisms of Santayana is of particular interest. He complains that realism cannot be justified by "animal faith." "All unproved beliefs are . . . expressions of animal faith, but the problem of the theory of knowledge is to find some way of selecting some of these as more worthy of credence than others. This cannot be done by ultimate skepticism, which rejects them all, nor by animal faith, which accepts them all." All phases of Santayana's many-sided philosophy are considered by the various contributors to this volume: Esthetics, theory of value, literary criticism, poetry, religion, politics, etc. But the most rewarding portions of the book are perhaps Santayana's own confession at the beginning and his answer to critics at the end.

The most important book in the field of esthetics was probably T. M. Greene's *The Arts and the Art of Criticism*. This handsome volume with 300 illustrations exemplifying critical judgments in the text is much more concerned with an analysis of the arts, than with esthetic theory as such. The thesis put forward here, as in an article "Beauty and the Cognitive Significance of Art," (*J. of Phil.* XXXV pp. 365-381), is that all art is "cognitively significant" and is to be evaluated, without metaphor, as true or false. The directly opposite view that art is not always cognitively significant and that its essence is subjective feeling evoked in the observer, has been put forward in recent years by Prof. C. J. Ducasse, who has been strongly influenced by Santayana's *The Sense of Beauty*. This basic conflict in esthetics has occasioned considerable dispute and partisanship.

Among the books on Greek philosophy one stands out by reason of the originality and challenge of its method. A. D. Winspear, in *The Genesis of Plato's Thought*, breaks new ground in the history of philosophy by attempting a systematic explanation of Plato's philosophy, not only in terms of preceding philosophers, but also in the light of

the political, social, and economic conditions and issues of his time, and of foregoing periods back as far as the society of the Homeric epics. The Pythagoreans who greatly influenced Plato, and who are usually represented as politically disinterested, are shown to be sponsors of the oligarchs and, in general, the ideas of Plato (and other philosophers) are shown to have political motivation and consequences and to change with social strife. "The rift in thought (between the one and the many, the permanent and the changing) reflects the rift in society. Until that conflict is resolved in actuality, or at least in hope, the troubling doubt that haunted Plato must continue to perplex his philosophical successors."

Logical positivists, pragmatists, operationalists, symbolic logicians seem to be increasingly concerned with the nature of language. As B. Russell comments ironically, "Some modern philosophers hold that we know much about language, but nothing about anything else." As an antidote to this tendency Anton Marty's posthumous work, *Psyche und Sprachstruktur* (just published by Otto Funke), should prove valuable. Although his approach to language is psychological and unmathematical, many of his key distinctions parallel those of B. Russell. For example, Marty's distinction between categorimatica and syncategorematica is similar to Russell's complete and incomplete symbols. Although exceedingly subtle in its way, it is doubtful whether philosophers concerned with language, apart from the phenomenologists, will profit by a tradition so remote from them.

Of the many works on the Philosophy of Science to appear, Oliver L. Reiser's *The Promise of Scientific Humanism* is distinctive in a number of respects. Reiser discusses controversial philosophical questions arising in a surprisingly large number of sciences and illuminates most issues by snatches of history and apt citations of current polemics. The author's thesis is that modern science has outgrown Aristotelian logic, that its needs are now best served by non-Aristotelian logic, which he attempts to develop in scientific contexts, with many citations to prove that modern science is now approaching his position.

Another book which upholds a kind of "new realism," and discourses on perception, time, history, happiness, and other philosophical topics with eloquence and robust earnestness is *An Essay on Nature*, by F. J. E. Woodbridge.

**Bibliography.** Besides the titles mentioned above in the text, the following books are significant: *The Problem of Species*, Mortimer J. Adler; *Experience, Reason and Faith: A Survey in Philosophy of Religion*, E. G. Bewkes; H. B. Jefferson, E. T. Adams, and H. A. Brantigan; *The Nature of Thought*, Brand Blanchard; *La philosophie et son passé*, Emil Bréhier; *A Philosophy of Religion*, Edgar Sheffield Brightman; *An Essay on Metaphysics*, R. G. Collingwood; *A History of Indian Philosophy*, Surendranath Dasgupta; *Education Today*, John Dewey (edited by Joseph Ratner); *The Living Thoughts of Thomas Jefferson*, John Dewey; *Positive Democracy*, James Fiebleman; *Methoden und Hilfsmittel des Aristotelesstudiums im Mittelalter*, Martin Grabmann; *Reason Social Myths and Democracy*, Sidney Hook; *A History of Esthetics*, K. E. Gilbert and H. Kuhn; *The Problem of Religious Knowledge*, Douglas Clyde Macintosh; *Science and Wisdom*, Jacques Maritain; *The Ways of Things*, William Pepperell Montague; *The Human Enterprise. An attempt to Relate Philosophy to Daily Life*, M. C. Otto; *Shall not Perish from the Earth*, Ralph Barton Perry; *Mathematical Logic*, Willard Van Orman Quine; *Skepticism and Dogma*, Ralph Gilbert Ross; *Catholic Principles of Politics*, John A. Ryan and Francis J. Boland; *Catholic Social Theory*, Wilhelm Schuer; *The Nature of the World. An Essay in Phenomenalist Metaphysics*, W. T. Stace; *Adversity's Nobleman*, *The Italian Humanists on Happiness*, Charles Edward Trinkaus.

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**PHOSPHATES.** See FERTILIZERS; FLORIDA under *Mineral Production*.

**PHOTOENGRAVING.** See PHOTOGRAPHY.

**PHOTOGRAPHY.** War abroad dominated the photography of the year. The daily papers, news weeklies, and motion-picture news reels featured war on land, at sea, and in the air. Many of the photographs had been taken under extremely difficult conditions, action at sub-zero in Finland's snow-covered forests, action in desert heat and sand-storm in Libya, on warships in Norwegian fiords, the stormy North Sea, and the English Channel. Army cameramen covered their assignments during the invasion of Norway, Holland, and Belgium. The amazing retreat and evacuation of the British army at Dunkirk was carried out not only under blazing gunfire and bombings but also under the searching eye of the camera. From the air, photographs were made from reconnaissance planes before, during, and after every major action (Figure 1).

Men were trained with the aid of still photography and motion pictures to care for themselves and others and in all forms of actual combat. Portable photographic laboratories were used in the field equipped with the latest types of processing apparatus to permit the most rapid delivery of good quality pictures. Major General Arnold reported that color photographs could be made successfully from airplanes flying more than 200 m.p.h. and at heights ranging up to about 2 miles. The United States Army Air Corps at Wright Field, Dayton, Ohio, and the United States Naval School of Photography at Pensacola, Florida, have been experimenting with color photographs from the air since 1936. Major Goddard of the Army Air Corps was stated to have made several hundred color photographs on Kodachrome sheet film during the last two years. With the use of such films, it was predicted that the military expert might be able to detect camouflage more easily as well as to distinguish more clearly natural landmarks (*Nat. Geog. Mag.* 77: 757, June, 1940).

Improved infrared-sensitive films were being used for the penetration of atmospheric haze, and aerial photographs were made at night with the aid of large flash bombs timed to explode synchronously with the maximum opening of the camera shutter. This problem was studied during October at Rochester, N.Y., under the direction of Major Goddard and with the co-operation of the Kodak Research Laboratories.

Mechanics of the new mechanized army of the United States were being instructed with the aid of slide-film and motion pictures at the Quartermaster Depot in Maryland (*Business Screen*, 3: No. 1, p. 13, 1940). In Great Britain, it was reported that the cameras for aerial use over enemy territory usually were loaded by the ground staff, who fitted them with the correct filter and set the shutter and aperture before turning them over to the observer-navigator who was also the photographer. A typical camera used by the Royal Air Force was loaded with sufficient film to make 125 exposures (5 by 5-inches) (*Popular Phot.* 6: 16, May, 1940). Fighter planes were equipped with 16-mm. cameras which operated automatically to make records of machine gun fire.

In the design and production of aircraft, photography became recently a most valuable method of saving time and costs, as well as eliminating errors. This application had especial significance in view of the rapidly growing American defense program which developed during the latter part of the year.

Engineering drawings in full scale of the different parts of the plane were made on a raised floor called a "loft." Next, a very large camera was used to make an accurate photograph of the drawing, and the negative so obtained was enlarged onto large sheets of an aluminum alloy of a maximum size of 5 by 10 feet which had been coated with a photographic emulsion. The drawing appeared in full scale (or in fractional or multiple scale) and the tool makers could work directly from it when checking semi-finished parts, or patterns and templates could be cut directly from it (Figure 2). A saving of more than \$80,000 was said to have been made by the Glenn L. Martin Company of Baltimore, Md., in 1939 by the use of these methods and it was understood that they were being used effectively in other plants. (*Amer. Phot.* 34: 886, Dec., 1940)

The U.S. Army Air Corps had started to use airplanes especially designed for photographic use. Equipment included camera mounts built into the body of the plane and openings were made at various locations in the plane advantageous for camera use. The planes were said to be capable of a service ceiling of 30,000 feet and a cruising speed of about 200 m.p.h. (*Nat. Photonews Weekly* 1: 4, Aug., 1940).

**Photography in Color.** Perhaps the most important advance of the year was the announcement by Dr. C. E. K. Mees at the Christmas Lectures at the Franklin Institute (Philadelphia) that Kodachrome film was being processed by an improved method. The new procedure is more rapid than that in use since the introduction of this color film in 1935, and it results in better quality pictures. The former method required three separate color developments on three continuous machines and a drying operation between each machine treatment. By the new method, the film is processed continuously on a single machine. After the development of the film to a negative, it moves forward through the machine to a point where it is exposed to red light through the back of the film, which affects only the back or red-sensitive layer of the triple emulsion. Next, the film passes to the cyan developer and a blue-green dye image is produced in the back layer without affecting the two upper layers. After this stage, the film is exposed to blue light from the top, which acts only on the top layer and permits the subsequent development of a yellow dye image therein. Finally, the middle layer is developed to form a magenta dye image. The silver that is formed during dye image development is removed subsequently from all three layers leaving a final film having only three superposed dye images.

An increasing number of amateurs and professionals were known to be using color films especially since the introduction of cameras and projectors at moderate prices. It was reported by the *Photographic Dealer* (Hollywood) that the sale of color film in 16-mm. and 8-mm. sizes for motion pictures had exceeded the sale of black and white films for the first time since color films were introduced.

Photoengravers were understood to have mastered quite well the problem of satisfactory color reproductions from Kodachrome transparencies. Smyth and Seymour gave working details for making separation negatives from such films. (*Photo Technique* 2: 23, Feb., 1940.) A New York firm, Triak Color Processes, were reported to have made more than 50,000 wash-off relief prints from color films in one year. Automatic control methods permitted 15 color separation negatives to be made

simultaneously from 35-mm. color transparencies (*Photo Technique* 2: 24, Dec., 1940). The world's largest job of reproduction of Kodachrome photography was said to have been a "Paint and Color Style Guide" containing 236 plates, many almost full page size or 16 by 18½ inches. Each book weighed 4 lbs. and 25,000 copies were printed (*Printers' Ink Monthly* 40: 38, Apr., 1940).

The masking method of color correction, whereby one or more of the separation negatives for color photogravure are combined with positives of lower contrast made from the other separation negatives, was reported by Cartwright to give only partial correction (*Phot. J.* 80: 289, July, 1940). Progress in color photography as shown by new patents was covered in a series of articles running through the *British Journal of Photography* (87: 112, Mar. 8, 1940, *et seq.*). The Keith Lectures of the Royal Scottish Society of Arts (Edinburgh) were given by Dr. D. A. Spencer and dealt with theory and processes of color photography (*Edinburgh J.* Vol. 14, Pt. III, 96, Apr., 1940). A stimulating review of the applications of physics in color photography was published by MacAdam (*J. Applied Physics* 11: 46 Jan., 1940).

During the summer, Washburn, Director of the New England Museum of Natural History made his ninth exploration of Alaska's coastal ranges. Besides making many black and white photographs, he brought back about 100 Kodachromes on sheet film (8 x 10-inch), which represented the first large-scale use of such film for field investigation of glacial terrain. A Fairchild K3B aerial camera on a tripod was used.

**Microphotography.** Within recent years the micro-filming of documentary material had grown into one of the most important applications of photography. Vastly improved equipment had been made available and the operation of such apparatus was simplified. One firm claimed for their equipment that 120 full letter pages could be copied per minute, or 20 newspaper pages, or 10 engineering drawings,—tasks which require several hours to weeks by manual methods. All numbers drawn in the United States national draft lottery in October were photographed at once after being drawn (Figure 3). Each number was dry-mounted on a form and photographed with a Micro-File Recordak in groups of 250. Enlarged prints were made from the film negative and used to prepare photo-offset plates from which complete copies of the master list were printed for distribution to the 6175 local draft boards throughout the nation.

The public library in Gary, Ind., was using a micro-film camera and 16-mm. film for charging all books in daily circulation. About 7000 charges could be made on one hundred feet of film, costing \$2.75 including processing. An estimated annual saving was expected in all branches of the Gary library system of about \$5000. (*Library J.* 65: 341, Apr. 15, 1940.) The New York Public Library was reported to be building up an archive of outstanding music manuscripts on micro-film. More than 130,000 pages of newspapers had also been photographed.

Department stores were beginning to use micro-photography quite extensively for recording their sales slips, and reductions in billing costs as much as 50 per cent over previous methods were said to have been effected. It was understood that records of machine design on micro-film were shipped from England to Canada as a rapid and accurate method for acquainting factories in North America with details of needed parts required in the

defense program. Publicity pictures released by the British Broadcasting Corporation for overseas use were printed in reduced size and then enlarged again after receipt on this side, thus avoiding the expense and heavy wrapping of large prints.

**Photomechanical Processes.** New orthochromatic and panchromatic films and plates for use in the graphic arts field were introduced and the quality of four-color photoengravings were improved. Murray demonstrated the use of fluorescent pigments for three-color separation work at the Photo Lithographers convention in Chicago. Yule continued his study of the theory of subtractive color photography and published results on four-color processes and the black printer (*J. Opt. Soc. Amer.* 30: 322, Aug., 1940).

The Hartford (Conn.) *Newsday* was said to be the first metropolitan daily newspaper to be produced entirely by offset lithography. About 50 per cent of the editorial space was devoted to illustrations. The typematter was being set by Linotype but it was planned, if possible, to adopt type-composing devices using the offset process. (*Modern Lithography* 8: 55, May, 1940.)

The Seattle *Times* for May 4, 1940, contained the first natural color news photograph (the Lake Washington Bridge) to appear in the news section of any Pacific Northwest newspaper. A printing rate of 38,000 copies per hour was maintained and no black printer was used.

**Motion-Picture Photography.** During the first part of the year, the longest feature color motion-picture, *Gone With The Wind*, was shown throughout the United States. The projection apparatus in all theaters showing the picture was fitted with special lenses which had been specially coated to increase their light transmission about 30 per cent. By eliminating internal reflections, it was claimed that these lenses gave the projected picture greater detail, better contrast, and freedom from color degradation.

A special stereophonic sound demonstration was given at Carnegie Hall (New York) on Apr. 9, 1940. It consisted of orchestral selections by the Philadelphia Symphony Orchestra, organ music, a scene from an opera, and choral singing,—all reproduced from a photographic record on film. Four sound tracks were recorded on the film, three of the actual music and the fourth for volume control. Undistorted amplification of ten times that of the original sound volume was claimed for the system which had been developed by the Bell Telephone Laboratories (*Bell Labs. Record* 18: 260, May, 1940).

The initial public showing of Walt Disney's musical production *Fantasia* was held at the Broadway Theater in New York in November. (See **MOTION PICTURES.**) For this unique combination of animated color cartoon and musical recording, about 420,000 feet of film was used to record several orchestral selections as played by a large orchestra in Philadelphia under Stokowski. The recordings were made by an improved type of R.C.A. equipment called "Fantasound." From these recordings, 18,000 feet were chosen for the picture. The cartoons and drawings were intended to help the audience "visualize" the music. The picture was planned to be shown only in 75 cities in the United States because of the complex sound reproduction system required for each exhibition (Figure 4). The sound was recorded as four tracks and played from a separate projector from that used for the picture. Three sets of loud speakers were located behind the screen and other units at select-

ed points in the auditorium (*Mot. Pict. Herald* 141: 21, Nov. 16, 1940). It was understood that Disney plans other productions of this type.

An interesting development of the year was the release of equipment and sound picture films for nickel-in-the-slot motion pictures. This plan represented a revival on a modern scale of the first type of equipment for motion pictures, the Kinetograph of Thomas Edison.

According to a survey made by the Motion Picture Division of the U.S. Department of Commerce at the beginning of the year, about 65,000 of the 67,000 motion-picture theaters known to exist in 98 countries of the world were equipped to show sound pictures. In this country, approximately 17,000 of the 19,000 theaters were said to be in operation and the seating capacity of these was about ten million persons. Approximately 78,000,000 feet of motion-picture film (negative and positive) were exported during the first half of the year, compared with 79,000,000 feet for the same period a year ago.

A steady growth of public interest in amateur motion pictures was apparent from the reports of the dealers as well as the introduction of new films and equipment. Excellent pictorial and sound quality was reported by Maurer to be obtainable by direct photography and recording on 16-mm. film (*J. Soc. Mot. Pict. Eng.* 35: 437, Nov., 1940). This method was said to be of special value in the production of training films and other types of industrial and educational motion pictures.

The first educational film in Kodachrome for commercial distribution was announced during the year by Eastman. The picture, entitled *How Birds Feed Their Young*, was made by Dr. A. A. Allen, ornithology professor at Cornell University. Courses in the use of motion pictures in the classroom were being given in 114 universities and colleges in 27 States according to a report from the United States Office of Education in Washington, D.C. (*Mot. Pict. Herald* 140: 9, July 27, 1940).

New types of industrial motion pictures appeared during the year and new uses for such pictures were introduced. At the Chrysler Pavilion at the New York World's Fair, a stereoscopic color motion-picture, called *New Dimensions*, was shown daily to thousands of visitors. This picture was made in Technicolor and used Polaroid to secure the third dimensional effect. It also included numerous stop-motion effects which were secured by special process photography. Improved projection facilities were used in the 1940 showing of the "Cavalcade of Color," a changing mural from projected Kodachromes, in the Kodak Building at the Fair. A sound picture called *The Year's Work* was made for General Mills and was shown at eight stockholder's meetings, held in different parts of the country. It was said to be the first time that a motion picture had been made specifically to show the activities of a company to its owners (*Business Screen* 3: No. 1, 11, 1940).

**Stereoscopic Photography.** A method of stereoscopic photography called "vectographs" was described by Land, the inventor of Polaroid, a sheet polarizing material which has been used in several ways in photography. In a vectograph, two different images in black and white can be superposed on a single surface for viewing through polarizing spectacles (*J. Opt. Soc. Amer.* 30: 230, June, 1940). Method of manufacture of various kinds of synthetic polarizing devices and a review of the patent literature in this field were published

by Nähring (*Phot. Ind.* 38: 599 and 629, Oct. 9 and 23, 1940).

**Applied and Scientific Photography.** One of the most significant announcements of the year was the report from the Kodak Research Laboratories that photographs made with the electron microscope had revealed the actual structure of the silver grains in a photographic image. It was shown to be of a filamentary nature rather than a coke-like mass, as had been described theretofore, and the thickness as well as the shape of the filaments appeared to depend upon the developer. Details of hairlike threads about 5 to 10 atoms thick were shown quite clearly with the electron microscope which has the advantage over the optical microscope of great depth of focus as well as high resolving power (*N.Y. Times* 90: 19, Nov. 26, 1940). This technique had also been developed independently by von Ardenne (*Z. Angewandte Phot.* 2: 14, 1940.) See also CHEMISTRY, under *Electron Microscope*.

High-speed stop-motion photographs were made of the spray from the nose and mouth of persons while sneezing. These studies represented a part of an investigation conducted by Prof. M. W. Jenkinson of the Department of Biology and Public Health of the Massachusetts Institute of Technology. The photographic technique used required the employment of an Edgerton camera and lamp. It was found that in some cases droplets were sprayed from the mouth into the air at speeds as high as 150 feet a second (*N.Y. Times* 89: 32, Apr. 20, 1940). A special camera was used to photograph steam jets traveling 1500 m.p.h. as they hit a turbine blade making 3600 r.p.m. The behavior of turbine blades under 1250 lb. of steam pressure at 900° Fahrenheit was studied by this means for the first time (*Pop. Mechanics* 73: 849, June, 1940). As a result of a study of high-speed photography applied to machine performance, Watson concluded that a speed of 1000 frames per second of a motion-picture camera is ample for the photography of most machines. A stroboscope was found to be satisfactory for investigating the action of machines provided the speed of the moving parts is more than 12 cycles per second (*Product Eng.* 11: 340, Aug., 1940).

Many head of cattle were recovered and returned to their owners by the Wyoming Stock Growers' Association after their brand inspectors were equipped with cameras. As the cattle passed through the large markets, they were examined by the inspectors who photographed any cattle with doubtful brands. The camera had also proved a useful means of catching cigarette smugglers who bought the tobacco in Maine without tax and transported it into Massachusetts where it was taxed. Photographs were made of drivers of cars with Massachusetts license plates as they purchased cigarettes at roadside stands in Maine and their car licenses were photographed. Tax investigators mailed a notice of the tax to each such individual and, if necessary, sent him a picture of himself purchasing the cigarettes. More than \$10,000 was recovered by the State at a cost of less than \$400.

Enlarged photographs of the retina and inner tissue of the eye were suggested by Dr. J. R. Dean of the American Optometric Association as an accurate means of identification of individuals. Since criminals sometimes alter or disguise their fingerprints, this proposal offers promise as a valuable method of supplementary identification (*Camera*, 60: 121, Feb., 1940). The partially decomposed body of a man, found in a railroad cold-storage

car near Rochester, N.Y., was identified as John Dunphy who had served in the U.S. Army from 1908 to 1917. Identification was possible chiefly by soft x-ray radiographs of the skin dissected from the fingers, supplementing the normal finger print impressions.

The use of x-ray radiographs of pearls was being accepted quite widely by leading jewelers as an accurate means of identifying natural, cultured, and synthetic pearls. Sherwood, of the Kodak Research Laboratories, developed a special masking technique for the elimination of scattered radiation when making radiographs of this type.

The Westinghouse Laboratories developed a high-speed x-ray technique which consisted of passing the discharge from a bank of condensers through a cold cathode x-ray tube. With the resulting surge of about one-millionth of a second duration, it was possible to make radiographs of various objects moving at a high rate of speed, such as bullets, golf balls being hit by a golf club, a football being kicked (Figure 5), and a vacuum-cleaner in operation. The motile organs of flagellae of typhoid bacilli were photographed for the first time by micro-cinematography (*J. Biol. Phot. Asso.* 8: 158, June, 1940).

**Physical Measurements.** Considerable progress was made on the problem of standardization of photographic practice by nine subcommittees of Sectional Committee Z-38 of the American Standards Association. The work of these subcommittees covered the formulation of definitions, dimensional standards, recommended practices, and the establishment of methods for testing, rating, and classifying the performance characteristics of materials and devices used in photography, including the industrial applications but excluding cinematography. In November, Subcommittee 2 on Sensitivity to Radiant Energy published details of a proposed standard method for determining photographic speed of roll film, film packs, and miniature camera films. After a year of trial and criticism, the method will be considered for adoption as an American Standard and may then be used as a basis for recommended exposures for picture taking and the assignment of speed numbers to films (*Ind. Standardisation* 2: 277, Nov., 1940).

An apparatus and a method of development evolved by a technical committee of the British Standards Institution consisted of a Dewar flask and a fitting for two film strips. Quite reproducible results were claimed for this method of development (*Phot. J.* 80: 341, Aug., 1940). A contrast meter for photographic papers was described by Morrison with which a value for contrast could be obtained by a simple scanning of the sensitometric curve with the viewing head of the instrument (*J. Opt. Soc. Amer.* 30: 299, July, 1940).

Photoelectric exposure meters which measure incident illumination directly were stated by Norwood to be of value since they tend to eliminate some of the errors which occur when a reflectance-type meter is used. A more accurate reading would result if an integrating translucent hemisphere were located in front of a suitable photoelectric cell (*Amer. Cinematographer* 20: 499, Nov., 1939, *et seq.*).

A stroboscopic method of measurement of shutter speeds was described by Tawney, with which adequate accuracy could be obtained for several types of shutters (*Photo Technique* 2: 34, Mar., 1940). Gillon defined the optical considerations in precision enlarger design and concluded that enlargers of the condenser type were more satisfac-

tory than diffuse enlargers for miniature work provided uniform illumination was secured at the easel and a satisfactory scheme was used to minimize specularly of light passing through the negative (*Photo Technique* 2: 24, Feb., 1940).

Tupper evaluated the physical and photographic aspects influencing variations in the measurement of filter factors and described a method which eliminates the effect of the failure of the reciprocity law (*Photo Technique* 2: 29, May, 1940).

A sensitometric study of a gaseous, condenser-discharge lamp of the Edgerton type was made by Tuttle, Brown, and Whitmore. It was shown that the constants of the electrical circuit of the lamp play a large part in the determination of its photographic effectiveness (*Photo Technique* 2: 53, Sept., 1940). Various phases of the laws of response of photographic emulsions to high energy atomic particles such as alpha rays, protons, and deuterons were discussed by Wilkins (*J. Appl. Physics* 11: 35, Jan., 1940).

Fine displays of the aurora during March and April were photographed by Gartlein, who continued his investigations of this little understood natural phenomenon under the auspices of the National Geographic Society and Cornell University. On the night of March 24-25, he made the best single spectrogram of the aurora that had ever been taken. A large two-prism spectrograph having a cylindrical lens was used and the resulting photograph showed lines of ionized nitrogen never before observed (Figure 6).

**Manufacture of Sensitized Materials.** A limited number of new sensitized materials were introduced during the year as compared with previous years. The principal new films were high-speed fine-grain motion-picture films, high-contrast ortho and panchromatic films for graphic arts work, and a very high-speed film for use with a new commercial gaseous-discharge lamp. One of the most interesting films for use in miniature cameras was a fast panchromatic emulsion which could be developed directly to a positive transparency of extremely fine grain.

Another sensitized product that attracted attention was a multiple-contrast bromide paper. Three types were announced, one in England in May (*Brit. J. Phot.* 87: 270, May 31, 1940), and two others in this country in August. With each of these papers, blue or yellow filters, or combinations of them, in the printing light were used to control the degree of contrast of the print. Thus a single grade of paper was provided with which prints could be made from negatives of different degrees of contrast (*Defender Trade Bull.* 24: 3, 1940).

The effect of halides on the stability of emulsions was reported by the Russian investigator, Borin, who confirmed results of others and presented some new data (*Kino Photo Chem. Ind.* No. 3, 36, 1940). The necessary and sufficient conditions for a dye to act as an optical sensitizer of silver halides were defined by Sheppard, Lambert, and Walker (*Nature* 145: 969, June 22, 1940). Several papers relating to photographic emulsions were published by Trivelli and Smith, under the following subjects: Development of photographic emulsions in relation to the coating thickness; effect of the silver iodide upon the structure of silver bromo-iodide precipitation series; further investigations in the empirical relations between speed and average grain size of a precipitation series (*Phot. J.* 80: 12, 285, 381, Jan., July, and Sept., 1940).

**New Apparatus.** Continued interest in photog-

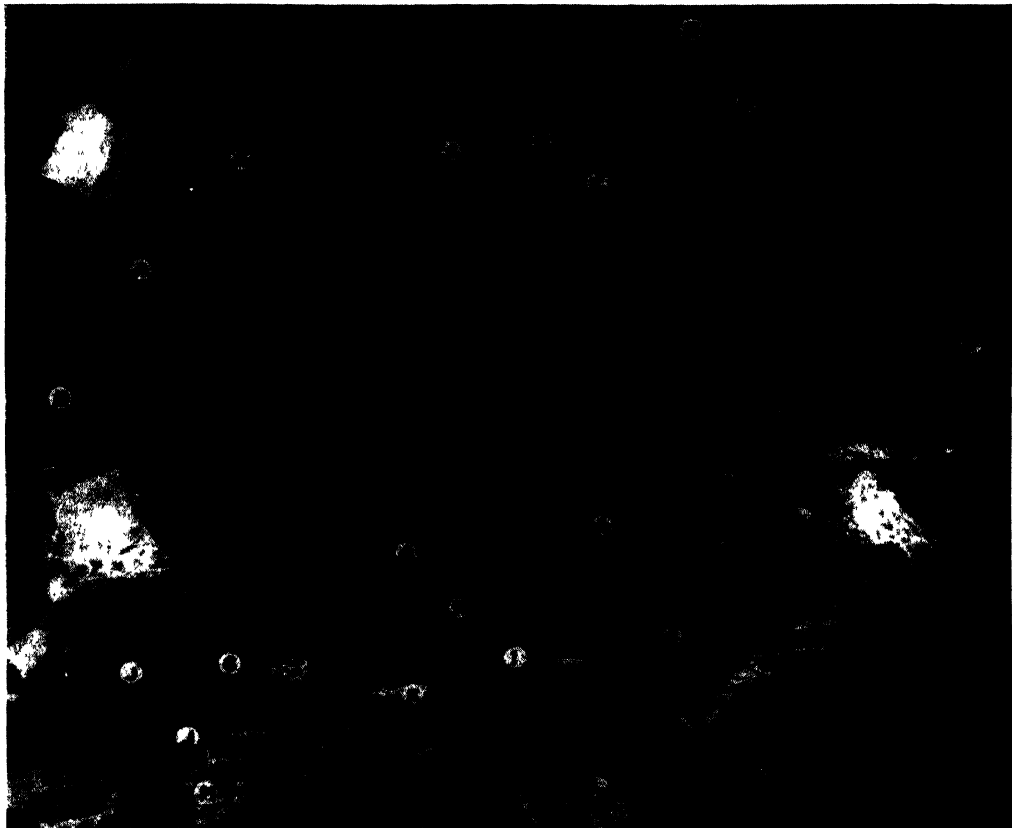


FIG 1 RECONNAISSANCE PHOTOGRAPH OF GUTERSLOH AERODROME, MUNSTER, GERMANY

A Refueling points B Shelter trenches C Compass swinging base, with an airplane upon it D Airplanes dispersed round aerodrome E Some form of stacked crop G Hangars H Airplanes facing the aprons in front of the hangars (a favored German parking method) I Repair hangar J Railway for servicing aerodrome K Railway station L Shelter trenches near barracks M Motor transport N Tree-lined road O Quarters *British Official photograph, Crown copyright reserved*



*Courtesy, Glenn L. Martin Co, Baltimore, Md.*

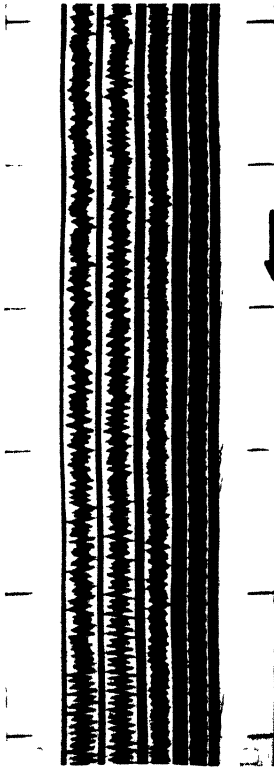
FIG. 2. WORKMEN FITTING AIRPLANE PARTS DIRECTLY UPON PHOTOGRAPHIC DRAWING ON ALUMINUM ALLOY PLATES



Courtesy, Acme Newspictures, Inc., and Recordak Corp

FIG 3 CAMERA RECORDS THE U S DRAFT LOTTERY

As the numbers were drawn they were mounted on a form and photographed with a special recording camera on a 16 millimeter film, about half the size of the print shown in the insert in the lower right corner



Courtesy, Walt Disney Productions

FIG 4 SECTION OF MOTION-PICTURE SOUND RECORD OF "FANTASIA"

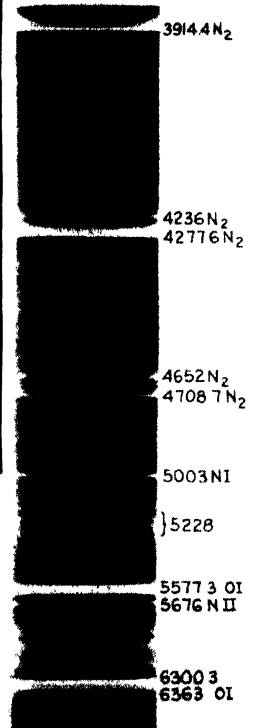
Three left-hand sound tracks supply three separate banks of speakers; right-hand track controls volume



Courtesy, Westinghouse Elec & Mfg Co

FIG 5 ULTRA-HIGH-SPEED X-RAY PHOTOGRAPH

Made in a millionth of a second by the discharge of about 90,000 volts, charged in a condenser and applied to the X-ray tube when the timing circuit is broken. As the discharge occurs, electrons flash from the cold cathode to the anode, and a surge of x-rays is produced



© National Geographic Society]

FIG 6. SPECTROGRAM OF THE AURORA BOREALIS

Made on a two-prism lens, March 24-25, 1940, exposed two hours. Shows lines of ionized nitrogen never previously recorded



raphy at night was shown by the amateur, the professional, and the news cameraman as a direct result of the introduction in recent years of roll and sheet films of improved quality and speed, and of several varieties of flash-lamps and synchronizers. Color photography with daylight Kodachrome was said to have been made more flexible by the introduction of blue-coated flash-lamps, which could be used to supplement daylight or for night pictures. Several new flash synchronizers were announced with which very accurate synchronization of full shutter opening and lamp flash was claimed to be obtainable.

A small camera described by Gilbert was distinguished by the use of a disk-shaped negative on which 20 exposures could be made, each measuring  $\frac{1}{2}$  to  $\frac{5}{8}$  inch. The camera could also be used for motion pictures (*Pop. Phot.* 6: 36, Apr., 1940).

Reflections from air-glass surfaces of the components of lenses have presented a serious problem for many years in the optics of lens design. Within the last four years, methods were discovered of treating a lens surface to eliminate flare and ghosts and increase greatly the light transmission of the lens. A brisk demand grew up during the year from professional photographers and motion-picture cameramen for such lenses. The most successful treatment consisted in the application of an extremely thin film of a metallic fluoride. Cartwright described the treatment of an  $f/2$  lens having ten glass-air surfaces, and claimed that photographs made under controlled conditions before and after treatment showed that the effective speed had been doubled (*Amer. Cinemat.* 21: 215, May, 1940). This was confirmed by Miller with lenses in use at the Paramount studios in Hollywood, California (*J. Soc. Mot. Pict. Eng.* 35: 3, July, 1940). Two of the largest lenses known to have been coated were the  $4\frac{1}{2}$ -inch focus apochromat Artar lenses used by the eclipse expedition to Patos, Brazil, of the National Geographic Society (*Phot. Dealer*, Hollywood, 5: 557, Sept., 1940).

An aspherical condenser lens made of the laminated plastic, "Lucite" was demonstrated at the Kodak Research Laboratories in October. It is 16 inches in diameter and was used to illuminate large Kodachrome transparencies when making color separation negatives for photomechanical reproduction.

Lenses for amateur motion picture equipment (16-mm. and 8-mm.) both for cameras and projectors were discussed by Kingslake (*J. Soc. Mot. Pict. Eng.* 34: 76, Jan., 1940). The design of wide aperture objectives was also considered by the same investigator (*J. Applied Physics* 11: 56, Jan., 1940).

An integrating exposure-meter was described by Michaelson for compensating light-intensity fluctuations by varying the time of exposure automatically (*Photo Technique* 2: 43, Feb., 1940). Another unusual type of exposure-meter incorporated a photometer principle that enabled the user to measure the light on an entire scene or a portion of the scene from the camera position. An optical viewer permitted a view of the object being photographed (*Camera Craft* 47: 259, May, 1940).

Several new amateur film developing tanks were offered to the market having as features: Adjustable cores for various sizes of film; stirring agitators; daylight loading; and a cutting blade for severing the film to permit development of a portion of a roll. One new type of enlarging equipment featured a variographic device for altering linear perspective (*Business Week*, p. 52, Sept. 7, 1940). A comprehensive review of the design prin-

ciples of miniature enlargers was given by Simmon (*U.S. Camera* 1: No. 8, p. 76, Feb.-Mar., 1940).

A completely modernized Edgerton lamp for ultra-speed photography was introduced which incorporated an improved electrical circuit and new safety features. The new lamp utilized a long-life gas-filled flash-tube which gave extremely bright flashes of an effective duration of  $\frac{1}{80,000}$  second. The unit was intended for commercial, portrait, illustrative, news, medical, and technical photography (*Photo Art Monthly* 8: 552, Oct., 1940).

A special printer for aerial film used a large number of Argon glow lamps ( $2\frac{1}{2}$  watts) to provide low heat, small electricity consumption, and long service life. Prints were made from single negatives or rolls (*Aero Digest* 36: 144, June, 1940). An improved type of stereomap plotter was constructed by Colonel Bagley of the Harvard School of Geographical Exploration for the training of student explorers. With the device, it was stated that an accurate scale map could be plotted from a photograph in an hour (*Photo Technique* 2: 75, July, 1940).

A radio facsimile equipment for the British air force was demonstrated at the Bendix, N.J., airport in October. Three stations were set up, one in a plane, one in a ground trailer, and one in the airport hangar. With the equipment, photographs, and printed and handwritten messages could be sent as well as received. A receiving rate of 100 words per minute was said to have been obtained (*Business Week*, p. 22, Oct. 12, 1940).

Several improved types of amateur motion-picture equipment were introduced during the year, including cameras and projectors for 16-mm. and 8-mm. film. A growing trend was noted in the use of 8-mm. film and a magazine-loading 8-mm. camera was introduced, which represented the ultimate to date in compactness of motion-picture design. A new 16-mm. sound projector was marketed, and a three-dimensional projector for 16-mm. sound films was introduced. Details of the design of a reliable shutter for an x-ray beam which would accommodate a beam directed anywhere between the vertical and the horizontal were given by Seemann and Vaeth (*Brit. J. Radiol.* 13: 149, May, 1940).

**The Photographic Process.** One of the most significant contributions to photographic knowledge that had been published in many years was the announcement by Crabtree, Eaton, and Muehler that a method had been worked out for the removal of the last traces of hypo from photographic images. This had long been recognized as a difficult problem, especially with photographic papers, as it was known that subsequent decomposition of retained hypo caused fading or yellowing of the silver image due to the formation of silver sulphide. With prints that are to be stored for record purposes, fading may cause obliteration of useful details. The treatment consisted in bathing the washed print or film in a dilute peroxide-ammonia solution which changes the hypo to soluble sodium sulphate which can be washed out easily. Fading of prints by external agents, such as sulphur vapors and coal gases can be minimized by another treatment whereby an extremely thin layer of gold is deposited on the silver grains when the print is bathed in a gold-sulphocyanide solution. For greatest permanency, photographic prints should be given the following treatments: (1) fixed in two fixing baths; (2) washed carefully with a deflected stream of water; (3) bathed in the hypo eliminator solution; (4) treated in the gold protective solu-

tion; (5) dry-mounted on good quality cardboard; and (6) lacquered over the image (*J. Phot. Soc. Amer.* 6: 6, Oct., 1940).

Very rapid processing of photographic papers for mass production was claimed to be possible according to Schaum and Weyde with a new paper called Copex-Autorapid. The paper contained the developing agent and stabilizing materials and after exposure could be developed in 3 to 5 seconds in a solution of 1½ per cent sodium hydroxide with 4 per cent sodium sulphite (*Veröffentl. wiss. Zentral-Lab. phot. Abt., Afga* 6: 198, 1939).

In recent years, James contributed several papers on the theory of development, a subject on which information had been quite meager. These papers and several others were summarized in a general discussion by him under the title "Some Experimental Bases for the Development Process" (*Photo Technique* 2: 54, Dec., 1940). The surface conditions of silver halides and the rate of reaction also were discussed by James in a series of articles (*J. Amer. Chem. Soc.* 62: 536, Mar., 1940). Burki and Ostwalt published an extensive paper on the determination of the hydrogen-ion concentration in photographic developers and its relation to the rate of development (*Helv. Chim. Acta*, 22: 30, 1939).

As a result of a study of the effect of aeration on the photographic properties of developers, Crabtree and Schwingel concluded that very constant developing conditions could be maintained when air agitation is used in a processing machine provided the developer was replenished suitably (*J. Soc. Mot. Pict. Eng.* 34: 375, Apr., 1940). Details of an air agitation device installed in a vertical rack-type developing machine were described by Ives and Kunz (*J. Soc. Mot. Pict. Eng.* 34: 364, Apr., 1940). An analysis of the problem of reversal processing of film was made by Coenen and practical instructions were published for 16-mm. and 8-mm. amateur cine films (*Photo Technique* 2: 28, Dec., 1940).

Volumetric procedures for the qualitative and quantitative determination of the usual constituents of photographic developers and fixing baths were discussed by Atkinson and Shaner (*J. Soc. Mot. Pict. Eng.* 34: 485, May, 1940). The analysis of fixing solutions was also discussed by a Russian investigator, Kirillof, who claimed that his method was simple and rapid enough for commercial use (*Kino Photo Chem. Ind. U.S.S.R.* No. 11-12, p. 97, 1939). It was reported that the recovery of silver residues on a national scale for all users of photographic fixing solutions had been established in Germany (*Brit. J. Phot.* 87: 27, Jan. 19, 1940).

Sustained interest in the use of toning processes for prints was evident by the number of such prints that were exhibited in salons and the announcement of proprietary solutions for toning. One firm introduced complete equipment for color toning with coupler developer dyes which gave six distinct hues (*Commercial Phot.* 15: 484, Aug., 1940). Direct development of sepia tones by the use of a benzoquinone solution without intermediate bleaching was suggested by Seyewetz (*Brit. J. Phot.* 87: 116, Mar. 8, 1940).

A useful reference article was published on twenty-one special photographic effects which are observed occasionally on films and papers (*Photo Technique* 2: 48, Feb., 1940). Several useful practical accounts were published on the design of dark-rooms (Parker—*J. Phot. Soc. Amer.* 6: 9, Jan., 1940; *Photo Technique* 2: 12, Feb., 1940; *ibid.* 2: 14, Apr., 1940; 2: 49, June, 1940).

Domestic production of hydroquinone for photographic purposes was reported to have more than

doubled since 1933 when 600,000 lb. were manufactured compared with 1,400,000 lb. in 1939. See ELECTRICAL INDUSTRIES under X-RAY; CHEMISTRY.

**Bibliography.** Shipment of magazines and books from Europe was slowed up appreciably and in the case of some countries almost cut off, although German scientific literature was shipped by way of Siberia and Japan during the latter half of the year. Most photographic journals continued publication but some reduced their schedule considerably. *Photo Art Monthly* (San Francisco) suspended publication with the December issue. A biweekly called *Photonews* was launched at Washington in February. It contained descriptions of new apparatus, news notes, and an occasional article. Information on the location and an approximate inventory of the contents of the principle photographic libraries of the world was published by Garvin (*Amer. Phot.* 34: 428, June, 1940).

The more notable books of the year were:

P. E. Boucher, *Fundamentals of Photography* (Van Nostrand Co., N.Y.); B. W. Leyson, *Photographic Occupations* (Dutton & Co., N.Y.); J. H. Gable, *Complete Introduction to Photography* (Harper & Bros., N.Y.); G. G. Quarles, *Elementary Photography* (McGraw-Hill, N.Y.); L. A. Lucas and B. Dudley, *Making Your Photographs Effective* (McGraw-Hill, N.Y.); F. K. Turner, *Photographic Exposure* (Fitzman & Sons, Ltd., London); F. Outerbridge, *Photographing in Color* (Random House, N.Y.); I. Dmitri, *Kodachrome and How to Use It* (Simon & Schuster, N.Y.); F. C. Abel, *Portrait Photography as a Career* (Amer. Photo. Pub. Co., Boston); C. Jacobson, *Developing* (Focal Press, London); L. Vitray, J. Mills, Jr., and R. Ellard, *Pictorial Journalism* (McGraw-Hill, N.Y.); W. D. Morgan and H. M. Lester, *Graphic Graflex Photography* (Morgan & Lester, N.Y.); W. Mortenson, *Mortenson on the Negative* (Camera Craft Pub. Co., San Francisco); E. J. Wall, *Photographic Facts and Formulas* (revised and rewritten by F. I. Jordan, Amer. Photo. Pub. Co., Boston); D. A. Spencer and H. D. Waley, *The Cinema Today* (Oxford Univ. Press, London); C. A. Hart, *Air Photography Applied to Surveying* (Longmans, London); N. Harkness and E. E. Draper, *Table Top Photography* (Harcourt, Brace and Co., N.Y.); H. W. Greenwood, *Infrared for Everyone* (Fountain Press, London); H. Lange, *Fortschritte der Photographie, Band II* (Edited by E. Stenger and H. Staude, Akad. Verlag Leipzig).

GLENN E. MATTHEWS.

**PHYSICS.** Though it is unsafe to predict, it is likely that the year 1940 will be remembered in physics principally as the one which brought an important step toward the ultimate achievement of power from atoms.

**Atomic Energy.** As explained in more detail in the 1939 YEAR BOOK, pp 123 and 621, it was found that neutrons (atomic particles without electrical charge) have the power of causing fission, or splitting, of uranium atomic nuclei. There is an explosion into two different atoms, such as krypton and barium, which have kinetic energies of about 175,000,000 electron volts, resulting from the conversion of part of the mass of the original atom. This energy is far greater than that of the neutron which produces the effect.

It was also established that in the process additional neutrons are given off, and hence the possibility was seen of a "chain" process. That is, one neutron, from a cyclotron or other source, would start the fission of one uranium nucleus. This would divide, yielding energy, and another neutron which could set up fission in another nucleus, and so on. However, when it was tried with uranium, no such effect took place.

In explanation it was suggested that the fission was due to only one form, or isotope, of uranium. Like all the elements, uranium consists of several of these chemical "twins" which have the same chemical properties, but different atomic weights.

The atomic weight of ordinary uranium is given as 238.07 times that of hydrogen. Most of it is an isotope of weight 238, but for every 139 grams of this there is one gram of an isotope of weight 235. Still rarer is isotope 234, one gram of which is present in 17,000 grams of common uranium. Fission was attributed to U-235, the U-238 apparently inhibiting the process, while the amount of U-234 is so minute that its effect is presumably negligible.

Though this had been predicted theoretically, no U-235 had been isolated to test the process, but this was done early in 1940. First to obtain it was Dr. A. O. Nier, of the University of Minnesota, but a somewhat larger sample was obtained shortly afterwards by Drs. K. H. Kingdon and H. C. Pollock, in the research laboratory of the General Electric Co.

In both laboratories, the material was secured with a mass spectrometer. The compound uranium tetrachloride is vaporized by heating to several hundred degrees. After the vapor passes through a tiny slit, it is bombarded by a beam of electrons to break its atoms into ions. The whole apparatus is enclosed in a magnetic field. This bends the stream of ions in a semicircle, which is smaller the less their mass. Thus, the different isotopes are sorted out and collected on platinum plates at the end of a copper tube.

Such isolation of uranium 235 is extremely slow, tedious, and costly both in time and effort. Figures discussed by Dr. Kingdon suggest that more than a million years would be needed to secure a pound with the mass spectrometer, and at least a pound would be needed for a real test of the energy-releasing chain reaction. He estimated, however, that several million times as much power could be obtained from a pound of U-235 as from a pound of coal.

Prof. Niels Bohr, Danish physicist temporarily in the United States, and Dr. John A. Wheeler, of Princeton University, had predicted that while high energy neutrons would be capable of splitting U-238 atoms, very weakly energetic, slow neutrons would produce the effect in U-235 atoms.

Though the amounts of U-235 isolated were of the order of a hundred millionth of a gram, they were enough to permit a test of this prediction. It was made at Columbia University by Drs. J. R. Dunning, E. T. Booth, and A. V. Grosse. Using the cyclotron as a source of neutron bombardment, the Bohr-Wheeler prediction was verified. The U-235 atom, it was determined, was responsible for the fission, and it was split more easily by the slow neutrons. A fast neutron may go straight through the atom without producing an effect, but the slower one seems more easily to be drawn in to the nucleus. A U-235 nucleus is about 500 times as easy to hit as one of the 238 isotope.

It has been suggested that in production of power from U-235 a chunk of the material could be immersed in water. A source of slow neutrons, such as radium in paraffin, could start the process. The neutrons given off in the atomic fission would then be slowed by the surrounding water, which would be heated and converted to useful steam. Removing the U-235 from the water, further neutrons emitted would, presumably, be too fast to cause fission, and the process would stop.

After the first announcements early in 1940, a veil of secrecy was wrapped around most of the further work on uranium fission. Reports reached the United States of intensive researches in Germany and Allied nations. Professor Bohr had re-

turned to his laboratory in Copenhagen before the Nazi occupation of Denmark. Also, physicists in Norway and France had been conducting such studies before the conquest of these countries.

Despite the self-imposed secrecy in the United States, and the censorship in Europe, certain advances were revealed. In a communication to *Nature* (London) Prof. Wilhelm Krasny-Ergen, of the Wenner-Grens Institute of the University of Stockholm, told of a means of concentrating U-235 at a rate more than 11,000 times as rapidly as with the mass spectrometer. This made use of the method of thermal diffusion, which was developed in 1938 by Clusius and Dickel in Germany and by Brewer and Bramley in the United States. In this method of separating isotopes the fluid (for it works for either a gas or a liquid) passes along concentric cylinders. The outer cylinder is cooled with water or air while the inner cylinder is heated from the inside by a hot wire. With tubes about 30 feet high, and using the gaseous compound, uranium hexafluoride, Professor Krasny-Ergen was on the verge of concentrating the rare material. Work had to be suspended when Germany marched into Norway, Sweden's neighbor. The 24-hour yield of rare uranium 235, he estimated, would be 1.3 milligrams per day. This means that with a single tube in his thermal diffusion apparatus, Professor Krasny-Ergen would require about three years to get a gram of uranium 235. It is about 12,000 times as fast as with the mass-spectrometer.

Another possible means of separating the isotope appears to be with the ultra-centrifuge, with which Prof. J. W. Beams, of the University of Virginia, has been one of the chief experimenters. This works on a principle similar to that of a cream separator. When fluid uranium compounds are placed in a cylinder rotating at high speed—some 66,000 revolutions per minute—heavy 238 atoms are thrown to the outside, while the lighter 235 atoms gather near the center. Since the cylinder must be several inches in diameter, great technical problems are encountered in its construction and operation.

It also seems possible that zeolites—silicates of aluminum, calcium, and sodium used in water softening—might be used to accomplish the isolation of U-235. A patent covering the separation of isotopes with zeolites (United States 2,204,072) was granted in June to Dr. John G. Dean, research director of the Permutit Company.

Another way to split the uranium atom with release of energy was reported from the Westinghouse Research Laboratories. Gamma rays, generated by proton bombardment of fluorite with the 95-ton electrostatic atom smasher, are found to split the uranium nucleus, releasing 30 to 100 times the energy expended in causing the fission. Since gamma rays are radiation—like electricity, light, and X-rays—consisting of photons, Dr. E. U. Condon, Westinghouse's associate research director, suggested in announcing the discovery that the new uranium fission phenomenon be called "phission."

Whether the new photo-fission or "phission" of uranium will bring closer to realization the actual release of atomic energy is problematical. The big task is still the concentration of enough uranium 235 to provide a real test as to whether there is a chain reaction.

The new research has provided an alternate method of starting the disintegration. The form of radiant energy used is 6,000,000 electron-volt

gamma rays, similar to but more penetrating than X-rays. Details of the research were given in a letter to the *Physical Review* communicated by Drs. R. O. Haxby, W. E. Shoupp, W. E. Stephens, and W. H. Wells.

Atomic power is released from uranium spontaneously without atom-smashing bombardment with neutrons, two Leningrad physicists reported in the *Physical Review*. But the observations of the two Soviet scientists, Flerov and Petrjak, hold out no hope that there will be any practical utilization of this energy from the splitting of the uranium atom. Only six fissions an hour were discovered.

Possibility that the energy yield from U-235, may be greater than hitherto supposed, was suggested by Dr. R. D. Present, of Purdue University. Speaking before the American Physical Society, he stated that it is theoretically possible for the nucleus of the uranium atom to divide into three parts as well as two. Such a reaction would yield about 10 per cent more energy, according to his calculations, than binary fission. Though the energy to activate the process is the same as for binary fission, he believes that, with low energy neutrons, it is less likely to occur than division into two parts. So far no experimental verification of the triple division has been found.

**High Speed Rotation.** Dr. L. E. MacHattie, of the University of Virginia, stated at the same meeting that by magnetically suspending a steel ball  $\frac{1}{32}$  inch in diameter in a vacuum, so that friction was nearly eliminated, he was able to spin it 110,000 times per second, about 2600 times as rapidly as the propeller of a pursuit airplane, which revolves at about 2500 revolutions per minute. In some researches, a rapidly rotating mirror is needed. To test the feasibility of such a use of the device, two flat faces were ground on the ball. Then it was spun to more than 100,000 revolutions per second without bursting. In another test a drill rod  $\frac{1}{16}$  inch diameter and  $\frac{7}{8}$  inch long, was spun at 36,000 revolutions per second, before it was bent double.

Dr. J. W. Beams, head of the University of Virginia's Rouss Physical Laboratory, reported researches with Arthur L. Stauffacher and L. B. Snoddy, showing how the ultra-centrifuge could be used to determine molecular weights of various compounds.

**High Pressures.** New world's record high pressures, as much as 3,500,000 lb. per square inch, were achieved by Dr. P. W. Bridgman in Harvard's Physics Laboratories through use of nests of high pressure vessels in which inside apparatus receives outside support at critical parts. A piece of tool alloy, Carboloy, composed of tungsten carbide and cobalt, was subjected to a compressive stress of between 200,000 kilograms per square centimeter (2,800,000 lb. per square inch) and 250,000 kg. per sq. cm. (3,500,000 lb. per sq. in.) without fracture. Carboloy's crushing strength under normal conditions is not more than 70,000 kg. per sq. cm. (1,000,000 lb. per sq. in.). The confining pressure that made possible these new high pressures was about 25,000 kg. per sq. cm. (350,000 lb. per sq. in.). See CHEMISTRY.

Dr. Bridgman, in reporting his results to the *Physical Review*, also made known that under such extreme pressures, carbon in the form of a thin plate of crystal graphite is not converted to diamond at room temperature. Both graphite and diamond are carbon. There had been hope that pressure alone might cause the formation of dia-

mond out of the other form of carbon. It is probable that no pressure, however high, will accomplish the conversion at room temperature. Doubling of the pressure apparatus, as practised by Bridgman, made it possible to reach pressure considerably more than double because of the increase in intrinsic strength under hydrostatic pressure. A striking effect of the extreme high pressures on Carboloy was that, although under normal conditions it is highly brittle and breaks with practically no plastic deformation, under the confining pressures used by Dr. Bridgman the piston of this tough material was plastically and permanently shortened by 5.5 per cent with no perceptible cracks.

Similar experiments were carried out by Dr. Roy W. Goranson and Ellis Johnson, of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington, in an effort to reproduce pressures that exist hundreds of miles below the earth's surface. They announced that pressures of 3,000,000 lb. per square inch had been attained. They stopped at this figure because the pressure gauge was not calibrated beyond that point. The pressure equipment itself potentially may be capable of doubling this pressure. If this can be done, it will produce a pressure equal to that inside the earth at depths of 745 miles and permit important studies of the properties of matter at these pressures. Dr. Goranson and Mr. Johnson, in their tests, used ordinary table salt, sodium chloride. They found that at the extreme pressure it was squeezed so tightly its volume was decreased by 20 per cent, or one-fifth. This means, it is explained, "that the space inside the sodium chloride molecule was mostly eliminated by the pressure, so that the atoms making up the molecules of salt actually, or nearly, touched one another." Unlike some other chemical substances which have been studied under high pressures previously, the salt used in the Carnegie tests appeared to have suffered no color or structural change.

**Cyclotrons.** By a grant of \$1,150,000 from the Rockefeller Foundation, supplemented with \$250,000 raised by the University of California, work was begun at the University, in Berkeley, on a cyclotron, or atom smasher, with a magnet 184 inches in diameter, weighing 4900 tons and including more than 400 tons of copper windings. This will far surpass the 60-inch cyclotron, also at Berkeley, which is now the world's largest. At the end of 1940, Dr. Ernest O. Lawrence, inventor of the cyclotron (which obtains high energy deuterons, or hearts of hydrogen atoms, by whirling them around and around in a strong magnetic field), reported that construction was well under way and that it would probably be in operation by 1943. He suggested that it might possibly give energies as high as 200,000,000 volts, and enable scientists to find things not even found in the cosmic rays. The new cyclotron will be able, he said, to make in one minute enough radioactive sodium to equal in effect 350 grams of radium, more than there is in the world, and costing \$10,000,000 if it could be produced. Construction of new cyclotrons was also started at the University of Pennsylvania, the University of Illinois, and elsewhere. Professor Lawrence estimates that there are more than 30 in the world either in operation or being built.

Mainly with the use of cyclotron, radioactive isotopes of all the elements have been obtained, though some are very short-lived. Dr. Charles Fecher, working in the Crocker Radiation Labo-

ratory at the University of California, reported preparation of radioactive yttrium, which lasts about 100 days, yielding gamma radiation capable of penetrating two inches of iron. He suggested that this might become a substitute for radium in taking gamma-ray photographs of machine parts to search for internal flaws.

Such artificial production of substances like radium, was covered in U S Patent 2,206,634, granted to a quintet of Italian physicists, who were at the University of Rome when application was made for the patent, Oct. 3, 1935. They are Dr. Enrico Fermi, now at Columbia University, New York City; Edoardo Amaldi, still in Rome; Emilio Segre, University of California; Franco Rasetti, Quebec, and Bruno Pontecorvo, now in South America. The patent was assigned to G. M. Gianini and Co., Inc., New York City.

Neutrons from the cyclotron have too high energy, so Dr. Fermi's problem was to slow them. "We have found it possible to achieve the desired results by passing the neutron radiation against or through a screen of a suitable material," states the patent. "The materials which have been found best suited to this purpose are those containing hydrogen (including all its isotopes, but the light isotope which predominates in natural occurrence being most efficient) and especially water and the hydrocarbons, such as paraffin for example." In use, the screen may be either solid or liquid. In the latter event, the material to be treated can be dissolved or suspended in the liquid itself. The new patent covers the use of neutrons, with such an energy reducing screen and the production of radioactive isotopes thereby. Since this is so far the most satisfactory method of producing artificial radioactive substances, and these have begun to find medical use, the patent seems to be quite basic.

However, high voltage X-rays can also be used to produce artificial radioactivity, Dr. Robert J. Van De Graaff, Dr. Lester C. Van Atta, Dr. Chester M. Van Atta, and Doyle L. Northrup, of Massachusetts Institute of Technology, reported, confirming earlier findings of Notre Dame University physicists. They found that X-rays, produced with the electrostatic generator operating at a little under 1,000,000 volts, formed three radioactive isotopes of indium, with half life periods ranging from 12 seconds to four hours.

**Cosmic Rays.** The minute particles known as mesotrons, which are formed high in the air when the atmospheric atoms are struck by cosmic rays from outer space, die for the most part before they reach the ground. New evidence of this rapid decay was obtained by Dr. R. A. Millikan of the California Institute of Technology, in collaboration with Dr. H. V. Neher and Dr. H. G. Stever. Mesotrons are similar to electrons, but about 150 times heavier. They start with a speed of some 180,000 miles per second, nearly as great as that of light. Yet, so short-lived are they, that in traveling 12,000 feet, about 15 per cent disintegrate spontaneously. From this it is calculated that they live, on the average, about 66 millionths of a second. In accordance with one of the consequences of the theory of relativity, an object moving at such a high speed shows a longer life than if it were at rest. The life of the mesotron at rest is calculated to be only 2.5 millionths of a second.

The scientists measured the intensity of the cosmic ray effects in two mountain lakes, one about 12,000 feet higher than the other, yet geographically close. In the upper lake, the apparatus was immersed about 12 feet deeper, so as to compensate

for the fact that there was less air above this one. Thus, the total combined air and water absorption for each was the same. Despite this, the readings in the lower lake were 15 per cent lower than in the upper one. Dr. Millikan has concluded, therefore, that this is due to the fact that, in the extra time required for the mesotrons to reach the lower level, more have died. A life, at rest, of 2.5 millionths of a second, the same as that obtained theoretically, would give this difference.

Neutrons were also found to be associated with the cosmic radiation, though the exact relationship has not been fully explained. Dr. Serge A. Korff, of the Bartol Research Foundation of the Franklin Institute, designed a new form of counter to measure them, as distinct from the measurements of the other types of cosmic radiation. This consists of a tube containing a gas, boron trifluoride. The neutrons break up the nuclei of the boron atoms, and alpha particles, atomic bullets of another kind, are formed. These are detected in the counter. Such a counter was taken by Dana Bailey, of the Harvard College Observatory, to Little America, to make observations that may tell whether there is a latitude effect with the neutrons. Two sensitive cosmic ray meters of the Millikan type have been in use at Little America since January, 1940, and are expected, when brought back about April, 1941, to yield important data concerning the cosmic radiation.

During the summer, a high altitude laboratory for cosmic ray research, under the direction of Dr. Bruno Rossi, was established by the University of Chicago on Mt. Evans, Colorado, at 14,259 feet altitude. Robot balloon flights which carried an ionization chamber to heights of 15.5 miles have disclosed that after correction for the effects of variations in the earth's magnetic field, the maximum of cosmic ray intensity in the upper air comes in the springtime, Dr. William P. Jesse of the University of Chicago found. He said that more work will be needed before it can be proved that the spring maximum in cosmic ray intensity is a true seasonal effect. The unmanned balloon flights were primarily directed to determine whether cosmic ray intensities at the top of the atmosphere varied with time. Changes of more than 15 per cent were observed which appear to follow the "world-wide" variations previously reported by other investigators from ground stations. It appears that the 15 per cent changes at the top of the atmosphere are due to a large extent to intensity change in the magnetic field surrounding the earth.

Drs. Marcel Schein and E. O. Wollan studied the production of mesotrons at high altitudes, and found that mesotrons began to be generated in a lead block carried aloft when an altitude of about 4 miles was reached. Dr. G. Herzog, also of the University of Chicago, has investigated slow mesotrons with a Wilson cloud chamber apparatus to take pictures of their tracks up to altitudes of 29,000 feet in airplane flights.

**Instruments.** In the instrumental field, an important event was the commercial production of an electron microscope by the Radio Corporation of America, which, as noted in the 1939 YEAR BOOK, p. 122, permits direct magnifications of as much as 25,000 diameters. With such an instrument, it was found possible to photograph certain large organic molecules. Similar success in photographing actual molecules with the electron microscope was reported from Germany.

A device for producing intense bombardments with fragments of atoms, called the induction elec-

tron accelerator, was described by Dr. D. W. Kerst of the General Electric Research Laboratory. The electron accelerator consists of a doughnut-shaped glass vessel with the air pumped out of it. It contains an iron core, and is surrounded by a magnet consisting of thousands of segments of iron. A stream of electrons introduced into the glass vacuum chamber is whirled in the magnetic field at ever-increasing velocities until the particles are finally moving at almost the speed of light—186,000 miles a second. In reaching this speed, the electrons make 200,000 revolutions, traveling a distance of approximately 60 miles and building up an energy of 2,300,000 volts. The present small apparatus, less than a foot in diameter, produces radiation energy equivalent in intensity to that given off by ten milligrams of radium. Larger models can be expected to give more energy.

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WATSON DAVIS (with JAMES STOKLEY).

**PICKETING AND ANTI-PICKETING LAWS.** See AMERICAN FEDERATION OF LABOR; SUPREME COURT; ALABAMA, CALIFORNIA, and OREGON under *History*.

**PITCAIRN ISLAND.** See STAMP COLLECTING.

**PIUS XII.** See ROMAN CATHOLIC CHURCH.

**PLANNING.** In the United States at the close of 1940, The National Resources Planning Board was completing a report on a Program for the Development of Resources and Stabilization of Employment. This includes a six-year Public Works Program for Federal Agencies, National water, land, and transportation policies, and plans for regional development. Another report will deal with long-range work and relief policies. Plans for national defense were being studied. A national roster of scientific and specialized personnel was being prepared. Locations for critical industries were under consideration. The board has regional offices at Boston, Baltimore, Atlanta, Indianapolis, Dallas, Omaha, Denver, Berkeley, Portland, Ore., and Juneau, Alaska. These co-operate with regional, state, and local planning bodies.

A tentative fourfold master plan for New York City was announced late in the year by the City Planning Commission. An immense wall map was put on exhibit and a series of descriptive pam-

phlets made available. A "highway pattern" shows 96 proposed express highways and 26 express parkways, besides major streets. Many of these are in existence; others were added or amended routes. Three other elements of the master plan are land use, parks, and public schools. At Baltimore, a board of three advisory engineers will report to the City Plan Commission a program for water supply, sewers and sewage disposal, garbage and refuse disposal, park and recreational areas, and schools, each and all to fit into a master city plan and serve as a basis for long-range capital budgeting. The Chicago City Plan Commission, an official body of 25 members, was organized in June to succeed the voluntary body of 300 members which, with expert aid, formulated the well-known Chicago Plan. This plan and successive elaborations have been approved by referendum vote from time to time and executed by the city government. One of the first tasks of the new commission will be to rezone Chicago, using as a basis a \$2,000,000 WPA land-use map made under the direction of its predecessor.

At Seaford, Del., Baltimore consulting engineers are studying the effect of the large Nylon plant on a small town. Under consideration are new streets, extension of utilities, and a new city charter. The du Pont and the city officials are co-operating. Four small communities in as many states have been or are being moved to new and carefully planned sites: Hill, N.H., and Greenville, Mo., are to move to higher ground to get out of areas to be submerged by flood-control reservoirs. Leavenworth, Ind., and Shawneetown, Ill., have moved from locations that were covered by Ohio River flood waters of 1937. The Indiana village had been flooded 11 times. (See *Engineering News-Record*, Mar. 14, 1940.)

The first of three articles on Planning Progress in Baltic Countries, dealing in some detail with Stockholm, Helsingfors, Gdynia, and other cities, appeared in the July-September issue of *The Planner's Journal* (Cambridge, Mass.). Since the cessation of hostilities between Russia and Finland the Finnish government has made plans for building four new towns.

A vital factor in planning activities that must be reckoned with was revealed by the United States Census of 1940. It showed that the number of cities having a population of 100,000 or more was 90 compared with 92 in 1930, and that a third of the 90 cities had declined in total population while many others had barely held their own, and only a fifth of the total showed increases of more than 10 per cent. Nearly a fourth of the cities having 25,000 or more population in 1940 had fewer inhabitants than in 1930. These and other declines in population and in percentage rates of growth must be considered in planning extensions of streets, water supplies, and other public works, as well as educational facilities and industrial activities. Such declines, besides their effects on public needs, upset vital and other statistics based on population estimates for intercensal years. They emphasize the need for population counts oftener than once in ten years, whether the population is increasing or decreasing rapidly. See COLOMBIA under *History*; NATIONAL RESOURCES PLANNING BOARD; NEW YORK.

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M. N. BAKER.

**PLANT INDUSTRY**, Bureau of. A bureau of the U.S. Department of Agriculture which conducts investigations of soils, fertilizers, and plants, principally those of economic importance. See FERTILIZERS.

**PLANTS AND PLANT DISEASES**. See BOTANY; ENTOMOLOGY, ECONOMIC; FERTILIZERS.

**PLASTICS**. See AGRICULTURAL CHEMISTRY AND ENGINEERING, BUREAU OF; CHEMISTRY, INDUSTRIAL.

**PLATINUM**. Except for iridium, prices for the platinum metals were relatively stable in 1940. The price of platinum ranged from \$36 to \$38 per oz. Iridium was quoted at \$175 per oz. at the beginning of the year, and in excess of \$275 at the year end. Palladium was unchanged at \$24 an oz., rhodium at \$125, and ruthenium at \$35 to \$40. World production data are not available, but it is known that International Nickel Company, Canada, continued to be the largest producer. According to the U.S. Geological Survey, 1940, the Alaska production was 28,860 fine oz., having a value of approximately \$1,092,000. The bulk of this production comes from the Goodnews District in South Western Alaska, where the deposits are mined by dredge and dragline. Platinum and its related metals find extensive use in the chemical industry; also in the production of rayon, and in contacts for the electrical and aviation industries. Platinum continued to find continued use in jewelry, and palladium in dentistry as an alloy with gold.

H. C. PARMELEE.

**PLIOFILM**. See RUBBER.

**PM**. See NEWSPAPERS AND MAGAZINES.

**PNEUMONIA**. See PUBLIC HEALTH SERVICE.

**POETRY**. See LITERATURE, ENGLISH AND AMERICAN; French, German, Russian, Scandinavian, Spanish, and Spanish-American Literatures.

**POLAND**. A central European republic, established Nov. 9, 1918, and partitioned between Germany and the Union of Soviet Socialist Republics by the treaty of Sept. 28, 1939. Warsaw, capital of the republic, surrendered to the Germans Sept. 27, 1939. See 1939 YEAR BOOK, p. 625 f., for data on Poland prior to its partition.

**The Partition**. At the outbreak of the war with Germany on Sept. 1, 1939, Poland had an area of 151,100 square miles and a population of 35,500,000, according to official Polish statistics. By the German-Russian treaty of Sept. 28, 1939, Germany occupied the western sector of 72,432 square miles with about 22,000,000 inhabitants, predominantly Polish, and Russia the eastern sector of 78,400 square miles with approximately 13,500,000 inhabitants, mostly Ukrainians and White Russians. See map in YEAR BOOK, 1939, p. 626.

A German decree of Oct. 8, 1939, incorporated in the Reich about 35,512 square miles of Polish territory with a population of about 9,627,000. This area comprised the Polish provinces of Pomorze, Poznan, and Upper Silesia, which were ceded by Germany to Poland under the Treaty of Versailles, and the additional Polish districts of Suwalki, Ciechanow, Plock, Wloclawek, Kutno, Lodz, Konin, Kalisz, Bedzin, Sosnowiec, Biala, and Zywiec. Of

the remaining German-occupied territory, an area of 225 square miles with some 45,000 inhabitants was transferred to Slovakia on Oct. 21, 1939. The rest—an estimated 36,921 square miles with a population variously estimated at 10,500,000 to 14,500,000—was created a separate German-controlled territory known as the Government-General of Poland, with its capital at Cracow.

On Oct. 10, 1939, the Soviet Government ceded to Lithuania part of the Vilna district taken from Poland—an area of 2570 square miles with 457,500 inhabitants. The remainder of Soviet-occupied Poland—about 77,703 square miles with 11,924,000 inhabitants—was incorporated in the Soviet Union by vote of the Soviet Supreme Council (Nov. 1-2, 1939). According to Soviet figures, 41,650 square miles with a population of some 8,000,000 was annexed to the Ukrainian Soviet Socialist Republic and 34,000 square miles with about 4,800,000 inhabitants to the White (Byelo) Russian Soviet Socialist Republic. See LITHUANIA, GERMANY, and UNION OF SOVIET SOCIALIST REPUBLICS.

**Government-in-Exile**. The Polish Government-in-Exile established a temporary capital in Paris on Sept. 30, 1939; it was transferred to a site near Angers, France, on Nov. 22, 1939. President of the republic, Wladyslaw Raczekiewicz, who was appointed by President Ignace Moscicki upon the latter's resignation, Sept. 30, 1939. (The Polish Constitution empowered the retiring President to name his successor.) Premier and War Minister, Gen. Wladyslaw Sikorski, heading a non-party cabinet formed Sept. 30, 1939, as follows: Foreign Affairs, August Zaleski; Finance, Henryk Strasburger; Public Welfare, Jan Stanszyk; Ministers without Portfolio, Gen. Kazimierz Sosnkowski, Prof. Stanislaw Kot, A. Lados, Stanislaw Stronski, Marian Seyda, and Gen. J. Haller.

The Polish Parliament was dissolved by Presidential decree in November, 1939, and the appointment of a National Council to function as a wartime parliament was authorized Dec. 19, 1939. The 16 members of the National Council appointed in January, 1940, were as follows, with the groups they represented in parentheses: Ignace Jan Paderewski, President of the National Council; Stanislaw Mikolajczyk and M. Jozwiak (Peasant party), Dr. Herman Lieberman (Socialist party), Dr. Tadeusz Bielecki (National Democratic party), Father Jan Brandys and Arkadiusz Bozek (Upper Silesia), Bishop Jozef Gawlina (Roman Catholic Church), Gen. Lucjan Zeligowski and Stanislaw Mackiewicz (Vilna), Dr. Jan Jaworski (Conservative party), Tytus Filipowicz (Polish Democrats), Mme. Zofia Zaleska (Polish women), M. Schwarzbart (Polish Jews), Dr. Zygmunt Nowakowski (Polish intellectuals), M. Kwiatkowski (Polish emigrés in France).

**Provisional Parliament Meets**. The National Council held its first meeting in the Polish Embassy in Paris on Jan. 23, 1940. President Raczekiewicz, opening the session, pointed out that the Council, like the cabinet and himself, were only wartime representatives of the nation and that a new government would be organized when peace was restored. He outlined the National Council's tasks as voting the budget, advising the government, and drawing up Poland's objectives for a prospective peace conference. Paderewski in a moving speech affirmed that Poland would live. Both he and Premier Sikorski declared that respect for democratic principles would be the guiding principle of future Polish regimes. The Council took a formal vow of solidarity and warned



Germany and Russia that wrongs inflicted upon conquered Poland would be revenged.

Polish war aims were stated by Premier Sikorski on February 18 to include "complete reparation" and "reconstruction at the expense of the raiders." He called for more secure western frontiers than Poland had before the outbreak of war and said that "access to the Baltic must be larger than before."

The first business session of the National Council was held in Angers commencing March 5. On May 28, at the close of the disastrous Battle of Flanders, the cabinet met in special session in Paris and voted inflexible loyalty to the Allied cause. Other governmental activities included the publication of various documents in support of the Polish struggle for independence. A White Book issued in March, 1940, reviewed the diplomatic antecedents of the war and charged that the Hitler regime over a period of years attempted to lead Poland into a joint war upon the Soviet Union.

**Government Moves to London.** After the defeat and capitulation of France, the government in exile moved at the end of June, 1940, to London. An Anglo-Polish military convention, signed August 5, confirmed the alliance concluded in 1939 and the decision of both governments to continue the struggle until victory was won. Under the accord, British credits and arms were supplied to enable the reorganization of the Polish armed forces as an independent force under its own officers, who in turn were responsible to the British high command. According to a statement by the British Under-Secretary for Foreign Affairs in the House of Commons on August 21, the Polish Government considered itself at war with both Germany and Russia. It did not declare war on Italy but with the consent of their government, Polish troops participated in hostilities against the Italians in Africa and Greece later in the year. Another Polish force was assigned to guard a sector of the Scottish coast against the threatened German invasion.

The Polish and Czecho-Slovak governments in exile on November 11 concluded an agreement for a close postwar political and economic association as the basis of a democratic "new deal" for eastern Europe. See CZECHO-SLOVAKIA under *History*.

**Government-General of Poland.** The Government-General was constituted Oct. 25, 1939, under Hitler's decree of October 11 appointing Dr. Hans Frank, Reich Commissioner of Justice, as Governor-General. While administered and controlled by the Germans, it was not a part of the German Reich. The Government-General was divided into four administrative districts of Cracow, Radom, Warsaw, and Lublin, and these in turn were subdivided into 10 provincial districts. All the districts were placed in charge of German appointees of the Governor-General. In the municipalities, Polish mayors acceptable to the German district leaders were permitted to retain office.

According to Governor-General Frank, the population of the Government-General in March, 1940, was 14,500,000, including 12,000,000 Poles, 2,000,000 Jews, 400,000 Ukrainians, and about 60,000 Germans. He gave populations of the chief cities as follows: Warsaw, about 1,800,000; Cracow, 300,000; Czestochowa, 140,000; Lublin, 140,000. The Jews were concentrated mainly in a reservation south of Lublin. Their numbers were added to during the year by further expulsions of Jews from Vienna, East Prussia, Germany proper, and the German provinces annexed from Poland.

**The Annexed Provinces.** In the Polish provinces annexed as an integral part of Germany, the National Socialist system of government prevailing throughout the Reich was placed in effect. On Feb. 1, 1940, Chancellor Hitler announced that he would appoint one new Reichstag member for every 6000 Germans over the age of 20 in the incorporated provinces.

**German Methods.** The policies of the German conquerors in Poland, described in the 1939 YEAR BOOK, p. 627, were extended during 1940. The objective of the Reich Government in the annexed provinces was set forth by Dr. Robert Ley, Leader of the German Labor Front, in a speech to a German audience at Lodz in January, 1940.

"You must remain hard," he was quoted as saying. "Then the wish of the Fuehrer will be fulfilled, that millions of young Germans will grow up here; that in 50 years this will be a flourishing German farmland in which there will not be a single Pole or Jew."

The Polish Government charged that 1,200,000 Poles were forcibly deported from the annexed provinces to the Government-General of Poland up to Dec. 31, 1939, and that the eviction of over a million more followed during 1940. Still other Poles in the annexed provinces were drafted for labor service in Germany proper. A Berlin decree of Feb. 21, 1940, authorized the government to confiscate all farm lands and all goods in German Poland not in the possession of Germans on Sept. 1, 1939. The lands, businesses, and properties taken from evicted Poles were reported to have been sold by the German Government on a 40-year-payment plan to more than one million Germans settled in the annexed provinces from Soviet Poland, the Government-General of Poland, the Baltic States (Latvia, Estonia, and Lithuania), and Germany proper.

The methods employed by the Germans in their mass expulsion of Poles from the annexed provinces and in administering the Government-General of Poland were described as follows in a joint declaration of the British, French, and Polish Governments issued in London Apr. 17, 1940:

Wholesale executions, deportations in circumstances of most ruthless barbarity of the Polish population . . . settlement of German population in Polish territory, transfer of property belonging to the Poles to these Germans . . . confiscation of State and private property, deportation and forced labor in Germany of young Polish men and women, destruction and pillage of historical and artistic monuments, closing of churches and persecution of religion clearly reveal a policy deliberately aiming at destruction of the Polish nation . . .

This conduct is in flagrant violation of the laws of war, and His Majesty's Government in the United Kingdom, the French Government, and Polish Government desire to make formal and public protest to the conscience of the world against the action of the German Government and of its agents.

They reaffirm the responsibility of Germany for these crimes and their determination to right the wrongs thus inflicted on the Polish people.

These charges were elaborated in a Polish White Book, entitled *The German Effort to Destroy the Polish Nation*, issued by the Polish Government-in-Exile in March, 1940. The allegations were flatly denied by Governor-General Frank in a press interview in Berlin in April (see *Facts in Review*, Apr. 22, 1940, p. 154 f., published by the German Library of Information, New York). But the Polish charges were supported by a memorandum presented to the Pope by Cardinal Hlond, Primate of Poland, and made public by the Vatican on Jan. 28, 1940 (see *New York Times*, Jan. 29-30, 1940, for text). Statements from other neutral sources, espe-

cially from foreign correspondents in Berlin, tended to substantiate the Polish accusations in many respects.

**Nazi Objectives in Annexed Provinces.** According to the Polish Government, the Hlond report, and other sources, Hitler's program called for complete and rapid Germanizing of the annexed provinces through mass deportation or extermination of those Polish elements most likely to preserve and propagate Polish nationalism and culture. These Poles were being replaced with Germans who received extensive State aid in establishing themselves on Polish soil. Poles permitted to remain in the annexed provinces were mainly of the peasant class and they were subjected to forced Germanization. They were not permitted to own land, industries, immovable property, or commercial undertakings. Their children were compelled to attend German schools and join Hitler Youth organizations. The Polish language was forbidden in public and actively discouraged in private.

Many important Polish industries in the Government-General of Poland were transferred to Germans and moved to the annexed provinces, it was charged. To develop trade between Germany proper and the annexed provinces, the Reich Government in April organized a large company (*Handelsaufbau Ost G.m.B.H.*), which established branches in the chief cities of the new provinces. It was announced that the great German network of super highways would be extended to the principal centers of these provinces and of the Polish Government-General.

**Policy in Government-General.** In the Government-General, German policy appeared to aim at the repression of Polish national consciousness and limited Germanization of Poles to permit the economic exploitation of the Polish and Jewish masses by Germans, aided by a new pro-German Polish administrative class, on behalf of the Nazi party and the Reich. According to Governor-General Frank, progress was made during 1940 in rehabilitating Polish workers and peasants, reviving industry, increasing agricultural and other production, restoring and improving the transportation system, extending education, eliminating disease and hunger, etc. The two former presidents of the Polish State Bank were appointed presidents of a new Central Bank, established in Cracow, that was authorized to issue bank notes to serve as the sole currency in the Government-General.

The other side to the picture was indicated by various measures reported to have been introduced in the Government-General during the year. They included the confiscation of all radio sets owned by Poles; extension of labor service conscription for all Polish youths between 14 and 18; introduction of "Jim Crow" trolley cars, with Poles and Jews forbidden to ride in compartments reserved for Germans; a food control system requiring Polish peasants to turn over part of their production to German authorities and requiring licenses for all grain sales; large-scale drafting of able-bodied adult Poles for labor service in the Reich; restriction of Polish consumption of commodities needed for the German war effort, especially through a petroleum monopoly; greatly increased exploitation of Polish forests, mines, and other natural resources for German use; the expulsion of all foreigners except a few Italians from the Government-General; the establishment of various German-language schools in purely Polish-speaking districts.

In the Government-General, as in the annexed

provinces, continued executions and persecutions of educated Poles were reported. Polish universities remained closed or destroyed and their equipment was said to have been sent to Germany. Dr. Arthur Seyss-Inquart, Deputy Governor of the Government-General, admitted to correspondents in Berlin on Jan. 31, 1940, that some Polish cultural institutions remained closed to prevent their becoming "centers of subversion." Germans arriving in Berlin from the Government-General during the winter of 1939-40 reported that conditions were terrible as a result of war devastation, the continued German-Polish racial conflict, and the near-famine existing during a period of intense cold.

During the winter American Red Cross aid for suffering Poles and Jews was restricted by the refusal of the German authorities to permit American supervision of the distribution of clothing, food, and medicines except in the district around Warsaw. In March, however, an agreement was reached between the American Red Cross and the German Government under which German authorities extended full co-operation in arranging for distribution of relief supplies through Polish and Jewish channels in the occupied regions.

**Situation in Russian Poland.** Comparatively little reliable news of developments in the Soviet-annexed territories escaped the censorship during 1940. In general it appeared that the sovietization of these territories described in the 1939 YEAR BOOK, p. 628, proceeded steadily, but that the Soviet Government avoided the extreme measures resorted to by the Germans in Western Poland. The report of Cardinal Hlond, cited above, stated that in general conditions were better in Soviet Poland than in the German sector. Another report issued by Cardinal Hlond in Rome on Mar. 16, 1940, said that while the Russians avoided massacres and other "barbaric methods," they banned religion from the schools, taught communism and atheism to Polish youth, reduced the Polish clergy to abject poverty, and starved the masses into acceptance of communism. He asserted that the Polish people sought to defend the clergy and the Church by demonstrating against the Soviet authorities and refusing to send their children to Soviet schools.

Reports attributed to Polish and Ukrainian émigrés reaching Rumania from Soviet Poland stated that disorders had occurred in Lwow between Soviet authorities and Ukrainian nationalists in January. The Ukrainian nationalist movement was said to be receiving undercover German support. Later in the spring reports of similar origin indicated that there was a serious food shortage in Soviet Poland and that Soviet authorities were deporting many Poles and Ukrainians, particularly those living along the German and Rumanian frontier districts, into Russia proper. Polish officials in New York estimated deportations during the first year of the Russian occupation at 500,000. There was also carried out an exchange of about 130,000 German-speaking residents of the Soviet-annexed Polish territories for an equal number of Ukrainians and White Russians in German Poland. The exchange was provided for by a Soviet-German agreement signed Nov. 4, 1939, and was completed in the early spring of 1940.

Russian Poland participated in the election of deputies to the Supreme Soviet of the U.S.S.R. and to the Supreme Soviets of the Ukrainian and White Russian Republics on Mar. 24, 1940.

See EDUCATION; JEWS; LABOR CONDITIONS; REPARATIONS AND WAR DEBTS; WAR RELIEF.

**POLAR RESEARCH.** Antarctic. Public interest during 1940 was principally directed to the progress of the Third Byrd Antarctic Expedition. This ambitious undertaking, financed in part by the U.S. Government, and commanded by Rear Admiral Richard E. Byrd, was organized for the purpose of expanding man's knowledge of the vast southern frigid zone. It comprised 2 ships, 1 naval aircraft, 125 enlisted men, 4 naval officers subordinate to Byrd, and several scientific men. Admiral Byrd sailed from Panama on the *North Star*, a motor-driven vessel of the Coast Guard, in November, 1939, and reached Little America on the following January 11. He there transferred on January 19 to the expedition's sister ship, the brigantine *Bear*, where he made his headquarters thereafter.

Ploughing through a limitless field of ice and snow, and in the face of gales and blizzards, the *Bear* nosed its way over a 1200-mile zigzag course to Lat. 70 degrees 43 minutes S., Long. 108 degrees 25 minutes W. by February 21.

Here open water suitable for a take-off of the plane was found and Admiral Byrd made three notable exploratory flights, on February 21, 22, and 26. The crew of the twin-motored seaplane consisted of the admiral, who served as navigator; Aviation Machinist's Mate Ashley C. Snow, U.S.N., as pilot; and Radioman First Class Earle B. Perce, U.S.N., as co-pilot. They made extensive photographic records of the long-sought south Pacific coast of Antarctica and discovered a great ice-locked sea some 40 or more miles wide, a series

York that unfavorable weather had prevented his flying over the South Pole, and imparted the scientific information that the South Pole magnetic point had shifted westward since his flights over it in 1933-35.

Meanwhile other members of the expedition remained in the Antarctic, 33 at West Base near Little America, and 26 at East Base, 1200 miles away in Palmer Land, the pivot from which the admiral had conducted his 1940 aerial explorations. On June 13 the House of Representatives in Washington refused to appropriate \$250,000 for the continuance of the expedition. Five days later it voted a sum of \$171,000 to defray the cost of the return voyage to the United States.

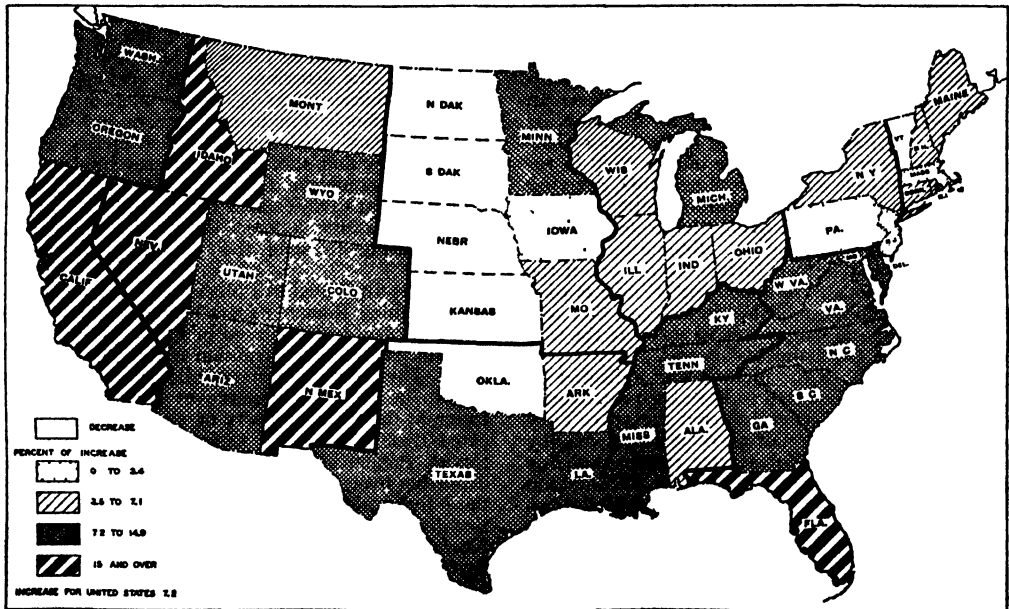
**POLIOMYELITIS.** See CHILDREN'S BUREAU; PUBLIC HEALTH SERVICE.

**POLISH NATIONAL CATHOLIC CHURCH OF AMERICA.** See RELIGIOUS ORGANIZATIONS.

**POLITICAL ACTIVITIES LEGISLATION.** See CIVIL SERVICE COMMISSION, U.S.; INDIANA, NEW JERSEY, NEW YORK under *History*.

**POLITICAL CAMPAIGNS, PARTIES, AND PLATFORMS.** See ELECTIONS, U.S. NATIONAL.

**POLITICAL ECONOMY.** Subjects in the field of applied economics are treated in this volume under the following heads: BANKS AND BANKING; BUSINESS REVIEW; CO-OPERATIVE MOVEMENT; FINANCIAL REVIEW; HOUSING; LABOR CONDITIONS; LABOR LEGISLATION. See also such articles as AMERICAN FEDERATION OF LABOR;



INCREASE IN POPULATION OF THE UNITED STATES, 1930 TO 1940

of mountain peaks that rose as high as 7500 ft., and a vast wind-swept elevated plateau 2000 or 3000 ft. high. In all, the expedition succeeded in discovering and charting 900 miles of previously unknown coastline and 150,000 square miles of territory.

In compliance with Navy Department orders from Washington, Admiral Byrd returned to the United States on May 14. He announced in New

CONGRESS OF INDUSTRIAL ORGANIZATIONS; SOCIALISM; SOCIAL SECURITY BOARD; RELIEF. See also the article on AGRICULTURE and the various crops, industries, minerals, public utilities, etc. Books on political science and economics for the general reader are to be found listed in the article, LITERATURE, ENGLISH AND AMERICAN, under *Economics and Politics*.

**POLO.** The retirement of Thomas Hitchcock,

Jr., since 1921 considered, in most years, to be the top player of the game, and the crowning of a new self-made king were two important headlines in the 1940 history of polo. Hitchcock's withdrawal left only two active players holding the top rating of ten goals, Stewart Iglehart and Cecil Smith. When the season ended, it was the general consensus that Smith—a Texas cowboy—was the greatest polo player in America at the present time.

The Aknusti quartet organized by Elbridge T. Gerry and his brother, Robert L. Gerry Jr., captured the major team honors of the sport. With the veteran, Gerard S. Smith, as No. 1 and a newcomer just out of Yale, Alan Corey Jr., as back, the aggregation played spectacularly through the field of six teams entered in the national open and defeated Iglehart's Great Neck team, 5 to 4, in the final.

However, in the following week, Great Neck reversed the tables by outplaying Aknusti in the final for the Monty Waterbury Memorial Cup, the most sought-after handicap prize of the year. The Great Neck team comprised George H. Mead Jr., J. Peter Grace Jr., Iglehart, and Robert E. Strawbridge Jr., riding in that order.

Since the two outstanding teams had divided the major titles of the year, a third game was arranged for the new Polo Writers Cup, and on this occasion, Aknusti, with Charles von Stade substituting for Corey, outplayed Great Neck by a single goal.

The intercircuit tournament was staged at Cleveland, O., with representative teams from all the circuits except California. Blue Hill Farms of Philadelphia was supreme in this event and a Cleveland team from Gates Mills captured the 12-goal championship.

In the intercollegiate competition, held at Harvard's new field, Yale took top honors; and the national 20-goal championship went to another Great Neck team on which Iglehart starred.

National indoor championships were contested in New York, with Robert Eisner's Winmont Farms team capturing the open, Chicago's 124th Field Artillery the junior, Blue Hill Farms the Sherman Memorial, Princeton the college title, and Lawrence School the inter-scholastic.

**PONAPE.** See JAPANESE PACIFIC ISLANDS.

**PONDICHERY.** See FRENCH INDIA.

**POOR-AID.** See RELIEF.

**POPULAR FRONT.** See CHILE.

**POPULATION OF THE UNITED STATES.** The returns of the Sixteenth Decennial Census of the United States (Apr. 1, 1940) are shown in the accompanying tables, covering the population of the United States, the States and geographical divisions, cities of 5000 or more population, and cities of 100,000 or more. Population trends revealed by the census were summarized by Director William Lane Austin of the Bureau of the Census in part as follows.

The rate of increase in the decade 1930-40 is less than one-half that shown in any previous decade since the first census in 1790. It is clear that if the present trends continue, the United States is faced with a stationary or even a declining population in about 30 or 40 years. The slowing down in population growth can be laid to the falling birth-rate and the virtual stoppage of immigration from abroad. During the past decade, all of the increase in population represents the natural increase—the excess of births over deaths. In fact, for the first time in the history of this nation, the number of emigrants during an intercensal period was greater

POPULATION OF CITIES OF 100,000 OR MORE,  
ARRANGED ACCORDING TO RANK

[A minus sign (—) denotes decrease]

City	Population 1940	Population 1930	Increase 1930-40	% Gain 1930-40
New York, N. Y. . . . .	7,454,995	6,930,446	524,549	7.6
Chicago, Ill. . . . .	3,396,808	3,376,438	20,370	0.6
Philadelphia, Pa. . . . .	1,931,334	1,950,961	-19,627	-1.0
Detroit, Mich. . . . .	1,623,452	1,568,662	54,790	3.5
Los Angeles, Calif. . . . .	1,504,377	1,238,048	266,229	21.5
Cleveland, Ohio . . . . .	878,336	900,429	-22,093	-2.5
Baltimore, Md. . . . .	859,100	804,874	54,226	6.7
St. Louis, Mo. . . . .	816,048	821,960	-5,912	-0.7
Boston, Mass. . . . .	770,816	781,188	-10,372	-1.3
Pittsburgh, Pa. . . . .	671,659	669,817	1,842	0.3
Washington, D. C. . . . .	663,091	486,179	176,222	36.2
San Francisco, Calif. . . . .	634,536	634,394	142	(?)
Milwaukee, Wis. . . . .	587,472	578,249	9,223	1.6
Buffalo, N. Y. . . . .	575,901	573,076	2,825	0.5
New Orleans, La. . . . .	494,537	458,762	35,775	7.8
Minneapolis, Minn. . . . .	492,370	464,356	28,014	6.0
Cincinnati, Ohio . . . . .	455,610	451,160	4,450	1.0
Newark, N. J. . . . .	429,760	442,337	-12,577	-2.8
Kansas City, Mo. . . . .	399,178	399,746	-568	-0.1
Indianapolis, Ind. . . . .	386,972	364,161	22,811	6.3
Houston, Texas. . . . .	384,514	292,352	92,162	31.5
Seattle, Wash. . . . .	368,302	365,583	2,719	0.7
Rochester, N. Y. . . . .	324,975	328,132	-3,157	-1.0
Denver, Colo. . . . .	322,412	287,861	34,551	12.0
Louisville, Ky. . . . .	319,077	307,745	11,332	3.7
Columbus, Ohio . . . . .	306,087	290,564	15,523	5.3
Portland, Oreg. . . . .	305,394	301,815	3,579	1.2
Atlanta, Ga. . . . .	302,288	270,366	31,922	11.8
Oakland, Calif. . . . .	302,163	284,063	18,100	6.4
Jersey City, N. J. . . . .	301,178	316,715	-15,542	-4.9
Dallas, Texas . . . . .	294,734	260,475	34,259	13.2
Memphis, Tenn. . . . .	292,942	253,143	39,799	15.7
St. Paul, Minn. . . . .	287,736	271,606	16,130	5.9
Toledo, Ohio . . . . .	282,349	290,718	-8,369	-2.9
Birmingham, Ala. . . . .	267,583	259,678	7,905	3.0
San Antonio, Texas . . . . .	253,854	231,542	22,312	9.6
Providence, R. I. . . . .	253,504	252,981	523	0.2
Akron, Ohio . . . . .	244,791	255,040	-10,249	-4.0
Omaha, Nebr. . . . .	223,844	214,006	9,838	4.6
Dayton, Ohio . . . . .	210,718	200,982	9,736	4.8
Syracuse, N. Y. . . . .	205,967	209,326	-3,359	-1.6
Oklahoma City, Okla. . . . .	204,424	185,389	19,035	10.3
San Diego, Calif. . . . .	203,341	147,995	55,346	37.4
Worcester, Mass. . . . .	193,694	195,311	-1,617	-0.8
Richmond, Va. . . . .	193,042	182,929	10,113	5.5
Fort Worth, Texas . . . . .	177,662	163,447	14,215	8.7
Jacksonville, Fla. . . . .	173,065	129,549	43,516	33.6
Miami, Fla. . . . .	172,172	110,637	61,535	55.6
Youngstown, Ohio. . . . .	167,720	170,002	-2,282	-1.3
Nashville, Tenn. . . . .	167,402	153,866	13,536	8.8
Hartford, Conn. . . . .	166,267	164,072	2,195	1.3
Grand Rapids, Mich. . . . .	164,292	168,922	-4,630	-2.8
Long Beach, Calif. . . . .	164,271	142,032	22,239	15.7
New Haven, Conn. . . . .	160,605	162,635	-2,030	-1.3
Des Moines, Iowa . . . . .	159,819	142,559	17,260	12.1
Flint, Mich. . . . .	151,543	156,492	-4,949	-3.2
Salt Lake City, Utah. . . . .	149,934	140,267	9,667	6.9
Springfield, Mass. . . . .	149,554	149,900	-346	-0.2
Bridgeport, Conn. . . . .	147,121	146,716	405	0.3
Norfolk, Va. . . . .	144,332	129,710	14,622	11.3
Yonkers, N. Y. . . . .	142,598	134,646	7,952	5.9
Tulsa, Okla. . . . .	142,157	141,258	899	0.6
Scranton, Pa. . . . .	140,404	143,433	-3,029	-2.1
Paterson, N. J. . . . .	139,656	138,513	1,143	0.8
Albany, N. Y. . . . .	130,577	127,412	3,165	2.5
Chattanooga, Tenn. . . . .	128,163	119,798	8,365	7.0
Trenton, N. J. . . . .	124,697	123,356	1,341	1.1
Spokane, Wash. . . . .	122,001	115,514	6,487	5.6
Kansas City, Kans. . . . .	121,458	121,857	-399	-0.3
Fort Wayne, Ind. . . . .	118,410	114,946	3,464	3.0
Camden, N. J. . . . .	117,536	118,700	-1,164	-1.0
Erie, Pa. . . . .	116,955	115,967	988	0.9
Fall River, Mass. . . . .	115,428	115,274	154	0.1
Wichita, Kans. . . . .	114,966	111,110	3,856	3.5
Wilmington, Del. . . . .	112,504	106,597	5,907	5.5
Gary, Ind. . . . .	111,719	100,426	11,293	11.2
Knoxville, Tenn. . . . .	111,580	105,802	5,778	5.5
Cambridge, Mass. . . . .	110,879	113,643	-2,764	-2.4
Reading, Pa. . . . .	110,568	111,171	-603	-0.5
New Bedford, Mass. . . . .	110,341	112,597	-2,256	-2.0
Elizabeth, N. J. . . . .	109,912	104,889	4,677	4.1
Tacoma, Wash. . . . .	109,408	116,581	-2,591	-2.4
Canton, Ohio . . . . .	108,401	104,906	3,495	3.3
Tampa, Fla. . . . .	108,391	101,161	7,230	7.1
Sacramento, Calif. . . . .	105,958	93,750	12,208	13.0
Peoria, Ill. . . . .	105,087	104,969	118	0.1
Somerville, Mass. . . . .	102,177	103,908	-1,731	-1.7
Lowell, Mass. . . . .	101,189	100,234	1,155	1.2
South Bend, Ind. . . . .	101,268	104,193	-2,925	-2.8
Duluth, Minn. . . . .	101,065	101,463	-398	-0.4
Charlotte, N. C. . . . .	100,899	82,675	18,224	22.0
Utica, N. Y. . . . .	100,518	101,740	-1,222	-1.2

<sup>1</sup> Less than one-tenth of 1 per cent.

than the number of immigrants. During the decade from Apr. 1, 1930, to Apr. 1, 1940, the number of persons who left this country for foreign lands exceeded by 46,518 the number who entered the United States. This is in sharp contrast with immigration trends between 1920 and 1930, when 19 per cent of the population increase of 17,064,426 persons during that decade was attributable to immigration.

The District of Columbia, with an increase of 36.2 per cent, grew faster between 1930 and 1940 than any of the States. The fastest growing State was Florida, with an increase of 29.2 per cent, followed by New Mexico, with 25.6 per cent, and California, with 21.7 per cent. Six States, namely, Kansas, Nebraska, North Dakota, Oklahoma, South Dakota, and Vermont, lost population between 1930 and 1940 (see map, page 606). The first five of these States are located in the Great Plains and constitute a tier of States in the Dust Bowl extending from Canada to Texas. In no previous decade have more than three States lost population.

There were several changes in the rank of the

States according to population between 1930 and 1940. The displacement of Texas from fifth place by California was the only change, however, in the first ten. Florida and the District of Columbia both advanced four places, and Kansas dropped back five places.

Taking the States in large groups, it may be noted that all of the Northern States, that is, the first four of the geographic divisions shown on page 608, which had nearly 60 per cent of the 1930 population, show only about one-third of the increase between 1930 and 1940. The Southern States, however, comprising the next three geographic divisions as shown in the table, which had less than 31 per cent of the 1930 population, show nearly 43 per cent of the increase; and the Western States, comprising the Mountain and Pacific Divisions, which had less than 10 per cent of the 1930 population, show more than 22 per cent of the increase.

On Apr. 1, 1940, there were 37,987,989 persons living in the 92 cities which had a population of 100,000 or more on that date. These 92 cities had a population of 36,195,171 persons in 1930, showing an increase of 1,792,818 during the decade. This

POPULATION FIGURES FOR THE UNITED STATES, BY DIVISIONS AND STATES

[A minus sign (—) denotes decrease]

<i>Division and State</i>	<i>Population</i> 1940	1930	<i>Increase</i> 1930-1940	<i>Per Cent of Increase</i> 1930-1940	<i>1920-1930</i>
United States total	131,669,275	122,775,046	8,894,229	7 2	16 1
New England.					
Maine	847,226	797,423	49,803	6 2	3 8
New Hampshire	491,524	465,293	26,231	5 6	5 0
Vermont	359,231	359,611	—380	—0 1	2 0
Massachusetts	4,316,721	4,249,614	67,107	1 6	10 3
Rhode Island	713,346	687,497	25,849	3 8	13 7
Connecticut	1,709,242	1,606,903	102,339	6 4	16 4
Middle Atlantic					
New York	13,479,142	12,588,066	891,076	7 1	21 2
New Jersey	4,160,165	4,041,334	118,831	2 9	28 1
Pennsylvania	9,900,180	9,631,350	268,830	2 8	10 5
East North Central					
Ohio	6,907,612	6,646,697	260,915	3 9	15 4
Indiana	3,427,796	3,238,503	189,293	5 8	10 5
Illinois	7,897,241	7,630,654	266,587	3 5	17 7
Michigan	5,256,106	4,842,325	413,781	8 5	32 0
Wisconsin	3,137,587	2,939,006	198,581	6 8	11 7
West North Central					
Minnesota	2,792,300	2,563,953	228,347	8 9	7 4
Iowa	2,538,268	2,470,939	67,329	2 7	2 8
Missouri	3,784,664	3,629,367	155,297	4 3	6 6
North Dakota	641,935	680,845	—38,910	—5 7	5 3
South Dakota	642,961	692,849	—49,888	—7 2	8 8
Nebraska	1,315,834	1,377,963	—62,129	—4 5	6 3
Kansas	1,801,028	1,880,999	—79,971	—4 3	6 3
South Atlantic					
Delaware	266,505	238,380	28,125	11 8	6 9
Maryland	1,821,244	1,631,526	189,718	11 6	12 5
District of Columbia	663,091	486,869	176,222	36 2	11 3
Virginia	2,677,773	2,421,851	255,922	10 6	4 9
West Virginia	1,901,974	1,729,205	172,769	10 0	18 1
North Carolina	3,571,623	3,170,276	401,347	12 7	23 9
South Carolina	1,899,804	1,738,765	161,039	9 3	3 3
Georgia	3,123,723	2,908,506	215,217	7 4	0 4
Florida	1,897,414	1,468,211	429,203	29 2	51 6
East South Central					
Kentucky	2,845,627	2,614,589	231,038	8 8	8 2
Tennessee	2,915,841	2,616,556	299,285	11 4	11 9
Alabama	2,832,961	2,646,248	186,713	7 1	12 7
Mississippi	2,183,796	2,009,821	173,975	8 7	12 2
West South Central					
Arkansas	1,949,387	1,854,482	94,905	5 1	5 8
Louisiana	2,363,880	2,101,593	262,287	12 5	16 9
Oklahoma	2,336,434	2,396,040	—59,606	—2 5	18 1
Texas	6,414,824	5,824,715	590,109	10 1	24 9
Mountain					
Montana	559,456	537,606	21,850	4 1	—2 1
Idaho	524,873	445,032	79,841	17 9	3 0
Wyoming	250,742	225,565	25,177	11 2	16 0
Colorado	1,123,296	1,035,791	87,505	8 4	10 2
New Mexico	531,818	423,317	108,501	25 6	17 5
Arizona	499,261	435,573	63,688	14 6	30 3
Utah	550,310	507,847	42,463	8 4	13 0
Nevada	110,247	91,058	19,189	21 1	17 6
Pacific:					
Washington	1,736,191	1,563,396	172,795	11 1	15 2
Oregon	1,089,684	953,786	135,898	14 2	21 8
California	6,907,387	5,677,251	1,230,136	21 7	65 7

## POPULATION OF CITIES AND OTHER URBAN PLACES OF 5000 OR MORE, BY STATES: 1940 AND 1930

[Sixteenth Census of the United States]

Place	1940	1930	Place	1940	1930	Place	1940	1930
<b>ALABAMA</b>			<b>CALIFORNIA—Con.</b>			<b>COLORADO—Con.</b>		
Alexander City...	6,640	4,519	El Centro .....	10,017	8,434	Denver .....	322,412	287,861
Andalusia .....	6,886	5,154	El Cerrito .....	6,137	3,870	Durango .....	5,887	5,400
Annonia .....	25,523	22,345	Eureka .....	17,055	15,752	Englewood .....	9,680	7,980
Bessemer .....	22,826	20,721	Fresno .....	60,685	52,513	Fort Collins .....	12,251	11,489
Birmingham .....	267,583	259,678	Fullerton .....	10,442	10,860	Grand Junction .....	12,479	11,489
Cullman .....	5,074	2,786	Gardena * .....	5,909		Greeley .....	15,995	12,247
Decatur .....	16,604	15,593	Glendale .....	82,582	62,736	La Junta .....	7,040	7,193
Dothan .....	17,194	16,046	Grass Valley .....	5,701	3,817	Longmont .....	7,406	6,029
Eufaula .....	6,269	5,208	Hanford .....	8,234	7,028	Loveland .....	6,145	5,506
Fairfield .....	11,703	11,059	Hawthorne .....	8,263	6,596	Pueblo .....	52,162	50,096
Florence .....	15,043	11,729	Hayward .....	6,736	5,530	Sterling .....	7,411	7,195
Gadsden .....	36,975	24,042	Hermosa Beach .....	7,197	4,796	Trinidad .....	13,223	11,732
Greenville .....	5,075	3,985	Huntington Park .....	28,648	24,591	Walsenburg .....	5,855	5,503
Homewood .....	7,397	6,103	Inglewood .....	30,114	19,480			
Huntsville .....	13,050	11,554	Lodi .....	11,079	6,788			
Jasper .....	6,847	5,313	Long Beach .....	164,271	142,032	<b>CONNECTICUT</b>		
Lanett .....	6,141	5,204	Los Angeles .....	1,504,277	1,238,048	Ansonia .....	19,210	19,898
Mobile .....	78,720	68,202	Lynwood .....	10,982	7,323	Bridgeport .....	147,121	146,716
Montgomery .....	78,084	66,079	Madera .....	6,457	4,665	Bristol .....	30,167	28,451
Opelika .....	8,487	6,156	Manhattan Beach .....	6,398	1,891	Danbury .....	22,339	22,261
Phenix City .....	15,351	13,862	Martinez .....	7,381	6,569	Derby .....	10,287	10,788
Prichard .....	6,084	4,580	Marysville .....	6,646	5,763	East Hartford town .....	18,615	17,125
Selma .....	19,834	18,012	Maywood .....	10,731	6,794	Hartford .....	166,267	164,072
Sheffield .....	7,933	6,221	Merced .....	10,135	7,066	Meriden .....	39,484	38,481
Sylacauga .....	6,269	4,115	Modesto .....	16,379	13,842	Middletown .....	26,495	24,554
Talladega .....	9,298	7,596	Monrovia .....	12,807	10,890	Naugatuck .....	15,388	14,315
Tarrant City .....	6,833	7,341	Montebello .....	8,016	5,498	New Britain .....	68,685	68,128
Troy .....	7,055	6,814	Monterey .....	10,084	9,141	New Haven .....	160,605	162,655
Tuscaloosa .....	27,493	20,659	Monterey Park .....	8,531	6,406	New London .....	30,456	29,640
Tuscumbia .....	5,515	4,533	Napa .....	7,740	6,437	Norwalk .....	39,849	36,019
			National City .....	10,344	7,301	Norwich .....	23,652	23,021
<b>ARIZONA</b>			Oakland .....	302,163	284,063	Putnam .....	7,775	7,318
Bisbee .....	5,853	8,023	Ontario .....	14,197	13,583	Rockville .....	7,572	7,445
Douglas .....	8,623	9,828	Orange .....	7,901	8,066	Shelton .....	10,971	10,115
Flagstaff .....	5,080	3,891	Oxnard .....	8,519	6,285	Southington .....	5,088	5,125
Globe .....	6,141	7,157	Pacific Grove .....	6,249	5,558	Stamford .....	47,938	46,346
Mesa .....	7,224	3,711	Palo Alto .....	16,774	13,652	Stratford town .....	22,580	19,212
Nogales .....	5,135	6,006	Pasadena .....	81,864	76,086	Torrington .....	26,988	26,040
Phoenix .....	65,414	48,118	Petaluma .....	8,034	8,245	Wallingford .....	11,425	11,170
Prescott .....	6,018	5,517	Piedmont .....	9,866	9,333	Waterbury .....	99,314	99,902
Tucson .....	36,818	32,506	Pittsburg .....	9,520	9,610	West Hartford town .....	33,776	24,941
Yuma .....	5,325	4,892	Pomona .....	23,539	20,804	West Haven town .....	30,021	25,808
			Porterville .....	6,270	5,303	Willimantic .....	12,101	12,102
<b>ARKANSAS</b>			Redding .....	8,109	4,188	Winsted .....	7,674	7,883
Arkadelphia .....	5,078	3,380	Redlands .....	14,124	14,177			
Batesville .....	5,267	4,484	Redondo Beach .....	13,092	9,347	<b>DELAWARE</b>		
Blytheville .....	10,652	10,098	Redwood City .....	12,453	8,962	Dover .....	5,517	4,800
Camden .....	8,975	7,273	Richmond .....	23,642	20,093	Wilmington .....	112,504	106,597
Conway .....	5,782	5,534	Riverside .....	34,696	29,696			
El Dorado .....	15,858	16,421	Roseville .....	6,653	6,425	<b>DISTRICT OF COLUMBIA</b>		
Fayetteville .....	8,212	7,394	Sacramento .....	105,938	93,750	Washington .....	663,091	486,869
Fort Smith .....	36,584	31,429	Salinas .....	11,586	10,263			
Helena .....	8,546	8,316	San Anselmo .....	5,790	4,650	<b>FLORIDA</b>		
Hope .....	7,475	6,008	San Bernardino .....	43,646	37,481	Bartow .....	6,158	5,269
Hot Springs .....	21,370	20,238	San Bruno .....	6,519	3,610	Bradenton .....	7,444	5,986
Jonesboro .....	11,729	10,326	San Buenaventura .....			Clearwater .....	10,136	7,607
Little Rock .....	88,039	81,679	(Ventura) .....	13,264	11,603	Coral Gables .....	8,294	5,697
Malvern .....	5,290	5,115	San Diego .....	203,341	147,995	Daytona Beach .....	22,584	16,398
North Little Rock .....	21,137	19,418	San Fernando .....	9,094	7,567	De Land .....	7,041	5,246
Paragould .....	7,079	5,966	San Francisco .....	634,536	634,394	Fort Lauderdale .....	17,996	6,666
Pine Bluff .....	21,290	20,760	San Gabriel .....	11,867	7,224	Fort Myers .....	10,604	9,082
Russellville .....	5,927	5,628	San Jose .....	68,457	57,651	Fort Pierce .....	8,040	4,803
Stuttgart .....	5,628	4,927	San Leandro .....	14,601	11,455	Gainesville .....	13,757	10,465
Texarkana * .....	11,821	10,764	San Luis Obispo .....	8,881	8,276	Hollywood .....	6,239	2,869
Van Buren .....	5,422	5,182	San Marino .....	8,175	3,750	Jacksonville * .....	173,065	129,549
			San Mateo .....	19,403	13,444	Key West .....	12,927	12,831
<b>CALIFORNIA</b>			San Rafael .....	8,573	8,022	Lake City .....	5,836	4,416
Alameda .....	36,256	35,033	Santa Ana .....	31,921	30,322	Lakeland .....	22,068	18,554
Albany .....	11,493	8,569	Santa Barbara .....	34,958	33,613	Lake Wales .....	5,024	3,401
Alhambra .....	38,935	29,472	Santa Clara .....	6,650	6,302	Lake Worth .....	7,408	5,940
Anaheim .....	11,031	10,995	Santa Cruz .....	16,896	14,395	Marianna .....	5,079	3,372
Antioch .....	5,106	3,563	Santa Maria .....	8,522	7,057	Miami .....	172,172	110,637
Arcadia .....	9,122	5,216	Santa Monica .....	53,500	37,146	Miami Beach .....	28,012	6,494
Asusa .....	5,209	4,808	Santa Paula .....	8,986	7,452	Ocala .....	8,986	7,281
Bakersfield .....	29,252	26,015	Santa Rosa .....	12,605	10,636	Orlando .....	36,736	27,330
Bell .....	11,264	7,884	South Gate .....	26,945	19,632	Palatka .....	7,140	6,500
Belvedere township .....	37,192	33,023	South Pasadena .....	14,356	13,730	Panama City .....	11,610	5,402
Berkeley .....	85,547	82,109	South San Francisco .....	6,629	6,193	Pensacola .....	37,449	31,579
Beverly Hills .....	26,823	17,429	Stockton .....	54,714	47,963	Plant City .....	7,491	6,800
Brawley .....	11,718	10,439	Torrance .....	9,950	7,271	River Junction .....	7,110	5,624
Burbank .....	34,337	16,662	Tulare .....	8,259	6,207	St. Augustine .....	12,090	12,111
Burlingame .....	15,940	13,270	Upland .....	6,316	4,713	St. Petersburg .....	60,812	40,425
Calexico .....	5,415	6,299	Vallejo .....	20,072	16,072	Sanford .....	10,217	10,100
Chico .....	9,287	7,961	Visalia .....	8,904	7,263	Sarasota .....	11,141	8,398
Chula Vista .....	5,138	3,869	Watsonville .....	8,937	8,344	Tallahassee .....	16,240	10,700
Coalinga .....	5,026	2,851	Whittier .....	16,115	14,822	Tampa .....	108,391	101,161
Colton .....	9,686	8,014	Woodland .....	6,637	5,542	West Palm Beach .....	33,693	26,610
Compton .....	16,198	12,516				Winter Haven .....	6,199	7,130
Corona .....	8,764	7,018	<b>COLORADO</b>					
Coronado .....	6,932	5,425	Alamosa .....	5,613	5,107	<b>GEORGIA</b>		
Culver City .....	8,976	5,669	Boulder .....	12,958	11,223	Albany .....	19,055	14,507
Daly City .....	9,625	7,838	Canon City .....	6,690	5,938	Americus .....	9,281	8,760
			Colorado Springs .....	36,789	33,237	Athens .....	20,650	18,192

## POPULATION OF CITIES AND OTHER URBAN PLACES OF 5000 OR MORE, BY STATES: 1940 AND 1930—(Continued)

Place	1940	1930	Place	1940	1930	Place	1940	1930
<b>GEORGIA—Con.</b>			<b>ILLINOIS—Con.</b>			<b>INDIANA—Con.</b>		
Atlanta .....	302,288	270,366	Forest Park .....	14,840	14,555	Evansville .....	97,062	102,249
Augusta .....	65,919	60,342	Freeport .....	22,366	22,045	Fort Wayne .....	118,410	114,946
Bainbridge .....	6,352	6,141	Galesburg .....	28,876	28,830	Frankfort .....	13,706	12,196
Brunswick .....	15,035	14,022	Glencoe .....	6,825	6,295	Franklin .....	6,264	5,682
Carrollton .....	6,214	5,052	Glen Ellyn .....	8,055	7,680	Gary .....	111,719	100,426
Cartersville .....	6,141	5,250	Granite City .....	22,974	25,130	Goshen .....	11,375	10,397
Cedartown .....	9,025	8,124	Harrisburg .....	11,453	11,625	Greensburg .....	6,065	5,702
College Park .....	8,213	6,604	Harvey .....	17,878	16,374	Hammond .....	70,184	64,560
Columbus .....	53,280	43,131	Herrin .....	9,352	9,708	Hartford City .....	6,946	6,613
Cordele .....	7,929	6,880	Highland Park .....	14,476	12,203	Hobart .....	7,166	5,787
Dalton .....	10,448	8,160	Hinsdale .....	7,336	6,923	Huntington .....	13,903	13,420
Decatur .....	16,561	13,276	Hoopeston .....	5,381	5,613	Indianapolis .....	386,972	364,161
District 1511			Jacksonville .....	19,844	17,747	Jasper .....	5,041	3,905
Center Hill .....	12,155	8,460	Johnston City .....	5,418	5,955	Jeffersonville .....	11,493	11,946
Douglas .....	5,175	4,206	Joliet .....	42,365	42,993	Kendallville .....	5,431	5,439
Dublin .....	7,814	6,681	Kankakee .....	22,241	20,620	Kokomo .....	33,795	32,843
East Point .....	12,403	9,512	Kewanee .....	16,901	17,093	Lafayette .....	28,798	26,240
Elberton .....	6,188	4,650	La Grange .....	10,479	10,103	La Porte .....	16,180	15,755
Fitzgerald .....	7,388	6,412	Lake Forest .....	6,885	6,554	Lebanon .....	6,529	6,445
Gainesville .....	10,243	8,624	La Salle .....	12,812	13,149	Linton .....	6,263	5,085
Griffin .....	13,222	10,321	Lawrenceville .....	6,213	6,303	Logansport .....	20,177	18,508
Hapeville .....	5,059	4,224	Lancaster .....	12,752	12,855	Madison .....	6,923	6,530
La Grange .....	21,983	20,131	Litchfield .....	7,048	6,612	Marion .....	26,767	24,496
Macon .....	57,865	53,829	Lombard .....	7,075	6,197	Martinsville .....	5,009	4,962
Marietta .....	8,667	7,638	Macomb .....	8,764	8,509	Michigan City .....	26,476	26,735
Milledgeville .....	6,778	5,534	Madison .....	7,782	7,661	Michawaka .....	28,298	28,630
Moultrie .....	10,147	8,027	Marion .....	9,251	9,033	Mount Vernon .....	5,638	5,035
Newnan .....	7,182	6,386	Mattoon .....	15,827	14,631	Muncie .....	49,720	46,548
Rome .....	26,282	21,843	Maywood .....	26,648	25,829	New Albany .....	25,414	25,819
Savannah .....	95,996	85,024	Maywood Park .....	10,933	10,741	New Castle .....	16,620	14,027
Statesboro .....	5,028	3,996	Metropolis .....	6,287	5,573	Noblesville .....	5,575	4,811
Thomaston .....	6,396	4,922	Moline .....	34,608	32,236	Peru .....	12,432	12,730
Thomasville .....	12,683	11,733	Monmouth .....	9,096	8,666	Plymouth .....	5,362	5,276
Tifton .....	5,228	3,390	Morris .....	6,145	5,568	Portland .....	6,786	7,505
Toccoa .....	5,494	4,602	Mount Carmel .....	6,987	7,132	Princeton .....	37,147	32,493
Valdosta .....	15,595	13,482	Mount Vernon .....	14,724	12,375	Richmond .....	5,960	5,709
Waycross .....	16,763	15,510	Murphysboro .....	8,976	8,182	Rushmore .....	8,620	7,508
			Naperville .....	5,272	5,118	Seymour .....	10,791	10,618
<b>IDAHO</b>			Niles Center .....	7,172	5,007	Shelbyville .....	101,268	104,193
Boise City .....	26,130	21,544	Normal .....	6,983	6,768	South Bend .....	5,077	5,306
Burley .....	5,329	3,826	North Chicago .....	8,465	8,466	Sullivan .....	5,395	4,873
Caldwell .....	7,272	4,974	Oak Park .....	66,015	63,982	Tell City .....	62,693	62,810
Coeur d'Alene .....	10,049	8,297	Olney .....	7,831	6,140	Tipton .....	5,101	4,861
Idaho Falls .....	15,024	9,429	Ottawa .....	16,005	15,094	Valparaiso .....	8,736	8,079
Lewiston .....	10,548	9,403	Pana .....	5,966	5,835	Vincennes .....	18,228	17,564
Moscow .....	6,014	4,476	Paris .....	9,281	8,781	Wabash .....	9,653	8,840
Nampa .....	12,149	8,206	Park Ridge .....	12,063	10,417	Warsaw .....	6,378	5,730
Pocatello .....	18,133	16,471	Pekin .....	19,407	16,129	Washington .....	9,312	9,070
Twin Falls .....	11,851	8,787	Peoria .....	105,087	104,969	West Lafayette .....	6,270	5,095
			Peru .....	8,983	9,121	Whiting .....	10,307	10,880
<b>ILLINOIS</b>			Fontic .....	9,585	8,272	Winchester .....	5,303	4,487
Alton .....	31,255	30,151	Princeton .....	5,224	4,762			
Arlington Heights .....	5,668	4,997	Quincy .....	40,469	39,241			
Aurora .....	47,170	46,589	River Forest .....	9,487	8,829	<b>Iowa</b>		
Batavia .....	5,101	5,045	Riverside .....	7,935	6,770	Albia .....	5,157	4,425
Beardstown .....	6,505	6,344	Rockford .....	84,637	85,864	Ames .....	12,555	10,261
Bellevue .....	28,405	28,425	Rock Island .....	42,775	37,953	Atlantic .....	5,802	5,585
Belwood .....	5,220	4,991	St. Charles .....	5,870	5,377	Boone .....	12,373	11,886
Belvidere .....	8,094	8,123	Salem .....	7,319	4,420	Burlington .....	25,832	26,755
Benton .....	7,372	8,219	Springfield .....	75,503	71,864	Carroll .....	5,389	4,691
Berwyn .....	48,451	47,027	Spring Valley .....	5,010	5,270	Cedar Falls .....	9,349	7,362
Bloomington .....	32,868	30,930	Sterling .....	11,363	10,012	Cedar Rapids .....	62,120	56,097
Blue Island .....	16,638	16,534	Streator .....	14,930	14,728	Centerville .....	8,413	8,147
Brookfield .....	10,817	10,035	Summit .....	7,043	6,548	Chariton .....	5,754	5,365
Cairo .....	14,407	13,532	Taylorville .....	8,313	7,316	Charles City .....	8,681	8,039
Calumet City .....	13,241	12,298	Urbana .....	14,064	13,060	Cherokee .....	7,469	6,443
Canton .....	11,577	11,718	Vandalia .....	5,288	4,342	Clinton .....	26,270	25,726
Carbondale .....	8,550	7,528	Venice .....	5,454	5,362	Council Bluffs .....	41,439	42,048
Centralia .....	16,343	12,583	Villa Park .....	7,236	6,220	Creston .....	8,033	8,615
Champaign .....	23,302	20,348	Waukegan .....	34,241	33,499	Davenport .....	66,039	60,751
Charleston .....	8,197	8,012	West Frankfort .....	12,383	14,683	Decorah .....	5,303	4,581
Chester .....	5,110	3,922	Wheaton .....	7,389	7,258	Des Moines .....	159,819	142,559
Chicago .....	3,396,808	3,376,438	Wilmette .....	17,226	15,233	Dubuque .....	43,892	41,679
Chicago Heights .....	22,461	22,321	Winnetka .....	12,430	12,166	Eaitherville .....	5,651	4,940
Cicero .....	64,712	66,602	Wood River .....	8,197	8,136	Fairfield .....	6,773	6,619
Clinton .....	6,331	5,920	Woodstock .....	6,123	5,471	Fort Dodge .....	22,904	21,895
Collinsville .....	9,767	9,235	Zion .....	6,555	5,991	Fort Madison .....	14,063	13,779
Danville .....	36,919	36,765				Grinnell .....	5,210	4,949
Decatur .....	59,305	57,510	<b>INDIANA</b>			Iowa City .....	17,182	15,340
De Kalb .....	9,146	8,545	Anderson .....	41,572	39,804	Keokuk .....	15,076	15,106
Des Plaines .....	9,518	8,798	Auburn .....	5,415	5,088	Knoxville .....	6,936	4,697
Dixon .....	10,671	9,908	Bedford .....	12,514	13,208	Le Mars .....	5,353	4,788
Downers Grove .....	9,526	8,977	Bicknell .....	5,110	5,212	Marshalltown .....	19,240	17,373
Du Quoin .....	7,515	7,593	Bloomington .....	20,870	18,227	Mason City .....	27,080	23,304
East Moline .....	12,359	10,107	Bluffton .....	5,417	5,074	Muscatine .....	18,286	16,778
East Peoria .....	6,806	5,027	Brazil .....	8,126	8,744	Newton .....	10,462	11,560
East St. Louis .....	75,609	74,347	Clinton .....	7,092	7,936	Oelwein .....	7,801	7,794
Edwardsville .....	8,008	6,235	Columbus .....	11,738	9,935	Oskaloosa .....	11,024	10,123
Effingham .....	6,180	4,978	Connorsville .....	12,898	12,795	Otumwa .....	31,570	28,075
Elgin .....	38,333	35,929	Crawfordsville .....	11,089	10,355	Perry .....	5,977	5,881
Elmhurst .....	15,458	14,055	Decatur .....	5,861	5,156	Red Oak .....	5,763	5,778
Elmwood Park .....	13,689	11,270	East Chicago .....	54,637	54,784	Shenandoah .....	6,846	6,502
Evanston .....	65,389	63,120	Elkhart .....	33,434	32,949	Sioux City .....	82,364	79,183
Flora .....	5,474	4,393	Elwood .....	10,913	10,685	Spencer .....	6,599	5,019



## POPULATION OF CITIES AND OTHER URBAN PLACES OF 5000 OR MORE, BY STATES: 1940 AND 1930—(Continued)

Place	1940	1930	Place	1940	1930	Place	1940	1930
<b>IOWA—Con.</b>			<b>LOUISIANA—Con.</b>			<b>MASSACHUSETTS—Con.</b>		
Storm Lake . . . . .	5,274	4,157	Plaquemine . . . . .	5,049	5,124	Longmeadow town <sup>b</sup> . . . . .	5,790	4,437
Washington . . . . .	5,227	4,814	Ruston . . . . .	7,107	4,400	Ludlow town <sup>b</sup> . . . . .	8,181	8,876
Waterloo . . . . .	51,743	46,191	Shreveport . . . . .	98,167	76,655	Lynn . . . . .	98,123	102,320
Webster City . . . . .	6,738	7,024	Tallulah . . . . .	5,712	3,332	Malden . . . . .	58,010	58,036
			Thibodaux . . . . .	5,851	4,442	Mansfield town <sup>b</sup> . . . . .	6,530	6,364
			West Monroe . . . . .	8,560	6,566	Marblehead town <sup>b</sup> . . . . .	10,856	8,668
<b>KANSAS</b>						Marlborough . . . . .	15,154	15,587
Abilene . . . . .	5,671	5,658				Maynard town <sup>b</sup> . . . . .	6,812	7,156
Arkansas City . . . . .	12,752	13,946	<b>MAINE</b>			Medford . . . . .	63,083	59,714
Atchison . . . . .	12,648	13,024	Auburn . . . . .	19,817	18,571	Melrose . . . . .	25,333	23,170
Chanute . . . . .	10,142	10,277	Augusta . . . . .	19,360	17,198	Methuen town <sup>b</sup> . . . . .	21,880	21,069
Coffeyville . . . . .	17,355	16,198	Bangor . . . . .	29,822	28,749	Middleborough		
Concordia . . . . .	6,255	5,792	Bath . . . . .	10,235	9,110	town <sup>b</sup> . . . . .	9,032	8,608
Dodge City . . . . .	8,487	10,059	Belfast . . . . .	5,540	4,993	Milford town <sup>b</sup> . . . . .	15,388	14,741
El Dorado . . . . .	10,045	10,311	Bildeford . . . . .	19,790	17,633	Millbury town <sup>b</sup> . . . . .	6,983	6,957
Emporia . . . . .	13,188	14,067	Brewer . . . . .	6,510	6,329	Milton town <sup>b</sup> . . . . .	18,708	16,434
Fort Scott . . . . .	10,557	10,763	Brunswick <sup>b</sup> . . . . .	7,003	6,144	Montague town <sup>b</sup> . . . . .	7,582	8,081
Garden City . . . . .	6,285	6,121	Calais . . . . .	5,161	5,470	Natick town <sup>b</sup> . . . . .	13,851	13,589
Great Bend . . . . .	9,044	5,548	Gardiner . . . . .	6,044	5,609	Needham town <sup>b</sup> . . . . .	12,445	10,845
Hays . . . . .	6,385	4,618	Lewiston . . . . .	38,598	34,948	New Bedford . . . . .	110,341	112,597
Hutchinson . . . . .	30,013	27,085	Old Town . . . . .	7,688	7,266	Newburyport . . . . .	13,916	15,084
Independence . . . . .	11,565	12,782	Presque Isle <sup>b</sup> . . . . .	5,456	4,662	Newton . . . . .	69,873	65,276
Iola . . . . .	7,244	7,160	Portland . . . . .	73,643	70,810	North Adams . . . . .	22,213	21,621
Junction City . . . . .	8,507	7,407	Rockland . . . . .	8,899	9,075	Northampton . . . . .	24,794	24,381
Kansas City . . . . .	121,458	121,857	Rumford Falls <sup>b</sup> . . . . .	8,447	8,726	North Andover town <sup>b</sup>	7,524	6,961
Lawrence . . . . .	14,390	13,726	Saco . . . . .	8,631	7,233	town <sup>b</sup> . . . . .	10,359	10,197
Leavenworth . . . . .	19,220	17,466	South Portland . . . . .	15,781	13,840	Northbridge town <sup>b</sup> . . . . .	10,242	9,713
McPherson . . . . .	7,194	6,147	Waterville . . . . .	16,688	15,454	Norwood town <sup>b</sup> . . . . .	15,383	15,049
Manhattan . . . . .	11,659	10,136	Westbrook . . . . .	11,087	10,807	Orange town <sup>b</sup> . . . . .	5,611	5,365
Newton . . . . .	11,048	11,034				Palmer town <sup>b</sup> . . . . .	9,149	9,577
Ottawa . . . . .	10,193	9,563	<b>MARYLAND</b>			Peabody . . . . .	21,711	21,345
Parsons . . . . .	14,294	14,903	Annapolis . . . . .	13,069	12,531	Pittsfield . . . . .	49,684	49,677
Pittsburg . . . . .	17,571	18,145	Baltimore . . . . .	859,100	804,874	Plymouth town <sup>b</sup> . . . . .	13,100	13,042
Pratt . . . . .	6,591	6,322	Cambridge . . . . .	10,102	8,544	Quincy . . . . .	75,810	71,983
Salina . . . . .	21,073	20,155	Cumberland . . . . .	39,483	37,747	Randolph town <sup>b</sup> . . . . .	7,634	6,553
Topeka . . . . .	67,833	64,120	Frederick . . . . .	15,802	14,434	Reading town <sup>b</sup> . . . . .	10,866	9,767
Wellington . . . . .	7,246	7,405	Frostburg . . . . .	7,659	5,588	Revere . . . . .	34,405	35,680
Wichita . . . . .	114,966	111,110	Hagerstown . . . . .	32,491	30,861	Rockland town <sup>b</sup> . . . . .	8,087	7,524
Winfield . . . . .	9,506	9,398	Hyattsville . . . . .	6,575	4,264	Salem . . . . .	41,213	43,353
			Salisbury . . . . .	13,313	10,997	Saugus town . . . . .	14,825	14,700
			Takoma Park	8,938	6,415	Somerset town <sup>b</sup> . . . . .	5,873	5,398
			District 12			Somerville . . . . .	102,177	103,908
			(Baltimore Co.) <sup>b</sup> . . . . .	15,436	11,556	Southbridge town <sup>b</sup> . . . . .	16,825	14,264
			District 13			South Hadley town <sup>b</sup> . . . . .	6,856	6,773
			(Baltimore Co.) <sup>b</sup> . . . . .	13,366	10,466	Spencer town <sup>b</sup> . . . . .	6,641	6,272
						Springfield . . . . .	149,554	149,000
			<b>MASSACHUSETTS</b>			Stonham town <sup>b</sup> . . . . .	10,765	10,060
			Abington town . . . . .	5,708	5,872	Stoughton town <sup>b</sup> . . . . .	10,761	8,204
			Adams town . . . . .	12,608	12,697	Swampscott town <sup>b</sup> . . . . .	10,761	10,346
			Ambesbury town <sup>b</sup> . . . . .	10,862	11,899	Taunton . . . . .	37,395	37,355
			Amherst town <sup>b</sup> . . . . .	6,410	5,888	Uxbridge town <sup>b</sup> . . . . .	6,417	6,285
			Andover town <sup>b</sup> . . . . .	11,122	9,969	Wakefield town <sup>b</sup> . . . . .	16,223	16,318
			Arlington town <sup>b</sup> . . . . .	40,013	36,094	Walpole . . . . .	16,223	7,773
			Attol town <sup>b</sup> . . . . .	11,180	10,677	Waltham . . . . .	40,020	39,247
			Attleboro . . . . .	22,071	21,769	Ware . . . . .	7,557	7,385
			Auburn town <sup>b</sup> . . . . .	6,629	6,147	Watertown town <sup>b</sup> . . . . .	35,427	34,913
			Barnstable town <sup>b</sup> . . . . .	8,333	7,271	Webster town <sup>b</sup> . . . . .	13,186	12,992
			Belmont town <sup>b</sup> . . . . .	26,867	21,748	Wellesley town <sup>b</sup> . . . . .	15,127	11,439
			Beverly . . . . .	25,537	25,086	Westfield . . . . .	18,793	19,775
			Boston . . . . .	770,816	781,188	West Springfield		
			Braintree town <sup>b</sup> . . . . .	16,378	15,712	town <sup>b</sup> . . . . .	17,135	16,684
			Bridgeview town <sup>b</sup> . . . . .	8,902	9,055	Weymouth town <sup>b</sup> . . . . .	23,868	20,882
			Brocton . . . . .	62,343	63,797	Whitman town <sup>b</sup> . . . . .	7,759	7,638
			Brookline town <sup>b</sup> . . . . .	49,786	47,490	Winchendon town <sup>b</sup> . . . . .	6,575	6,202
			Cambridge . . . . .	110,879	113,643	Winchester town <sup>b</sup> . . . . .	15,081	12,719
			Canton town <sup>b</sup> . . . . .	6,381	5,816	Winthrop town <sup>b</sup> . . . . .	16,768	16,852
			Chelsea . . . . .	41,259	45,816	Woburn . . . . .	19,751	19,434
			Chicopee . . . . .	41,664	43,930	Worcester . . . . .	193,694	195,311
			Clinton town <sup>b</sup> . . . . .	12,440	12,817			
			Concord town <sup>b</sup> . . . . .	7,972	7,477			
			Danvers town <sup>b</sup> . . . . .	14,179	12,957			
			Dartmouth town <sup>b</sup> . . . . .	9,011	8,778			
			Dedham town <sup>b</sup> . . . . .	15,508	15,136			
			Dracut town <sup>b</sup> . . . . .	7,339	6,912			
			Easthampton town <sup>b</sup> . . . . .	10,316	11,323			
			Everett . . . . .	46,784	48,424			
			Fairhaven town <sup>b</sup> . . . . .	10,938	10,951			
			Fall River . . . . .	115,428	115,274			
			Fitchburg . . . . .	41,824	40,692			
			Framingham town <sup>b</sup> . . . . .	23,214	22,210			
			Franklin town . . . . .	7,303	7,028			
			Gardner . . . . .	20,206	19,399			
			Gloucester . . . . .	24,046	24,204			
			Great Barrington					
			town <sup>b</sup> . . . . .	5,824	5,934			
			Greenfield town <sup>b</sup> . . . . .	15,672	15,500			
			Haverhill . . . . .	46,752	48,710			
			Hingham town <sup>b</sup> . . . . .	8,003	6,657			
			Holyoke . . . . .	53,750	56,537			
			Hudson town <sup>b</sup> . . . . .	8,042	8,469			
			Ipswich town <sup>b</sup> . . . . .	6,348	5,599			
			Lawrence . . . . .	84,323	85,068			
			Leominster . . . . .	22,226	21,810			
			Lexington town <sup>b</sup> . . . . .	13,187	9,467			
			Lowell . . . . .	101,389	100,234			

POPULATION OF CITIES AND OTHER URBAN PLACES OF 5000 OR MORE, BY STATES: 1940 AND 1930—(Continued)

Place	1940	1930	Place	1940	1930	Place	1940	1930
MICHIGAN—Con.			MINNESOTA—Con.			NEBRASKA		
Grand Haven	8,799	8,345	Stillwater	7,013	7,173	Alliance . . .	6,253	6,669
Grand Rapids . . .	164,292	168,592	Thief River Falls . . .	6,019	4,268	Beatrice . . .	10,883	10,297
Greenville . . . .	5,321	4,730	Virginia . . . . .	12,264	11,963	Columbus . . .	7,632	6,898
Grosse Pointe . . .	6,179	5,173	West St. Paul . . .	5,733	4,463	Fairbury . . . .	6,304	6,192
Grosse Pointe Farms	7,217	5,533	Willmar . . . . .	7,623	6,173	Falls City . . . .	6,146	5,787
Grosse Pointe Park	12,646	11,174	Winona . . . . .	22,490	20,850	Fremont . . . . .	11,862	11,407
Hamtramck . . . .	49,839	56,268	Worthington . . .	5,918	3,878	Grand Island . .	19,130	18,041
Hancock . . . . .	5,554	5,795	MISSISSIPPI			Hastings . . . . .	15,145	15,490
Hastings . . . . .	5,175	5,227	Biloxi . . . . .	17,475	14,850	Kearney . . . . .	9,643	8,575
Highland Park . .	50,810	52,959	Brookhaven . . . .	6,232	5,288	Lincoln . . . . .	81,984	75,933
Hillsdale . . . .	6,381	5,896	Canton . . . . .	6,011	4,725	McCook . . . . .	6,212	6,688
Holland . . . . .	14,616	14,346	Clarksdale . . . .	12,168	10,043	Nebraska City . .	7,339	7,230
Inkster . . . . .	7,044	4,440	Columbia . . . . .	6,064	4,833	Norfolk . . . . .	10,490	10,717
Ionia . . . . .	6,392	6,562	Columbus . . . . .	13,645	10,743	North Platte . . .	12,429	12,061
Iron Mountain . .	11,080	11,652	Corinth . . . . .	7,818	6,220	Omaha . . . . .	223,844	214,006
Ironwood . . . . .	13,369	14,299	Greenville . . . . .	20,892	14,807	Scottsbluff . . .	12,057	8,465
Ishpeming . . . .	9,491	9,238	Greenwood . . . .	14,767	11,123	York . . . . .	5,383	5,712
Jackson . . . . .	49,656	55,187	Grenada . . . . .	5,831	4,349	NEVADA		
Kalamazoo . . . .	54,097	54,786	Gulfport . . . . .	15,195	12,547	Las Vegas . . . .	8,422	5,165
Kingsford . . . .	5,771	5,526	Hattiesburg . . . .	21,026	18,601	Reno . . . . .	21,317	18,529
Lansing . . . . .	78,753	78,397	Hickory . . . . .	62,107	48,282	Sparks . . . . .	5,318	4,508
Lapeer . . . . .	5,365	5,008	Laurel . . . . .	20,598	18,017	NEW HAMPSHIRE		
Lincoln Park . . .	15,236	12,336	McComb . . . . .	9,898	10,057	Berlin . . . . .	19,084	20,018
Ludington . . . .	8,701	8,898	Meridian . . . . .	35,481	31,954	Claremont town . .	12,144	12,377
Manistee . . . . .	8,694	8,078	Natchez . . . . .	15,296	13,422	Concord . . . . .	27,171	25,228
Manistique . . . .	5,399	5,198	Pascagoula . . . .	5,900	4,339	Derry town . . . .	5,400	5,131
Marquette . . . .	15,928	14,789	Piscataway . . . .	5,129	4,698	Dover . . . . .	14,990	13,573
Marshall . . . . .	5,253	5,019	Tupelo . . . . .	8,212	6,361	Exeter town . . .	5,398	4,872
Menominee . . . .	10,230	10,320	Vicksburg . . . . .	24,460	22,943	Franklin . . . . .	6,749	6,576
Midland . . . . .	10,329	8,038	West Point . . . .	5,627	4,677	Keene . . . . .	13,832	13,794
Monroe . . . . .	18,478	18,110	Yazoo City . . . .	7,258	5,579	Laconia . . . . .	13,484	12,471
Mount Clemens . .	14,389	13,497	MISSOURI			Lebanon town . . .	7,590	7,073
Mount Pleasant . .	8,413	5,211	Boonville . . . . .	6,089	6,435	Manchester . . . .	77,685	76,834
Muskegon . . . . .	47,697	41,390	Brookfield . . . .	6,174	6,428	Nashua . . . . .	32,927	31,463
Muskegon Heights	16,047	15,584	Cape Girardeau . .	19,426	16,227	Newport town . . .	5,304	4,659
Negaunee . . . . .	6,813	6,552	Carthage . . . . .	10,585	9,736	Portsmouth . . . .	14,821	14,495
Niles . . . . .	11,328	11,326	Caruthersville . .	6,612	4,781	Rochester . . . .	12,012	10,209
Owosso . . . . .	14,424	14,496	Charleston . . . .	5,182	3,357	Somersworth . . .	6,136	5,680
Petoskey . . . . .	6,019	5,740	Chillicothe . . . .	8,012	8,177	NEW JERSEY		
Plymouth . . . . .	5,360	4,484	Clayton . . . . .	13,069	9,613	Asbury Park . . .	14,617	14,981
Pontiac . . . . .	66,626	64,928	Clinton . . . . .	6,041	5,744	Atlantic City . . .	64,094	66,198
Port Huron . . . .	32,759	31,361	Columbia . . . . .	18,399	14,967	Audubon . . . . .	8,906	8,904
River Rouge . . . .	17,008	17,314	De Soto . . . . .	5,121	5,069	Bayonne . . . . .	79,198	88,979
Roseville . . . . .	9,023	6,836	Ferguson . . . . .	5,724	3,798	Belleville . . . .	28,167	26,974
Royal Oak . . . .	25,087	22,904	Flat River . . . .	5,401		Bergenfield . . . .	10,275	8,816
Saginaw . . . . .	82,794	80,715	Fulton . . . . .	8,297	6,105	Bloomfield . . . .	41,623	38,077
St. Clair Shores . .	10,405	6,745	Hannibal . . . . .	20,865	22,761	Bogota . . . . .	7,346	7,341
St. Joseph . . . .	8,963	8,349	Independence . . .	16,066	15,296	Boonton . . . . .	6,739	6,866
Sault Ste. Marie . .	15,847	13,755	Jefferson City . . .	24,268	21,596	Bound Brook . . .	7,616	7,372
Sturgis . . . . .	7,214	6,950	Joplin . . . . .	37,144	33,454	Bridgeton . . . .	15,992	15,699
Three Rivers . . . .	6,710	6,863	Kansas City . . . .	399,178	399,746	Burlington . . . .	10,905	10,844
Traverse City . . .	14,455	12,539	Kennett . . . . .	6,335	4,128	Camden . . . . .	117,536	118,700
Trenton . . . . .	5,284	4,022	Kirkville . . . . .	10,080	8,293	Carlstadt . . . .	5,644	5,425
Wyandotte . . . .	30,618	28,368	Kirkwood . . . . .	12,132	9,169	Carteret . . . . .	11,976	13,339
Ypsilanti . . . . .	12,121	10,143	Lebanon . . . . .	5,025	3,562	Cliffside Park . . .	16,892	15,267
MINNESOTA			Lexington . . . . .	5,341	4,595	Clifton . . . . .	48,827	46,875
Albert Lea . . . .	12,200	10,169	Maplewood . . . .	12,875	12,657	Collingswood . . .	12,685	12,723
Alexandria . . . .	5,051	3,876	Marshall . . . . .	8,533	8,103	Cranford township . .	12,860	11,126
Anoka . . . . .	6,426	4,851	Maryville . . . . .	5,700	5,217	Dover . . . . .	10,491	10,031
Austin . . . . .	18,307	12,276	Mexico . . . . .	9,053	8,290	Dumont . . . . .	7,556	5,861
Bemidji . . . . .	9,427	7,202	Moberly . . . . .	12,920	13,772	Dunellen . . . . .	5,360	5,148
Brainerd . . . . .	12,071	10,221	Neosho . . . . .	5,318	4,485	East Orange . . .	68,945	68,020
Chisholm . . . . .	7,487	8,308	Nevada . . . . .	8,181	7,448	East Rutherford . .	7,268	7,080
Cloquet . . . . .	7,304	6,782	Poplar Bluff . . .	11,163	7,551	Elizabeth . . . . .	109,912	114,589
Columbia Heights .	6,035	5,613	Richmond Heights .	12,802	9,150	Englewood . . . .	18,966	17,805
Crookston . . . .	7,161	6,321	Rolla . . . . .	5,141	3,670	Fair Lawn . . . .	9,017	5,990
Detroit Lakes . . .	5,015	3,675	St. Charles . . . .	10,803	10,491	Fairview . . . . .	8,770	9,067
Duluth . . . . .	101,065	101,463	St. Joseph . . . .	75,711	80,935	For Lee . . . . .	9,468	8,759
Edina . . . . .	5,855	3,138	St. Louis . . . . .	816,048	821,960	Freehold . . . . .	6,952	6,894
Ely . . . . .	5,970	6,156	Sedalia . . . . .	20,428	20,806	Garfield . . . . .	28,044	29,739
Eveleth . . . . .	6,887	7,484	Sikeston . . . . .	7,944	5,676	Glen Ridge . . . .	7,331	7,365
Fairbault . . . . .	14,527	12,767	Springfield . . . .	61,238	57,527	Glen Rock . . . .	5,177	4,369
Fairmont . . . . .	6,988	5,521	Trenton . . . . .	7,046	6,992	Gloucester City . . .	13,692	13,796
Fergus Falls . . . .	10,848	9,389	University City . . .	33,023	25,809	Guttenberg . . . .	6,200	6,535
Hastings . . . . .	5,662	5,086	Warrensburg . . . .	5,868	5,146	Hackensack . . . .	26,279	24,568
Hibbing . . . . .	16,385	15,666	Webb City . . . . .	7,033	6,876	Haddonfield . . . .	9,742	8,857
International Falls .	5,626	5,036	Webster Groves . .	18,394	16,487	Haddon Heights . .	5,555	5,394
Little Falls . . . .	6,047	5,014	MONTANA			Haledon . . . . .	5,303	4,812
Mankato . . . . .	15,654	14,038	Anaconda . . . . .	11,004	12,494	Hammonon . . . .	7,668	7,636
Minneapolis . . . .	492,370	464,356	Billings . . . . .	23,261	16,380	Harrison . . . . .	14,171	15,601
Montevideo . . . .	5,220	4,319	Bozeman . . . . .	8,665	6,855	Hasbrouck Heights . .	6,716	5,658
Moorhead . . . . .	9,491	7,651	Butte . . . . .	37,081	39,532	Hawthorne . . . .	12,610	11,868
New Ulm . . . . .	8,743	7,308	Great Falls . . . .	29,928	28,822	Highland Park . . .	9,002	8,691
Owatonna . . . . .	8,694	7,654	Havre . . . . .	6,427	6,372	Hillsdale township . .	18,556	17,601
Red Wing . . . . .	9,962	9,629	Helena . . . . .	15,056	11,803	Hoboken . . . . .	50,115	59,261
Richfield . . . . .	6,750	3,344	Kalispell . . . . .	8,245	6,094	Irvington . . . . .	55,328	56,733
Robbinsdale . . . .	6,018	4,427	Lewistown . . . . .	5,874	5,358	Jersey City . . . .	301,173	316,715
Rochester . . . . .	26,312	20,621	Livingston . . . . .	6,642	6,391	Keary . . . . .	39,467	40,716
St. Cloud . . . . .	24,173	21,000	Miles City . . . . .	7,313	7,175	Kearyport . . . . .	5,147	4,940
St. Louis Park . . .	7,737	4,710	Missoula . . . . .	18,449	14,657	Leonia . . . . .	5,763	5,350
St. Paul . . . . .	287,736	271,606				Linden . . . . .	24,115	21,206
St. Peter . . . . .	5,870	4,811						
South St. Paul . . .	11,844	10,009						

## POPULATION OF CITIES AND OTHER URBAN PLACES OF 5000 OR MORE, BY STATES: 1940 AND 1930—(Continued)

Place	1940	1930	Place	1940	1930	Place	1940	1930
<b>NEW JERSEY—Con.</b>			<b>NEW YORK—Con.</b>			<b>NEW YORK—Con.</b>		
Lodi . . . . .	11,552	11,549	Beacon . . . . .	12,572	11,933	Rockville Centre . . .	18,613	13,718
Long Branch . . . .	17,408	18,399	Binghamton . . . . .	78,309	76,662	Rome . . . . .	34,214	32,338
Lyndhurst township .	17,454	17,362	Bronxville . . . . .	6,888	6,387	Rye . . . . .	9,865	8,712
Madison . . . . .	7,944	7,481	Buffalo . . . . .	575,901	573,076	Salamanca . . . . .	9,011	9,577
Manville . . . . .	6,065	5,441	Canandaigua . . . . .	8,321	7,541	Saranac Lake . . . .	7,138	8,020
Maplewood township .	23,139	21,321	Catskill . . . . .	5,429	5,082	Saratoga Springs . . .	13,705	13,169
Metuchen . . . . .	6,557	5,748	Cedarhurst . . . . .	5,463	5,065	Scarsdale . . . . .	12,966	9,690
Millburn township . .	11,652	8,602	Cohoes . . . . .	21,955	23,226	Schenectady . . . .	87,549	95,692
Millville . . . . .	14,806	14,705	Corning . . . . .	16,212	15,777	Scotia . . . . .	7,960	7,437
Montclair . . . . .	39,807	42,017	Cortland . . . . .	15,881	15,043	Seneca Falls . . . .	6,452	6,443
Morristown . . . . .	15,270	15,197	Depew . . . . .	6,084	6,536	Solvay . . . . .	8,201	7,986
Neptune township . .	10,207	10,625	Dobbs Ferry . . . . .	5,883	5,741	Syracuse . . . . .	205,967	209,326
Newark . . . . .	429,760	442,337	Dunkirk . . . . .	17,713	17,802	Tarrytown . . . . .	6,874	6,841
New Brunswick . . .	33,180	34,555	East Aurora . . . .	5,253	4,815	Tonawanda . . . . .	13,008	12,681
Newton . . . . .	5,533	5,401	East Rochester . . . .	6,691	6,627	Troy . . . . .	70,304	72,763
North Arlington . . .	9,904	8,263	East Rockaway . . . .	5,610	4,340	Tuckahoe . . . . .	6,563	6,138
North Bergen . . . .			Elmira . . . . .	45,106	47,397	Tupper Lake . . . .	5,451	5,271
township . . . . .	39,714	40,714	Endicott . . . . .	17,702	16,231	Utica . . . . .	100,518	101,740
North Plainfield . . .	10,586	9,760	Floral Park . . . . .	12,950	10,016	Valley Stream . . . .	16,679	11,790
Nutley . . . . .	21,954	20,572	Fredonia . . . . .	5,738	5,814	Watertown . . . . .	33,385	32,205
Orange . . . . .	35,717	35,399	Freeport . . . . .	20,410	15,467	Watervliet . . . . .	16,114	16,083
Palisades Park . . . .	8,141	7,065	Fulton . . . . .	13,362	12,462	Waverly . . . . .	5,450	5,662
Palmyra . . . . .	5,178	4,968	Garden City . . . . .	11,223	7,180	Wellsville . . . . .	5,942	5,674
Passaic . . . . .	61,394	62,959	Genesee . . . . .	15,555	16,053	White Plains . . . .	40,327	35,830
Paterson . . . . .	139,656	138,513	Glen Cove . . . . .	12,415	11,430	Williston Park . . . .	5,750	4,427
Paulsboro . . . . .	7,011	7,121	Glen Falls . . . . .	18,836	18,531	Yonkers . . . . .	142,598	134,646
Pennsauken township .	17,745	16,915	Gloversville . . . . .	23,329	23,099			
Penns Grove . . . . .	6,488	5,895	Great Neck . . . . .	6,167	4,010	<b>NORTH CAROLINA</b>		
Perth Amboy . . . . .	41,242	43,516	Hamburg . . . . .	5,467	4,731	Asheboro . . . . .	6,981	5,027
Phillipsburg . . . . .	18,314	19,255	Hastings-on-Hudson . .	7,057	7,097	Asheville . . . . .	51,310	50,191
Pitman . . . . .	5,507	5,411	Haverstraw . . . . .	5,909	5,621	Burlington . . . . .	12,198	9,733
Plainfield . . . . .	37,469	34,422	Hempstead . . . . .	20,856	12,650	Canton . . . . .	5,037	5,117
Pleasantville . . . .	11,050	11,580	Herkimer . . . . .	9,617	10,446	Charlotte . . . . .	100,899	82,675
Princeton . . . . .	7,719	6,992	Hornell . . . . .	15,649	16,250	Concord . . . . .	15,572	11,820
Prospect Park . . . .	5,714	5,909	Hudson . . . . .	11,517	12,337	Dunn . . . . .	5,256	4,558
Rahway . . . . .	17,498	16,011	Hudson Falls . . . . .	6,654	6,449	Durham . . . . .	60,195	52,037
Red Bank . . . . .	10,974	11,622	Ilion . . . . .	8,927	9,890	Elizabeth City . . . .	11,564	10,037
Ridgefield . . . . .	5,271	4,671	Irondequoit town . . .	23,376	18,024	Fayetteville . . . . .	17,428	13,049
Ridgefield Park . . .	11,277	10,764	Ithaca . . . . .	19,730	20,708	Forest City . . . . .	5,035	4,069
Ridgewood . . . . .	14,948	12,188	Jamestown . . . . .	42,638	45,155	Gastonia . . . . .	21,313	17,093
Roselle . . . . .	13,597	13,021	Johnson City . . . . .	18,039	13,567	Goldensboro . . . . .	17,274	14,985
Roselle Park . . . . .	9,661	8,969	Johnstown . . . . .	10,666	10,801	Greensboro . . . . .	59,319	53,569
Rutherford . . . . .	15,466	14,915	Kenmore . . . . .	18,612	16,482	Greenville . . . . .	12,674	9,194
Salem . . . . .	8,618	8,047	Kingston . . . . .	28,589	28,088	Hamlet . . . . .	5,111	4,801
Sayreville . . . . .	8,186	8,658	Lackawanna . . . . .	24,058	23,948	Henderson . . . . .	5,381	5,070
Secaucus . . . . .	9,754	8,950	Lancaster . . . . .	7,236	7,040	Hendersonville . . . .	13,487	7,363
Somerville . . . . .	8,720	8,255	Larchmont . . . . .	5,970	5,282	Hickory . . . . .	38,495	36,745
South Amboy . . . . .	7,802	8,476	Little Falls . . . . .	10,163	11,105	High Point . . . . .	6,547	5,632
South Orange . . . .	13,742	13,630	Lockport . . . . .	24,379	23,160	Kings Mountain . . . .	15,388	11,362
South Plainfield . . .	5,379	5,047	Long Beach . . . . .	9,036	9,917	Kinston . . . . .	5,685	3,312
South River . . . . .	10,714	10,759	Lynbrook . . . . .	14,557	11,993	Laurinburg . . . . .	7,598	6,532
Summit . . . . .	16,165	14,556	Malone . . . . .	8,743	8,657	Lenoir . . . . .	10,550	9,652
Teaneck township . . .	25,275	16,513	Malverne . . . . .	13,034	11,766	Lexington . . . . .	5,803	4,140
Tenafly . . . . .	7,413	5,669	Mamaroneck . . . . .	11,328	10,637	Lumberton . . . . .	6,475	6,100
Totowa . . . . .	5,130	4,600	Massena . . . . .	7,449	7,924	Monroe . . . . .	6,682	5,619
Trenton . . . . .	124,697	123,356	Mechanicville . . . . .	5,871	6,071	Mooreville . . . . .	7,670	6,001
Union City . . . . .	56,173	58,659	Medina . . . . .	21,908	21,276	Morgantown . . . . .	6,286	6,045
Union township . . . .	24,730	16,472	Middletown . . . . .	10,064	8,155	Mount Airy . . . . .	11,815	11,981
Ventnor City . . . . .	7,905	6,674	Minneapolis . . . . .	5,941	5,127	New Bern . . . . .	5,407	4,394
Verona . . . . .	8,957	7,161	Mount Kisco . . . . .	67,362	61,499	Newton . . . . .	46,897	37,379
Vineland . . . . .	7,914	7,556	Mount Vernon . . . . .	9,646	7,649	Raleigh . . . . .	10,387	6,851
Wallington . . . . .	8,981	9,063	Newark . . . . .	31,883	31,275	Roanoke Rapids . . . .	8,545	3,404
Weehawken township .	14,363	14,807	Newburgh . . . . .	58,408	54,000	Rocky Mount . . . . .	25,568	21,412
Westfield . . . . .	18,458	15,801	New Rochelle . . . . .	7,454,995	6,930,446	Salisbury . . . . .	19,037	16,951
West New York . . . .	29,439	37,107	New York City . . . .	1,394,711	1,265,258	Shelby . . . . .	14,037	10,789
West Orange . . . . .	25,662	24,327	Bronx Borough . . . .	2,698,285	2,560,401	Statesville . . . . .	11,440	10,490
Westwood . . . . .	5,388	4,861	Brooklyn Borough . . .			Tarboro . . . . .	7,148	6,379
Wildwood . . . . .	5,150	5,330	Manhattan Bor- . . . .			Thomasville . . . . .	11,041	10,090
Woodbridge township .	27,191	25,265	ough . . . . .	1,889,924	1,867,312	Washington . . . . .	8,569	7,035
Woodbury . . . . .	8,306	8,172	Queens Borough . . . .	1,297,634	1,079,129	Wilmington . . . . .	33,407	32,270
Wood-Ridge . . . . .	5,739	5,159	Richmond Borough . . .	174,441	158,346	Wilson . . . . .	19,234	12,613
			Niagara Falls . . . . .	78,029	75,460	Winston-Salem . . . .	79,815	75,274
<b>NEW MEXICO</b>			North Palam . . . . .	5,052	4,890			
Albuquerque . . . . .	35,449	26,570	North Tarrytown . . . .	8,804	7,417	<b>NORTH DAKOTA</b>		
Carlabad . . . . .	7,116	3,708	North Tonawanda . . . .	20,254	19,019	Bismarck . . . . .	15,496	11,090
Clovis . . . . .	10,065	8,027	Norwich . . . . .	8,694	8,378	Devils Lake . . . . .	6,204	5,519
Gallup . . . . .	7,041	5,992	Nyack . . . . .	5,206	5,392	Dickinson . . . . .	5,839	5,025
Hobbs . . . . .	10,619	598	Opensburgh . . . . .	16,346	16,915	Fargo . . . . .	32,580	28,619
Las Cruces . . . . .	8,385	5,811	Olean . . . . .	21,506	21,790	Grand Forks . . . . .	20,228	17,112
Las Vegas city . . . .	5,941	4,719	Oneida . . . . .	10,291	10,558	Jamestown . . . . .	8,790	8,187
Las Vegas town . . . .	6,421	4,378	Onondaga . . . . .	11,731	12,536	Mandan . . . . .	6,685	5,037
Portales . . . . .	5,104	2,519	Ossining . . . . .	15,996	15,241	Minot . . . . .	16,577	16,099
Raton . . . . .	7,607	6,090	Oswego . . . . .	22,062	22,652	Valley City . . . . .	5,917	5,268
Roswell . . . . .	13,482	11,173	Owego . . . . .	5,068	4,742	Williston . . . . .	5,790	5,106
Santa Fe . . . . .	20,325	11,176	Patchogue . . . . .	7,181	6,860			
Silver City . . . . .	5,044	3,519	Peekskill . . . . .	17,311	17,125			
Tucuman . . . . .	6,194	4,143	Pelham Manor . . . . .	5,302	4,908			
			Penn Yan . . . . .	5,308	5,329			
<b>NEW YORK</b>			Plattsburgh . . . . .	16,351	13,349	Akron . . . . .	244,791	255,040
Albany . . . . .	130,577	127,412	Port Chester . . . . .	23,073	22,662	Alliance . . . . .	22,405	23,047
Amityville . . . . .	5,058	4,437	Port Jervis . . . . .	9,749	10,243	Ashtabula . . . . .	12,453	11,141
Amsterdam . . . . .	33,329	34,817	Poughkeepsie . . . . .	40,478	40,288	Ashland . . . . .	21,405	23,301
Auburn . . . . .	35,753	36,652	Rensselaer . . . . .	10,768	11,223	Athens . . . . .	7,696	7,252
Batavia . . . . .	17,267	17,375	Rochester . . . . .	324,975	328,132	Barberton . . . . .	24,028	23,934
						Barnesville . . . . .	5,002	4,602

## POPULATION OF CITIES AND OTHER URBAN PLACES OF 5000 OR MORE, BY STATES: 1940 AND 1930—(Continued)

Place	1940	1930	Place	1940	1930	Place	1940	1930
<b>OHIO—Con.</b>			<b>OHIO—Con.</b>			<b>PENNSYLVANIA—Con.</b>		
Bedford . . . . .	7,390	6,814	University Heights . . . . .	5,981	2,237	Bellefonte . . . . .	5,304	4,804
Bellaire . . . . .	13,799	13,327	Upper Arlington . . . . .	5,370	3,059	Bellevue . . . . .	10,488	10,252
Bellefontaine . . . . .	9,808	9,543	Urbana . . . . .	8,335	7,742	Berwick . . . . .	13,181	12,660
Bellevue . . . . .	6,127	6,256	Van Wert . . . . .	9,227	8,472	Bethlehem . . . . .	58,490	57,892
Berea . . . . .	6,025	5,697	Wadsworth . . . . .	6,495	5,930	Blairsville . . . . .	5,002	5,296
Bexley . . . . .	8,705	7,396	Wapakoneta . . . . .	5,225	5,378	Blakely . . . . .	8,106	8,260
Bowling Green . . . . .	7,190	6,688	Warren . . . . .	42,837	41,062	Bloomsburg . . . . .	9,799	9,093
Bryan . . . . .	5,404	4,689	Washington Court House . . . . .	9,402	8,426	Brackenridge . . . . .	6,400	6,250
Bucyrus . . . . .	9,727	10,027	Wellston . . . . .	5,537	5,319	Braddock . . . . .	18,326	19,329
Cambridge . . . . .	15,044	16,129	Wellsville . . . . .	7,672	7,956	Bradford . . . . .	17,691	19,306
Campbell . . . . .	13,785	14,673	Wilmingon . . . . .	5,971	5,332	Brentwood . . . . .	7,552	5,381
Canton . . . . .	108,401	104,906	Wooster . . . . .	11,543	10,742	Bridgeport . . . . .	5,904	5,595
Cheviot . . . . .	9,043	8,046	Xenia . . . . .	10,633	10,507	Bristol . . . . .	11,895	11,799
Chillicothe . . . . .	20,129	18,340	Youngstown . . . . .	167,720	170,002	Brownsville . . . . .	8,015	2,869
Cincinnati . . . . .	455,610	451,160	Zanesville . . . . .	37,500	36,440	Butler . . . . .	24,477	23,568
Circleville . . . . .	7,982	7,369				Canonsburg . . . . .	12,599	12,558
Cleveland . . . . .	878,336	900,429				Carbondale . . . . .	19,371	20,061
Cleveland Heights . . . . .	54,992	50,945	<b>OKLAHOMA</b>			Carlisle . . . . .	13,984	12,596
Columbus . . . . .	306,087	290,564	Ada . . . . .	15,143	11,261	Carnegie . . . . .	12,663	12,497
Conneaut . . . . .	9,355	9,691	Altus . . . . .	8,593	8,439	Centerville . . . . .	6,317	6,467
Coshocton . . . . .	11,509	10,908	Alva . . . . .	5,055	5,121	Chambersburg . . . . .	14,852	13,788
Cuyahoga Falls . . . . .	20,546	19,797	Anadarko . . . . .	5,579	5,036	Charleroi . . . . .	10,784	11,260
Dayton . . . . .	210,718	200,982	Ardmore . . . . .	16,886	15,741	Cheltenham township . . . . .	19,082	15,731
Defiance . . . . .	9,744	8,818	Bartlesville . . . . .	16,267	14,763	Chester . . . . .	59,285	59,164
Delaware . . . . .	8,944	8,675	Blackwell . . . . .	8,537	9,521	Clairton . . . . .	16,381	15,291
Delphos . . . . .	5,746	5,672	Bristow . . . . .	6,050	6,619	Clearfield . . . . .	9,372	9,221
Dover . . . . .	9,691	9,716	Chickasha . . . . .	14,111	14,099	Coaldale . . . . .	6,163	6,921
East Cleveland . . . . .	39,495	39,667	Clinton . . . . .	6,736	7,512	Coatesville . . . . .	14,006	14,582
East Liverpool . . . . .	23,555	23,329	Cushing . . . . .	7,703	9,301	Collingdale (Darby P. O.) . . . . .	8,162	7,857
East Palestine . . . . .	5,123	5,215	Duncan . . . . .	9,207	8,363	Columbia . . . . .	11,547	11,349
Elyria . . . . .	25,120	25,633	Durant . . . . .	10,027	7,463	Connellsville . . . . .	13,608	13,290
Euclid . . . . .	17,866	12,751	Elk City . . . . .	5,021	5,666	Conshohocken . . . . .	10,776	10,815
Findlay . . . . .	20,228	19,363	El Reno . . . . .	10,078	9,384	Coraopolis . . . . .	11,086	10,724
Fostoria . . . . .	13,453	12,790	Enid . . . . .	28,081	26,399	Corry . . . . .	6,935	7,152
Freemont . . . . .	14,710	13,422	Frederick . . . . .	5,109	4,568	Crafton . . . . .	7,163	7,004
Galion . . . . .	8,685	7,674	Guthrie . . . . .	10,018	9,582	Danville . . . . .	7,122	7,185
Gallipolis . . . . .	7,832	7,106	Henryetta . . . . .	6,905	7,694	Barby . . . . .	10,334	9,899
Garfield Heights . . . . .	16,989	15,589	Hobart . . . . .	5,177	4,982	Dickson City . . . . .	11,548	12,395
Girard . . . . .	9,805	9,859	Holdenville . . . . .	6,632	7,268	Donora . . . . .	13,180	13,905
Grandview Heights . . . . .	6,960	6,358	Hugo . . . . .	5,909	5,272	Dormont . . . . .	12,974	13,190
Greenville . . . . .	7,745	7,036	Lawton . . . . .	18,055	12,121	Du Bois . . . . .	12,080	11,595
Hamilton . . . . .	50,592	52,176	McAlester . . . . .	12,401	11,804	Dunmore . . . . .	23,086	22,627
Ironton . . . . .	15,851	16,621	Miami . . . . .	8,345	8,064	Dupont . . . . .	5,278	5,161
Jackson . . . . .	6,295	5,922	Muskogee . . . . .	32,332	32,026	Duquesne . . . . .	20,693	21,396
Kent . . . . .	8,581	8,375	Norman . . . . .	11,429	9,603	Durysa . . . . .	8,275	8,503
Kenton . . . . .	7,593	7,069	Oklahoma City . . . . .	204,424	185,389	Easton . . . . .	33,589	34,468
Lakewood . . . . .	69,160	70,509	Okmulgee . . . . .	16,051	17,097	East Pittsburgh . . . . .	6,079	6,214
Lancaster . . . . .	21,940	18,716	Paula Valley . . . . .	5,104	4,235	East Stroudsburg . . . . .	6,404	6,099
Lima . . . . .	44,711	42,287	Pawhuska . . . . .	5,443	5,931	Edwardsville . . . . .	7,998	8,847
Lockland . . . . .	5,601	5,703	Perry . . . . .	5,045	4,206	Ellwood City . . . . .	12,329	12,323
Logan . . . . .	6,177	6,080	Ficher . . . . .	5,848	7,773	Emmaus . . . . .	6,151	6,419
Lorain . . . . .	42,125	44,512	Ponce City . . . . .	16,794	16,136	Ephrata . . . . .	6,199	4,988
Mansfield . . . . .	37,154	33,525	Sapulpa . . . . .	12,249	10,533	Etna . . . . .	116,955	115,967
Maple Heights . . . . .	6,728	5,950	Sand Springs . . . . .	6,137	6,674	Exeter . . . . .	7,223	7,493
Marietta . . . . .	16,543	14,285	Seminole . . . . .	11,547	11,459	Farrell . . . . .	7,802	7,724
Marion . . . . .	30,817	31,084	Shawnee . . . . .	22,053	23,283	Fort City . . . . .	13,899	14,359
Martins Ferry . . . . .	14,729	14,524	Stillwater . . . . .	10,097	7,016	Forest Hills . . . . .	5,795	6,127
Massillon . . . . .	26,644	26,400	Tulsa . . . . .	142,157	141,258	Forty Fort . . . . .	5,248	4,549
Massillon . . . . .	5,544	5,518	Vinita . . . . .	5,685	4,263	Frackville . . . . .	6,293	6,224
Middletown . . . . .	31,220	29,992	Wewoka . . . . .	10,315	10,401	Franklin . . . . .	8,035	8,034
Mingo Junction . . . . .	5,192	5,030	Woodward . . . . .	5,406	5,056	Freeland . . . . .	9,948	10,254
Mount Vernon . . . . .	10,122	9,370				Gettysburg . . . . .	6,593	7,098
Nelsonville . . . . .	5,368	5,322	<b>OREGON</b>			Glassport . . . . .	5,916	5,584
Newark . . . . .	31,487	30,596	Albany . . . . .	5,654	5,325	Greensburg . . . . .	8,748	8,390
New Boston . . . . .	6,024	5,931	Astoria . . . . .	10,389	10,349	Greenville . . . . .	16,743	16,508
New Philadelphia . . . . .	12,328	12,365	Baker . . . . .	9,342	7,858	Grove City . . . . .	8,149	8,628
Niles . . . . .	16,273	16,314	Bend . . . . .	10,021	8,848	Hanover . . . . .	6,296	6,156
North College Hill . . . . .	5,231	4,139	Corvallis . . . . .	8,392	7,585	Hanover township . . . . .	13,076	11,805
Norwalk . . . . .	8,211	7,776	Eugene . . . . .	20,838	18,901	Harrisburg township . . . . .	16,439	17,770
Norwood . . . . .	34,010	33,411	Grants Pass . . . . .	6,028	4,666	Harrison township . . . . .	83,893	80,339
Oakwood . . . . .	7,652	6,494	Klamath Falls . . . . .	16,497	16,093	Haverford township . . . . .	13,161	12,387
Painesville . . . . .	12,235	10,944	La Grande . . . . .	7,747	8,050	Hazelton . . . . .	27,594	21,362
Parma . . . . .	16,365	13,899	Marshfield . . . . .	5,259	5,287	Hollidaysburg . . . . .	38,009	36,765
Piqua . . . . .	16,049	16,009	Medford . . . . .	11,281	11,007	Homestead . . . . .	5,910	5,969
Portsmouth . . . . .	40,466	42,560	Oregon City . . . . .	6,124	5,761	Honesdale . . . . .	19,041	20,141
Ravenna . . . . .	8,538	8,019	Pendleton . . . . .	8,847	6,621	Huntington . . . . .	5,687	5,490
Reading . . . . .	6,079	5,723	Portland . . . . .	305,394	301,815	Indiana . . . . .	7,170	7,558
Rocky River . . . . .	8,291	5,632	Salem . . . . .	30,908	26,266	Jeannette . . . . .	10,050	9,569
St. Bernard . . . . .	7,387	7,487	The Dalles . . . . .	6,266	5,883	Jenkintown . . . . .	16,220	15,126
St. Marys . . . . .	5,532	5,433				Jersey Shore . . . . .	5,024	4,797
Salem . . . . .	12,301	10,622	<b>PENNSYLVANIA</b>			Johnstown . . . . .	5,432	5,781
Sandusky . . . . .	24,874	24,622	Abington township . . . . .	20,857	18,648	Kane . . . . .	66,668	66,993
Shaker Heights . . . . .	23,393	17,783	Alliquippa . . . . .	27,023	27,116	Kane . . . . .	6,133	6,232
Shelby . . . . .	6,643	6,198	Allentown . . . . .	96,904	92,563	Kingston . . . . .	20,679	21,600
Sidney . . . . .	9,790	9,301	Altouna . . . . .	80,214	82,054	Kittanning . . . . .	7,550	7,808
South Euclid . . . . .	6,146	4,399	Ambridge . . . . .	18,968	20,227	Kulpmont . . . . .	6,159	6,120
Springfield . . . . .	70,662	68,743	Archbald . . . . .	8,296	9,587	Lancaster . . . . .	61,345	59,949
Steubenville . . . . .	37,651	35,422	Arnold . . . . .	10,898	10,575	Lansdale . . . . .	9,316	8,379
Struthers . . . . .	11,739	11,249	Ashland . . . . .	7,045	7,164	Lansdowne . . . . .	10,837	9,023
Tiffin . . . . .	16,102	16,428	Ashley . . . . .	6,371	7,093	Lansford . . . . .	8,710	9,632
Toledo . . . . .	282,349	280,718	Avalon . . . . .	6,155	5,940	Larksville . . . . .	8,467	9,322
Toronto . . . . .	7,426	7,044	Bangor . . . . .	5,687	5,824	Latrobe . . . . .	11,111	10,644
Troy . . . . .	9,697	8,675	Beaver . . . . .	5,641	5,665			
Uhrichsville . . . . .	6,435	6,437	Beaver Falls . . . . .	17,098	17,147			

## POPULATION OF CITIES AND OTHER URBAN PLACES OF 5000 OR MORE, BY STATES: 1940 AND 1930—(Continued)

Place	1940	1930	Place	1940	1930	Place	1940	1930
<b>PENNSYLVANIA—Con.</b>			<b>PENNSYLVANIA—Con.</b>			<b>TENNESSEE—Con.</b>		
Lebanon .....	27,206	25,561	Upper Darby town- ship <sup>a</sup> .....	56,883	47,145	Jackson .....	24,332	22,172
Lehighton .....	6,615	6,490	Vandergrift .....	10,725	11,479	Johnson City ..	25,332	25,080
Lewistown .....	13,017	13,357	Warren .....	14,891	14,863	Kingsport .....	14,404	11,914
Lock Haven .....	10,810	9,668	Washington .....	26,166	24,545	Knoxville .....	111,580	105,802
Lower Merion town- ship <sup>b</sup> .....	39,566	35,166	Waynesboro .....	10,231	10,167	Lebanon .....	5,950	4,656
Luzerne .....	7,082	6,950	West Chester .....	13,289	12,325	Mayville .....	5,609	4,958
McAdoo .....	5,127	5,239	West Hazleton ..	7,523	7,310	Memphis .....	292,942	253,143
McKeesport .....	55,355	54,632	West Pittston ..	7,943	7,940	Morristown .....	8,050	7,305
McKees Rocks .....	17,021	18,116	West View .....	7,215	6,028	Murfreesboro ..	9,495	7,993
Mahanoy City .....	13,442	14,784	West York .....	5,590	5,381	Nashville .....	167,402	153,866
Meadville .....	18,919	16,698	Wilkes-Barre .....	86,236	86,626	Paris .....	6,395	8,164
Mechanicsburg .....	5,709	5,647	Wilkinsburg .....	29,853	29,639	Pulaski .....	5,314	3,367
Media .....	5,351	5,372	Williamsport .....	44,355	45,729	Shelbyville .....	6,537	5,010
Middletown .....	7,046	6,085	Wilmerding .....	5,662	6,291	Springfield .....	6,668	5,577
Midland .....	6,373	6,007	Wilson .....	8,217	8,265	Union City .....	7,256	5,865
Millvale .....	7,811	8,166	Windber .....	9,057	9,205			
Milton .....	8,313	8,552	Winton .....	7,989	8,508	<b>TEXAS</b>		
Minersville .....	8,686	9,392	Yeadon .....	8,524	5,430	Abilene .....	26,612	23,175
Monaca .....	7,061	4,641	York .....	56,712	55,254	Alamo Heights ..	5,700	3,874
Monessen .....	20,257	20,268				Alice .....	7,792	4,239
Monongahela City ..	8,825	8,675	<b>RHODE ISLAND</b>			Amarillo .....	51,686	43,132
Morrisville .....	5,493	5,368	Barrington town <sup>b</sup> ..	6,211	5,162	Austin .....	87,930	53,120
Mount Carmel .....	17,780	17,967	Bristol town <sup>b</sup> .....	11,159	11,953	Bay City .....	6,594	4,070
Mount Lebanon			Burrillville town <sup>b</sup> ..	8,185	7,677	Beaumont .....	59,061	57,732
township <sup>b</sup> .....	19,571	13,403	Central Falls .....	25,248	25,898	Beville .....	6,789	4,806
Mount Oliver .....	6,981	7,071	Cranston .....	47,085	42,911	Big Spring .....	12,604	13,735
Mount Pleasant .....	5,824	5,869	Cumberland town <sup>b</sup> ..	10,625	10,304	Bonham .....	6,349	5,655
Munhall .....	13,900	12,995	East Providence			Borger .....	10,018	6,532
Nanticoke .....	24,387	26,043	town <sup>b</sup> .....	32,165	29,995	Brady .....	5,002	3,983
Nanty-Glo .....	6,217	5,598	Johnston town <sup>b</sup> ..	10,672	9,357	Breckenridge .....	5,826	7,569
Narberth .....	5,217	4,669	Lincoln town <sup>b</sup> .....	10,577	10,421	Brenham .....	6,435	5,974
Nazareth .....	5,721	5,505	Newport .....	30,532	27,612	Brownsville .....	22,083	22,021
New Brighton .....	9,630	9,950	North Providence			Brownwood .....	15,398	12,789
New Castle .....	47,638	48,674	town <sup>b</sup> .....	12,156	11,104	Bryan .....	11,842	7,814
New Kensington .....	24,055	16,762	Pawtucket .....	75,797	77,149	Cameron .....	5,040	4,565
Northampton .....	9,622	9,839	Providence .....	253,504	252,981	Childress .....	6,464	7,163
Norristown .....	38,181	35,853	Warren town <sup>b</sup> .....	8,158	7,974	Cleburne .....	10,558	11,539
North Braddock .....	15,679	16,782	Warwick .....	28,757	23,196	Coleman .....	6,054	6,078
Oakmont .....	6,260	6,027	Westerly town <sup>b</sup> ..	11,199	10,997	Colorado .....	5,213	4,671
Oil City .....	20,379	22,075	West Warwick town <sup>b</sup> ..	18,188	17,696	Corpus Christi ..	57,301	27,741
Old Forge .....	11,892	12,661	Woonsocket .....	49,303	49,376	Coriscana .....	15,232	15,202
Olyphant .....	9,252	10,743				Crystal City .....	6,529	6,609
Palmerston .....	7,475	7,678	<b>SOUTH CAROLINA</b>			Cuero .....	5,474	4,672
Palmyra .....	5,239	4,377	Aiken .....	6,168	6,033	Dallas .....	294,734	260,475
Philadelphia .....	1,931,334	1,950,961	Anderson .....	19,424	14,383	Del Rio .....	13,743	11,693
Phoenixville .....	12,882	12,029	Camden .....	5,747	5,183	Denton .....	15,581	13,850
Pitcairn .....	6,310	6,317	Charleston .....	71,475	62,265	Denver .....	11,192	9,587
Pittsburgh .....	671,659	669,817	Chester .....	6,392	5,528	Eagle Pass .....	6,459	5,059
Pittston .....	17,828	18,246	Clinton .....	5,704	5,643	Edinburg .....	8,718	4,821
Plains township <sup>b</sup> ..	15,621	16,044	Columbia .....	62,396	51,581	Electra .....	5,588	6,712
Plymouth .....	15,507	16,543	Conway .....	5,066	5,011	El Paso .....	98,810	102,421
Pottstown .....	20,194	19,430	Darlington .....	5,236	5,556	Ennis .....	7,087	7,069
Pottsville .....	24,530	24,300	Easley .....	5,183	4,886	Fair Worth .....	177,662	163,447
Prospect Park .....	5,100	4,623	Florence .....	16,054	14,774	Gainesville .....	9,651	8,915
Punxsutawney .....	9,482	9,266	Gaffney .....	7,636	6,827	Galveston .....	60,862	52,938
Quakertown .....	5,150	4,683	Georgetown .....	5,559	5,082	Goose Creek .....	6,929	5,208
Rankin .....	7,720	7,956	Greenville .....	34,734	29,154	Graham .....	5,175	4,981
Reading .....	110,558	111,171	Greenwood .....	13,020	11,020	Greenville .....	13,995	12,407
Ridgway .....	6,253	6,313	Hartswood .....	5,399	5,067	Hartgen .....	13,306	12,124
Rochester .....	7,441	7,266	Highland .....	6,894	5,443	Henderson .....	6,437	2,932
St. Clair .....	6,809	7,286	Laurens .....	5,746	4,921	Highland Park ..	10,288	8,422
St. Marys .....	7,653	7,433	Marion .....	7,510	7,298	Hillsboro .....	7,799	7,823
Sayre .....	7,569	7,902	Newberry .....	15,009	11,322	Houston .....	384,514	292,552
Schuylkill Haven ..	6,518	6,514	Orangeburg .....	10,521	8,776	Huntsville .....	5,108	5,028
Scottsdale .....	6,493	6,714	Rock Hill .....	32,249	28,723	Jacksonville .....	7,213	6,748
Scranton .....	140,404	143,433	Spartanburg .....	15,874	11,780	Kerrville .....	5,572	4,546
Sewickley .....	5,614	5,599	Sumter .....	8,478	7,419	Kilgore .....	6,708	
Shaler township <sup>b</sup> ..	11,185	9,573	Union .....			Kingsville .....	7,782	6,815
Shamokin .....	18,810	20,274	<b>SOUTH DAKOTA</b>			Lamesa .....	6,038	3,528
Sharon .....	25,622	25,908	Aberdeen .....	17,015	16,465	Laredo .....	39,274	32,618
Sharpsburg .....	8,202	8,642	Brookings .....	5,346	4,376	Lockhart .....	5,018	4,367
Sharpsville .....	5,129	5,194	Huron .....	10,843	10,946	Longview .....	13,758	5,036
Shenandoah .....	19,790	21,782	Lead .....	7,520	5,733	Lubbock .....	31,853	20,520
Shippensburg .....	5,244	4,345	Madison .....	5,018	4,289	Lufkin .....	9,567	7,311
Somerset .....	5,430	4,395	Mitchell .....	10,633	10,942	McAllen .....	11,877	9,074
South Williamsport ..	6,033	6,058	Rapid City .....	13,844	10,404	McKinney .....	8,555	7,307
State College .....	6,226	4,450	Sioux Falls .....	40,832	33,362	Marlin .....	6,542	5,338
Steelton .....	13,115	13,291	Watertown .....	10,617	10,214	Marshall .....	18,410	16,203
Stowe township <sup>b</sup> ..	12,577	13,368	Yankton .....	6,798	6,072	Mercedes .....	7,624	6,608
Stroudsburg .....	6,186	5,961				Mexia .....	6,410	6,597
Summit Hill .....	5,406	5,567	<b>TENNESSEE</b>			Midland .....	9,352	5,484
Sunbury .....	15,462	15,626	Alcoa .....	5,131	5,255	Mineral Wells .....	6,303	5,986
Swissvale .....	15,919	16,029	Athens .....	6,930	5,385	Mission .....	5,982	5,120
Swoyerville .....	9,234	9,133	Bristol .....	14,004	12,005	Nacogdoches .....	7,538	5,687
Tamaqua .....	12,486	12,936	Chattanooga .....	128,163	119,798	Nasvota .....	6,138	5,128
Tarentum .....	9,846	9,551	Clarksville .....	11,831	9,242	New Braunfels .....	6,976	6,242
Taylor .....	9,002	10,428	Cleveland .....	11,351	9,136	Odesa .....	9,573	2,407
Throop .....	7,382	8,027	Columbia .....	10,579	7,882	Orange .....	7,472	7,913
Titusville .....	8,126	8,055	Dyersburg .....	10,034	8,733	Palestine .....	12,144	11,445
Turtle Creek .....	9,805	10,690	Elizabethton .....	8,516	8,093	Pampa .....	12,895	10,470
Tyrone .....	8,845	9,042	Greeneville .....	6,784	5,544	Paris .....	18,678	15,649
Uniontown .....	21,819	19,544	Harriman .....	5,620	4,588	Plainview .....	8,263	8,834
			Humboldt .....	5,160	4,613	Port Arthur .....	46,140	50,902
						Robstown .....	6,780	4,183

## POPULATION OF CITIES AND OTHER URBAN PLACES OF 5000 OR MORE, BY STATES: 1940 AND 1930—(Continued)

Place	1940	1930	Place	1940	1930	Place	1940	1930
<b>TEXAS—Con.</b>			<b>VIRGINIA—Con.</b>			<b>WEST VIRGINIA—Con.</b>		
Rusk .. .. .	5,699	3,859	Newport News	37,067	34,417	Wheeling .. .	61,099	61,659
San Angelo .. .	25,802	25,308	Norfolk	144,332	129,710	Williamson ...	8,366	9,410
San Antonio ...	253,854	231,542	Petersburg	30,631	28,564	<b>WISCONSIN</b>		
San Benito .. .	9,501	10,753	Portsmouth	50,745	45,704	Antigo .. .	9,495	8,610
San Marcos .. .	6,006	5,134	Pulaski .. .	8,792	7,168	Appleton .. .	28,436	25,267
Seguin .. .	7,006	5,225	Radford	6,990	6,227	Ashland .. .	11,101	10,622
Sherman .. .	17,156	15,713	Richmond	193,042	182,929	Baraboo .. .	6,415	5,545
Sulphur Springs	6,742	5,417	Roanoke	69,287	69,206	Beaver Dam ...	10,356	9,867
Sweetwater .. .	10,367	10,848	Salem .. .	5,737	4,833	Beloit .. .	25,365	23,611
Taylor .. .	7,875	7,463	South Boston	5,252	4,841	Chippewa Falls	10,368	9,539
Temple .. .	15,344	15,345	South Norfolk	8,038	7,857	Cudahy .. .	10,561	10,631
Terrell .. .	10,481	8,795	Staunton .. .	13,337	11,990	De Pere .. .	6,373	5,521
Texarkana, Tex.†	17,019	16,602	Suffolk .. .	11,343	10,271	Eau Claire .. .	30,745	26,287
Texas City .. .	5,748	5,534	Waynesboro	7,373	6,226	Fond du Lac ..	27,209	26,449
Tyler .. .	28,279	17,113	Winchester	12,095	10,855	Fort Atkinson	6,153	5,793
University Park	14,458	4,200	<b>STATE OF WASHINGTON</b>			Green Bay .. .	46,235	37,415
Uvalde .. .	6,679	5,286	Anacortes .. .	5,875	6,564	Janesville .. .	22,992	21,628
Vernon .. .	9,277	9,137	Aberdeen .. .	18,846	21,723	Kaukauna .. .	7,382	6,581
Victoria .. .	11,566	7,421	Bellingham .. .	29,314	30,823	Kenosha .. .	48,765	50,262
Waco .. .	55,982	52,848	Bremerton .. .	15,134	10,170	La Crosse .. .	42,707	39,614
Waxahachie .. .	8,655	8,042	Centralia .. .	7,414	8,058	Ladison .. .	67,447	57,899
Weatherford .. .	5,924	4,912	Ellensburg .. .	5,944	4,621	Manitowoc .. .	24,404	22,963
Weslaco .. .	6,883	4,879	Everett .. .	30,224	30,567	Marinette .. .	14,183	13,734
West University			Hoquiam .. .	10,835	12,766	Marshfield .. .	10,359	8,778
Place .. .	9,221	1,322	Kelso .. .	6,749	6,260	Menasha .. .	10,481	9,062
Wichita Falls ..	45,112	43,960	Longview .. .	12,385	10,652	Menomonee ..	6,582	5,595
<b>UTAH</b>			Olympia .. .	13,254	11,733	Merrill .. .	8,711	8,458
Brigham .. .	5,641	5,093	Port Angeles	9,409	10,188	Milwaukee .. .	587,472	578,249
Logan .. .	11,868	9,979	Puyallup .. .	7,889	7,094	Monroe .. .	6,182	5,015
Murray .. .	5,740	5,172	Seattle .. .	368,302	365,583	Neenah .. .	10,645	9,151
Ogden .. .	43,688	40,272	Spokane .. .	122,001	115,514	Oconto .. .	5,362	5,030
Price .. .	5,214	4,084	Tacoma .. .	109,408	106,817	Oshkosh .. .	39,089	40,108
Provo .. .	18,071	14,766	Vancouver .. .	18,788	15,766	Portage .. .	7,016	6,308
Salt Lake City	149,934	140,267	Walla Walla	18,109	15,976	Racine .. .	67,195	67,542
South Salt Lake*	5,701		Wenatchee .. .	11,620	11,627	Rhinelander ..	8,501	8,019
Tooele .. .	5,001	5,135	Yakima .. .	27,221	22,101	Rice Lake .. .	5,719	5,177
<b>VERMONT</b>			<b>WEST VIRGINIA</b>			Shawano .. .	5,565	4,188
Barre .. .	10,909	11,307	Beckley .. .	12,852	9,357	Sheboygan .. .	40,638	39,251
Bennington .. .	7,628	7,390	Bluefield†	20,641	19,339	Shorewood .. .	15,184	13,479
Brattleboro .. .	9,622	8,709	Charleston ..	67,914	60,408	South Milwaukee	11,134	10,706
Burlington .. .	27,686	24,789	Clarksburg ..	30,579	28,866	Sparta .. .	5,820	4,949
Montpelier .. .	8,006	7,837	Dunbar .. .	5,266	4,189	Stevens Point	15,777	13,623
Rutland .. .	17,082	17,315	Elkins .. .	8,133	7,345	Sturgeon Bay	5,439	4,983
St. Albans .. .	8,037	8,020	Fairmont .. .	23,105	23,159	Superior .. .	35,136	36,113
St. Johnsbury ..	7,437	7,920	Grafton .. .	7,431	7,737	Two Rivers ..	10,302	10,083
Springfield ...	5,182	4,943	Hinton .. .	5,815	6,654	Watertown ..	11,301	10,613
Winooski .. .	6,036	5,308	Holidays Cove	6,137	4,480	Waukesha .. .	19,242	17,176
<b>VIRGINIA</b>			Huntington ..	78,836	75,572	Waupun .. .	6,798	5,768
Alexandria .. .	33,523	24,149	Keyser .. .	6,177	6,248	Wausau .. .	27,268	23,758
Arlington County*	57,040	26,615	Logan .. .	5,166	4,396	Wauwatosa ..	27,769	21,194
Bristol* .. .	9,768	8,840	Martinsburg ..	15,063	14,857	West Allis ..	36,364	34,671
Charlottesville ..	19,400	15,245	Morgantown ..	16,655	16,186	West Bend .. .	5,452	4,760
Clifton Forge ..	6,461	6,838	Moundsville ..	14,168	14,411	West Milwaukee	5,010	4,168
Covington .. .	6,300	6,537	Parkersburg ..	30,103	29,623	Whitefish Bay	9,651	5,362
Danville .. .	32,749	22,247	Princeton .. .	7,426	6,953	Wisconsin Rapids	11,416	8,726
Fredericksburg ..	10,066	6,819	Richwood .. .	5,051	5,720	<b>WYOMING</b>		
Hampton .. .	5,898	6,382	South Charleston	10,377	5,904	Casper .. .	17,964	16,619
Harrisonburg ...	8,768	7,232	Welch .. .	6,264	5,376	Cheyenne .. .	22,474	17,361
Hopewell .. .	8,679	11,327	Weston .. .	6,255	6,398	Laramie .. .	10,627	8,609
Lynchburg .. .	44,541	40,661		8,268	8,646	Rawlins .. .	5,531	4,868
Marion .. .	5,177	4,156				Rock Springs ..	9,827	8,440
Martinsville .. .	10,080	7,705				Sheridan .. .	10,529	8,536

\* Population of Texarkana city, Texas, 17,019 in 1940, 16,602 in 1930. † Classified as urban under special rule. \* Incorporated since 1930. \* The 1930 published figures for Vallejo city, California, corrected by inclusion of Mare Island Naval Reservation (1,596). \* South Jacksonville city, Florida, with a 1930 population of 5,597 was incorporated in Jacksonville city in 1932. \* The 1930 published figures for Evanston city, Illinois, corrected by exclusion of New Trier and Niles townships (218), erroneously returned as in Evanston city in 1930. \* The 1930 published figures for Devils Lake city corrected by inclusion of North Dakota School for Deaf and Dumb (68). \* The 1930 published figures for Lansdowne borough and for Upper Darby township, Pennsylvania, corrected by transfer of the population (519) of St. Vincent's Home from Lansdowne to Upper Darby. Upper Darby township classified as urban under special rule. \* Population of Bristol city, Virginia, 9,768 in 1940; 8,840 in 1930. \* Population of Texarkana city, Arkansas, 11,821 in 1940, 10,764 in 1930. \* Population of Bristol city, Tennessee, 14,004 in 1940, 12,005 in 1930. \* Population of Bluefield town, Virginia, 3,921 in 1940; 3,906 in 1930.

change represents an increase in population of 5.0 per cent between 1930 and 1940, as compared with 23.7 per cent for the same cities between 1920 and 1930. It is evident from these figures that the larger cities have been growing much less rapidly since 1930 than during the preceding decade.

The number of cities with a population of 100,000 or more (page 607) was one less in 1940 than in 1930—92 as compared with 93. Sacramento, Calif., and Charlotte, N.C., were newcomers to the list, while El Paso, Tex., Lynn, Mass., and Evansville, Ind., dropped below 100,000 between 1930 and 1940.

New York remained the largest city in the United

States by a wide margin over Chicago. Within the first ten cities, the only change in rank resulted from the passing of St. Louis by Baltimore. Miami jumped all the way from seventy-eighth to forty-eighth, whereas Elizabeth, N.J., dropped from seventy-third to eighty-first. It should be noted that changes in rank among the smaller cities in this group—say those under 200,000—are of little relative significance, since they may result from very small differences in actual population gain.

Twenty-eight of the cities lost population between 1930 and 1940, as compared with only four of the same cities between 1920 and 1930. Three cities, Fall River and Lowell, Mass., and Wilming-

ton, Del., reversed declines observed between 1920 and 1930 and showed slight increases in the last decade. Only one city, Washington, D.C., grew more rapidly between 1930 and 1940 than between 1920 and 1930.

The most rapid growth between 1930 and 1940 occurred in Miami, Fla., which increased by 55.6 per cent. San Diego, Calif. (37.4 per cent), and Washington, D.C. (36.2 per cent), were second and third, respectively. It may be noted that no city in the New England or Middle Atlantic Division shows an increase of more than 10 per cent.

See **PLANNING**; articles on States of the United States; **UNITED STATES**. For population movements, see **AGRICULTURE**; **IMMIGRATION**; **JEWS**; **REFUGEES**.

**PORTO SANTO ISLAND.** See **MADEIRA ISLAND**.

**PORTS AND HARBORS.** Few important developments in this country are on record, apart from the usual and continuing enlargement and deepening of channels, and the extension of dock sheds and other facilities. Instead of the usual comprehensive River and Harbor Bill, authorizing innumerable projects, large and small, Congress in 1940 passed a bill authorizing \$37,000,000 for projects considered important in the scheme for national defense.

Most ports date from early times and have grown up with the cities of which they are a part. But occasionally a new port is established under special conditions. An example of this is the port of Hueneme, in California, 75 miles north of Los Angeles, which was opened with ceremony on July 6. Two rock jetties protect an entrance channel 400 ft wide and leading to a basin 1200 x 1400 ft, from which open slips for vessels. One slip, 300 ft. wide, has 1000 ft. of wharf or quay with freight sheds. The purpose of this new port is to accommodate shipping which serves a large local district, and the project was financed entirely by a bond issue of the Oxnard County Port District.

In the harbor of New York, the new municipal Bayonne Terminal, completed by the city of Bayonne, N.J., consists of a quay with 9300 ft. of berthing, sufficient for 15 to 18 modern freight steamers. It is approached from the land by a long earth embankment or causeway across shallow water. A new dry-dock is planned for New York, 1200 ft. long, as in the new locks for the Panama Canal, and sufficient to accommodate the 45,000-ton battleships now being built. It is estimated to cost \$57,000,000, and may be located adjacent to the new Bayonne Terminal, which the Federal government has proposed to purchase for \$3,500,000 to serve as a naval supply depot.

A rail-and-water terminal on the James River at Richmond, Va., opened in 1940, is 90 miles from the Atlantic, but with a channel depth of 25 ft. for navigation. It has a concrete wharf 1250 ft long, two concrete warehouses, and a turning basin 1600 x 700 ft. Its cost was about \$3,526,000. Anticipating increased traffic with the possible extension of canalization of the Mississippi River above the Falls of St. Anthony, the city of Minneapolis has planned harbor works to cost some \$10,000,000, and in 1940 it authorized bonds for \$100,000 for a study of the project. But as Federal resources are now being concentrated on defense measures, it is likely that extending navigation farther up the river will be postponed indefinitely. The city now has a small terminal which handles package freight, grain, and coal. At Mobile, Ala., the growth of the shipping business has necessitated the con-

struction of an additional pier and large transit shed for the Alabama State Docks.

Harbors and ports in war-torn foreign countries have been subjected to savage destructive attacks by guns and bombs, and many large works have been damaged or virtually destroyed. On the other hand, the closing of the Mediterranean and the Suez route to the Far East for commercial shipping has diverted traffic to the old and longer route around the Cape of Good Hope. As a result there has been such a shipping boom and congestion of accommodations for vessels at Cape Town that it has been necessary to expedite large improvements to the harbor. An extensive program of improvement of enlargement had been adopted, and planned to cover a term of years, but the work has been rushed and is to be practically completed in 1941. It includes a large area of land reclaimed from the sea.

The existence of the port of Shanghai, on the Yangtse River, in China, was reported last spring as threatened by a tendency of the river to change its course, and by a possible breaking through of the Yellow River into the valley of the Yangtse. Levees were planned to hold the rivers in check, but war conditions prevented their construction. In Costa Rica, a new port at Golfito has been created by the United Fruit Co., of Boston, for its growing traffic with Central America; this company carries out its harbor developments with its own organization, under concessions.

See **ENGINEERS, U.S.**

E. E. RUSSELL TRATMAN.

**PORTUGAL.** A republic of southwestern Europe. Capital, Lisbon (Lisboa).

**Area and Population.** The area is 35,582 sq. mi. (continental, 34,386; Azores and Madeira, 1196), and the population was estimated at 7,460,000 on Jan. 1, 1939 (6,825,883 at the 1930 census). Living births in 1939, 26.5 per 1000; deaths, 15.5 per 1000. Marriages, 1938, 49,016 (6.6 per 1000); divorces, 822. The 1930 populations of the chief cities were: Lisbon (Lisboa), 594,390 (1936 estimate, 650,000); Oporto (Pôrto), 232,280; Setúbal, 46,398; Funchal (in Madeira), 31,352; Coimbra, 27,333; Braga, 26,692; Évora, 22,061.

**Colonial Empire.** The overseas possessions of Portugal occupy an area of approximately 808,363 square miles. In 1938 the population was estimated to total 9,405,000. Colonies not listed in the accompanying table will be found in separate articles under their respective titles: Namely, **ANGOLA**, **CAPE VERDE ISLANDS**, **MACAO**, **MOZAMBIQUE**.

<i>Colony (Capital)</i>	<i>Sq mi</i>	<i>Population</i>
Portuguese Guinea (Bolama)	13,830	415,220 *
Portuguese India * (Nova-Goa)	1,538	601,000 *
São Thomé and Príncipe (St Thomé)	386	59,000 *
Timor, Portuguese (Dili)	7,308	463,796 *

\* 1938 estimate \* Includes Daman, Diu, and Goa. \* 1936 census.

**National Defense.** Military service is compulsory. The troops in active service included an air force and a motorized regiment and numbered 28,975 officers and men in July, 1939; this, about the normal effective force in time of peace, could be increased by drawing on a body of trained reserves; late in 1939 the army on active duty was reported at a considerably higher figure. The navy is composed of 7 escort vessels, 5 destroyers, 1 torpedo boat, 7 gunboats, 3 submarines, and several auxiliary and noncombatant vessels. The naval per-



sonnel at the outset of 1939 numbered about 6300.

**Education and Religion.** Education is compulsory. The census of 1930 indicated that 67.8 per cent of the population were illiterate. Efforts to spread elementary instruction were thereafter intensified. In 1938 the public elementary schools numbered 7937; teachers, 10,149; pupils, 458,463. In addition, individuals hired by the government gave elementary instruction in small villages to some 50,044 pupils. Secondary schools numbered 43 and had 958 teachers and 18,532 pupils. The three universities and their totals of students were those of Lisbon, 3035; Coimbra, 1631; Oporto, 1213. The Roman Catholic faith prevails. The government maintains religious liberty for the individual but signed in 1940 a concordat with the Holy See assuring the preservation, to the Roman Catholic Church, of several specific rights.

**Production.** Portugal's chief fields of economic production are agriculture, mining, and fishing. Totals, yearly (1939 except where otherwise indicated), of leading products: Meat, 67,700 metric tons; fish, 180,400 metric tons (not to count some kinds otherwise measured), value \$7,160,000; wheat, 5,161,000 quintals; maize, 3,647,000 quintals; rye, 988,000 quintals; oats, 911,000 quintals; barley, 392,000 quintals; potatoes, 6,060,000 quintals; rice (1938), 684,000 quintals; wine, 7,831,000 hectoliters; olive oil (1938), 334,000 quintals; wool, 9000 metric tons. Mineral products, in metric tons, for 1939: Coal, 313,000; pyrites, 673,000; copper (1938), 4900; lead, 800; tin, 1400; tungsten trioxide, 2400. Gold (1938), 192 kilograms, value \$216,020. Manufactured products included, for 1939, 297,000 metric tons of cement and 175 metric tons of rayon; for 1938, 374,288 pair of shoes and 17,044 metric tons of paper. A leading industry, the making of cotton goods, employed some 25,000 persons. The canning of sardines, largely for export, ranked second among manufactures.

**Foreign Trade.** For 1939, imports of merchandise totaled 2,067,000,000 escudos; exports of merchandise, 1,339,000,000 escudos. In trade with the United States, Portugal's imports rose to \$18,146,290 for 1940, from \$10,002,786 for 1939; exports, to \$11,084,579 (1940), from \$6,453,640 (1939). The rise in the U.S. part of the Portuguese foreign trade coincided with obstacles that war put in the way of usual commerce with many other countries.

**Finance.** Totals, in escudos (worth about 4 cents in U.S. money), of the budget for 1940 follow, with 1939 figures in parenthesis: All receipts, 2,800,800,000 (2,815,200,000); extraordinary receipts, 759,000,000 (786,000,000), of which 735,000,000 (776,500,000) from loans; expenditures, 2,799,400,000 (2,813,200,000), of which extraordinary expenditure constituted 769,500,000 (793,400,000). Public debt at the end of 1938 amounted to 7,192,100,000 escudos, of which 3,182,700,000 external. Public debt, Jan. 1, 1940, about 7,511,000,000 escudos (bonded, 6,360,789,000).

**Transportation.** Portugal had about 2232 miles of railway line, including 463 miles of narrow gauge, in 1938. The merchant marine's steamships totaled 225,000 gross metric tons in 1939; motorships, 33,000. Ships entering the port of Lisbon in 1938 numbered 9457 and aggregated 30,309,910 tons. After the outbreak of the European War in 1939 the entries fell off greatly and held below normal until May, 1940. Thereafter they were reported to have made a sharp rally. The rise of Lisbon during the European War, to a place of great importance in civil aviation, led to the con-

struction in 1940 of an adequate, separate airport for overland airplanes, at Portela de Sacavem, in the outskirts of the city. A port at Cabo Ruivo serves oversea airplanes. By this port Pan American Airways operates a frequent service to the United States, opened in 1939. The British Overseas Airways Corporation started trips twice a week between London and Lisbon in 1940. Service by air is maintained with Italy; with Berlin, it was opened in October, 1940.

**Government.** Under a constitution adopted Mar. 19, 1933, Portugal is governed as a corporative State. It has as its executive head a President, elected by the vote of the people to a term of seven years. The people also elect a National Assembly, serving for four years. The popular vote extends to both sexes but is restricted, unequally as to the two, by requirements of literacy or of the payment of direct taxes. A corporative Chamber of 79 appointed members represents the interests of local "autarchies" and of certain social groups, administrative, economic, cultural, and moral. But one single political party is allowed to function. Entitled the National Union, it supports the government of the President. The President is assisted by a cabinet, not amenable to the will of the legislators. President, Gen. Antonio Oscar de Fragoso Carmona (elected, without opposition, Feb. 17, 1935). Premier, Minister of Finance, War, and Foreign Affairs, Dr. Antonio de Oliveira Salazar.

#### HISTORY

The Portuguese government had to accomplish a difficult task in 1940. Last of the European continental States of the Atlantic seaboard untied to German hegemony, it strove to maintain its ancient commercial and territorial accord with Great Britain and to retain Germany's good will. Holding colonies certain to be coveted by the Axis powers, it could not hope to escape a shearing of its golden fleece if it put itself in those powers' hands. The country's trade suffered from the scarcity of shipping to bring and take what it must buy and sell. Refugees, often distressed fugitives, from France and more distant points of origin, pressed in upon Portugal, straining its means to maintain them. The country had no such armed forces as could repel a serious attack by land or hold its colonies; it could ill afford even moderate increase of armament.

**Foreign Policy.** The salient event in Premier Salazar's treatment of foreign affairs was the conclusion, at the outset of August, of an agreement with Spain, binding the two governments to take counsel together in case a threat to the security or independence of either should arise. The agreement, signed at Lisbon, July 30, formed an annex to the existing treaty of non-aggression, concluded in 1939. It was not represented as binding either party to defend the other if attacked. Since the existing Spanish government held definitely friendly relations with Germany, Portugal's forming a closer bond with Spain carried her closer to Germany and in appearance at least, loosened the old bond with Britain. So far as the year's further developments revealed, it left Anglo-Portuguese relations as good as ever. No more than Portugal did Spain evidence much ardor for positive action on the side of Germany and Italy, nor did either betray enthusiasm for the extension of the war into the Peninsula. A dispatch in the *New York Times* of December 25 indicated that in Portugal German propaganda, agents in the guise of commercial travelers, and tools among the police were

rife, as though laying the way for possible military penetration. The fact that Portugal, while free and neutral, afforded to both the warring sides a passage on the Atlantic coast, between the outer world and the European continent, gave both the adversaries some incentive to respect the country's status.

Late in July reports from London told of German moves suggestive of a design to make use of Portuguese islands in the Atlantic—the Azores and Madeira—for harrying British tankers conveying oil from Caribbean ports. On July 25, a few days before the conclusion of the Portuguese-Spanish agreement mentioned above, the British Government announced that it had agreed with Spain and Portugal to let Spain obtain wheat in limited quantity from British Imperial sources and other goods from Portuguese colonies.

**Economic Situation.** A slump in commerce overseas, unemployment, and scarcity of many sorts of goods resulted from the economic dislocations inflicted by the war. The supply both of coal and of gasoline ran low. Locomotives were reported late in the year to be burning wood, except in the cases of important passenger trains. Fewer entries of ships not only limited the exports and imports by sea but deprived many maritime workers of their living. Exports failing, imports of many unessential goods were suspended. The absence of the usual stream of tourists hurt continental Portugal and, still more, Maderia and the Azores. To offset somewhat the difficulties of the year, there sprang up, after the fall of France, an exportation of tungsten, tin, sardines, and bacon overland to Germany. The influx of fugitives from France and other lands overcome by Germany increased the drain on necessities. Portugal admitted, from June through August, many thousands of persons, mainly at the French border, who presented the proper visas. Some, but by no means all, brought adequate supplies of cash; most of them hoped to pass on to other countries. At the end of August 8,000 such persons, by estimate, were in the country. Lack of ships kept them there, though a considerable number of others had by then left. More continued to come. Early in September the government suspended the entry of any more persons on their way to American countries, pending the departure of those already in Portugal and awaiting passage to such destinations.

**Concordat.** The Portuguese Government and the Vatican ratified, June 1, a concordat determining the relations of the government and the Roman Catholic Church. The Church, while not established in the common sense of the word, received specific recognition of its freedom to give religious instruction in the schools, to found and maintain educational institutions of its own, to retain possession of its property, and (under an additional, separate agreement) to conduct missions in the colonies subject to specified regulations. The Church consented to submit to the government the names of intended bishops before their appointment. The government undertook to recognize the special status of Catholic marriages, excluding from the resort to divorce the parties thus united.

See **FAIRS, EXPOSITIONS, AND CELEBRATIONS.**

**PORTUGUESE EAST AFRICA.** See **MOZAMBIQUE.**

**PORTUGUESE GUINEA.** See **PORTUGAL** under *Colonial Empire.*

**PORTUGUESE INDIA.** See **PORTUGAL** under *Colonial Empire.*

**PORTUGUESE WEST AFRICA.** See **ANGOLA.**

**POST OFFICE DEPARTMENT.** Oldest and largest of Federal functions, a going concern when it was securely fixed in the Constitution, the U.S. Post Office Department is the executive agency for the administration of the laws of Congress in the form of postal service. Over 400,000 persons earn their living in the mail establishment, three-fourths in civil service and the remainder under contract. More than half of all regular government employees are engaged in the inter-communication of 45,000 post offices and the postal contact with the rest of the world, as well.

For the past six years postal earnings have been increasing because of the greater hire of postal facilities by the public. From a low point in 1934 the total gain has been \$180,215,463, or 30 per cent to the end of the last fiscal year—June 30, 1940. In the same period postal expense has risen in consequence of increased volume of mail and statutory enactments for the benefit of postal employees. Again from a low point in 1934 the total increased cost has been \$176,999,931, or 27 per cent. This is a true measure of postal progress, for while earnings in fiscal 1940 are again an all-time high in postal history, 1940 expense is but four millions greater than the all-time high of 1930. In sustaining an increase in the volume of business, costs have been controlled.

For the twelve months ended June 30, 1940, the statutory fiscal year in government, the huge transactions from innumerable sources that produce postal service, are seen from the total cash turnover for the year at \$7,860,802,407, as issued by the Comptroller General of the United States. It is more than all money in circulation at any one time and it equals almost sixty dollars from each man, woman, and child in the population, passing through post offices each year in cash. The audited financial result for fiscal 1940 is a net postal surplus of \$18,609,036.01, the sixth surplus in the past seven years. The main statistics are:

Audited expenditure . . . . .	\$807,732,865
Audited revenue . . . . .	766,948,627
Gross postal deficit . . . . .	40,784,238
Deduct: Nonpostal items. . . . .	59,393,274
Net postal surplus . . . . .	\$ 18,609,036

During 1940 there has been serious disruption of postal service with European countries on account of the lack of normal transportation facilities due to war conditions. The volume of both incoming and outgoing mail has decreased about 35 per cent and transportation costs have been increased considerably on account of circuitous dispatch necessary to reach both belligerent and neutral countries.

See **AUTOMOBILES** under *Motor Transportation.* For buildings, see **PUBLIC BUILDINGS ADMINISTRATION.**

FRANK C. WALKER.

**POTASH.** Domestic production, with the aid of small importations from France and Spain, was able to meet domestic demand in 1940. The Carlsbad, New Mexico, area was the leading source. A third mine was opened during 1940 and shipments began in the latter part of the year. A new operation was notable for complete mechanization underground and for some novel chemical features

in its treatment plant. The present capacity of American producers is about 600,000 tons in terms of  $K_2O$ . The price of run-of-mine salts increased from 58½¢ to 60¢ a unit (a unit equals 1 per cent  $K_2O$ ) due principally to the increased cost of handling. The effect of the war was to increase the demand and production of refined salts.

The Bureau of the Census published in 1940 data from the census of mineral industries, 1939, from which the following is taken. Domestic production in 1939 was 532,000 short tons of prepared potassium salts, valued at \$10,039,000. They contained an estimated  $K_2O$  equivalent of 311,000 short tons. Employment averaged 1516 wage earners, who received \$2,666,000, or an average of about 80¢ per man-hour. Production was reported by five companies operating five mines, including two natural brine operations.

See FERTILIZERS; GENERAL LAND OFFICE; GEOLOGY; NEW MEXICO.

H. C. PARMELEE.

**POTATOES.** The 1940 potato crop was estimated by the U.S. Department of Agriculture at 397,722,000 bu. harvested from 3,052,800 acres averaging 130.3 bu. compared with 363,159,000 bu. in 1939, 3,017,700 acres, and 120.3 bu.; and the 1929-38 average of 366,949,000 bu., 3,295,700 acres, and 111.5 bu. The eighteen surplus late potato states produced 271,439,000 bu. and were led by Maine with 44,055,000 bu., Idaho 32,860,000, New York 26,838,000, and Pennsylvania 24,570,000 bu. The twelve other late potato states made 41,381,000 bu., with Ohio 11,800,000 bu. leading the group. These thirty late potato states made a total of 312,820,000 bu. The seven intermediate potato states led by Virginia with 10,412,000 bu. totaled 36,207,000 bu. and the twelve early potato states led by California with 10,260,000 bu. and North Carolina with 8,720,000 bu. totaled 48,695,000 bu. The seasonal average price per bu. (preliminary) received by farmers in late potato states was 54.0 cents; in intermediate states 59.3 cents; and in early potato states 74.3 cents or a national average of 56.4 cents and an estimated value of production of \$224,431,000 in 1940 compared to 69.3 cents and \$251,733,000 in 1939.

Potato crops (1940) reported from other leading producing countries included Germany 2,411,088,000 bu., Hungary 126,488,000, Italy 109,253,000, Lithuania 97,666,000, Sweden 82,294,000, Yugoslavia 70,179,000, Finland 55,850,000, Rumania 51,405,000, Norway 41,482,000, and Canada 70,500,000 bu.

**POTTERY.** See SCULPTURE.

**POULTRY.** The close of 1940 presented a generally favorable situation for the poultry producer. Domestic demand steadily improved during the late months, which was reflected in stronger prices for all poultry products. Farm prices for eggs, chickens, and turkeys were 31, 11, and 2 per cent higher respectively during December, 1940, than for the corresponding period of 1939. Feedstuffs were plentiful and the feed-egg price ratio was more favorable to the poultryman in December than at any time during the preceding two years.

Total egg production in 1940 reached 38,892 million, 2 per cent above that of 1939 and 7 per cent above the preceding 10 year average. However, the 321,682,000 laying hens on farms at the close of the year was 1.3 per cent lower than a year earlier. It was estimated that about 108 million salable chicks were produced by commercial hatch-

eries during 1940 or 10 per cent fewer than in 1939. However, improved broiler prices late in the year resulted in a strong demand for chicks, so that hatchings during December, 1940, were 20 per cent higher than a year earlier. Tentative estimates (subject to change) show that 2,220,000,000 lb. of chickens and 403,000,000 lb. of turkeys, on a dressed weight basis, were produced in 1940, 10 and 2 per cent respectively below 1939 levels. Chickens made up about 11 per cent and turkeys 1.7 per cent of the total meat consumed in the United States.

A record crop of about 33,138,000 turkeys was raised in 1940, but heavy losses on farms during November storms reduced the total marketed to slightly below that of 1939. The trend toward the production of earlier maturing, lighter weight turkeys has continued, with much experimental breeding work being directed to improving this type of bird.

A heavier-than-normal movement of poultry into frozen storage during December brought the total stocks at the end of the year to 208,234,000 lb. as compared with 167,634,000 lb. a year earlier. The stocks of shell eggs in cold storage on Jan. 1, 1941, totaled 618,000 cases, 16 per cent above that at the beginning of 1940. Nearly half of this total was owned by the Surplus Marketing Administration (q.v.) for relief distribution. Stocks of frozen eggs at the end of the year totaled 72,756,000 lb., which closely corresponds with the preceding 5-year average at this season. Heavy purchases of eggs were made under the Food Stamp Plan (see Federal Surplus Commodities Corporation), reaching nearly 3 million dozen during December, 1940. Total distribution of eggs under this plan during the year was 24,840,000 dozen.

Foreign trade in poultry products was of small importance during 1940. Exports, consisting mainly of shell eggs, totaled about one million dollars, while imports, mainly of dried yolks, were less than half as great. World trade in eggs was generally disrupted during the year. Egg exports from China, which have been at a low level since the beginning of the Japanese invasion, continued to be far below normal during 1940. Great Britain, which normally imports about 40 per cent of its egg supply, faced a serious shortage in this commodity as early as July, 1940. Poultry populations have been drastically reduced in many European countries, as a result of declining feed supplies, since all major producing countries are heavily dependent on feed imports.

E. C. ELTING.

**POWER PLANTS.** Following the 1939 upward swing in power plant construction, which continued into 1940, came the National Defense Program, the effects of which became apparent in the late summer and fall. This involved, not only further expansion of capacity by the electric utilities, but also much power-generating equipment to serve newly created munitions plants, the enlargement of government arsenals and navy yards, and many industrial establishments handling defense orders either directly or indirectly. The power demands created by the Defense Program were superimposed on those incident to a large commercial production and thus established a new high mark in power plant construction. Added to this was the vast naval and merchant marine ship-building program which involves large orders for marine boilers and turbines as well as auxiliary equipment.

During the year the Federal Power Commission issued a report containing statistics as of Dec. 31, 1939, covering the installed capacity in stationary plants generating power for public use, arranged as to type of prime mover and the character of ownership. These showed 40,317,924 total installed kilowatts of which 28,046,948, or 69.5 per cent, was in steam plants, 11,415,165 in water power, and 855,811 in internal combustion engines. The total fuel consumed was 42,441,000 tons of bituminous coal, 2,244,000 tons of anthracite, 1,538,000 tons of lignite, 17,423,000 bbl. of oil, and 191,131 million cu. ft. of gas. An average of 1.35 lb. of coal was consumed per kilowatt-hour output although many of the more modern stations produced a kw-hr on much less than one lb. of coal. Privately owned central stations, with 87.7 per cent of the total capacity, produced 90.4 per cent of the total output of electricity exclusive of that produced by private industrial and other isolated power plants.

Figures covering steam power added during 1940, as compiled by the Edison Electric Institute, indicate that the utilities added 1,380,000 kw of capacity during the year, making allowances for equipment retired from service. Their present construction program calls for 3,412,000 kw additional capacity to be added in 1941. The topping of older stations with high-pressure boilers and turbines continued, but the capacity thus added is becoming a smaller percentage of the total new construction because of the very considerable number of new stations being built.

There has been a steady increase in the average capacity of steam generating units and turbines although previous maximum sizes have not been exceeded. The largest boiler ordered during the year was for a rated steam output of a million lb. per hour at 1775 lb. pressure, 955 deg. F total steam temperature, and the largest turbine-generator was for 100,000 kw. Nine other boilers of like capacity, but lower pressure, have been in service for some time as have also larger turbine-generators. Similarly, average steam pressures and steam temperatures are increasing and, in the light of experience gained during the last few years, together with advances in metallurgy, the upper limit of steam temperature for regular commercial operation has already reached 960 deg. F. Where such high steam temperatures are employed the permissible operating temperatures for valves and turbine materials has made necessary close control of the superheat. The net result has been a general rise in the level of station efficiencies, with a large number of plants now generating a kw-hr on well under 12,000 B.t.u. and several are not far from the record of 10,746 B.t.u. per kw-hr for steam plants operating on the condensing regenerative cycle, established by the Port Washington Station of the Wisconsin Electric Power Company. Reliability of equipment has also been increased and thus lessened the amount of reserve capacity needed.

In the utility field at least half the new steam generating capacity has been in units of 400,000 lb. per hour and over, with the steam pressures divided between medium and high pressure. In general, the turbine sizes ranged from 50,000 to 80,000 kw with a few units above or below these figures.

A notable advance in steam-generating practice is a forced-circulation boiler being built for the Somerset, Mass., Station of the Montaup Electric Company, which is scheduled for operation late in 1941. This will have a rated output of 650,000 lb. of steam per hour at 2000 lb. pressure and 960 deg. F total steam temperature. The heat-absorbing

surface is made up of circuits of small-diameter tubes containing inlet orifices to proportion the water supplied to each tube, and positive circulation is assured by circulating pumps which function independent of the regular boiler-feed pumps. Although units of this type, but of much smaller capacity and lower pressure, are in operation abroad, this is the first to be employed on a commercial scale in the United States. The boiler will be fired by pulverized coal in the conventional manner and have a continuous slag-drip furnace bottom. Because of the extremely high pressure all joints throughout the unit will be welded.

A mercury boiler embodying a new design replaced the original mercury boiler at the Kearny Station of the Public Service Electric & Gas Company in New Jersey. This new boiler has a single drum, instead of seven as in the first boiler, and the furnace is completely enclosed with tubes containing mercury. It supplies a 20,000-kw mercury turbine. The exhaust from the mercury turbine generates steam at 355 lb. pressure in a condenser-boiler and the net heat rate of this mercury-steam installation, operating on the binary cycle, on test ranged from 9168 to 10,076 B.t.u. per kw-hr.

Trends in present steam-generator design include (1) wider spacing of superheater elements and lower gas velocity past them in order to minimize slag accumulations on these surfaces; (2) a reversion to conservative furnace heat-release rates for stationary plant practice; and (3) the elimination of intermediate furnace water-wall headers by welding the tube ends so as to form continuous tubes the full height of the furnace. Research has included studies of heat absorption and circulation; investigations of factors influencing the fluid temperature of ash; further developments in steam washing to minimize the carry-over of entrained solids from the boiler water; new methods of combating the presence of soluble silica compounds in feed-water; and improvements in pulverized-coal burner design.

There has been little change in industrial power plant practice, although larger units and higher steam pressures are being more widely used and the need for speedy delivery of equipment and assured reliability has resulted in innovations giving place to well-tried designs of proven performance.

Reviewing the methods of firing boilers ordered and installed during the year, it would appear that for capacities below 30,000 lb. of steam per hour stoker firing is general; from 30,000 to 150,000 lb. capacity both stokers and pulverized coal are competitive, with the number burning pulverized coal increasing as the capacity increases; and above 150,000 lb. per hour pulverized coal is predominant. An exception is noted in the case of two high-pressure boilers, each of 185,000 lb. output, nearing completion at the Cedar Street Station in Harrisburg, Pa., each of which will be fired by a traveling-grate stoker burning small reclaimed river anthracite. These stokers are the largest single stokers of their kind yet built, each having a grate area of 586 sq. ft. Use of the spreader type stoker has increased, particularly for smaller units in industrial plants, although one installation of such stokers now under construction will serve boilers of 150,000 lb. per hour steam output. This type of stoker has also been installed in the marine field under boilers on a Great Lakes steamer.

Oil or gas in certain localities is being used for firing boilers of all sizes, but the rise in price of oil toward the end of 1939 and the uncertainty of supply because of possible naval demands was re-

sponsible for a decrease in the number of new stationary boilers so fired.

The improved economy of steam plants has continually lowered the amount of coal burned per kw-hr; hence, despite the greater load imposed by increased production and defense demands, it is anticipated that coal-mining facilities will be adequate to keep pace with demands. During October the new minimum bituminous coal prices, as prescribed under the present Bituminous Coal Act, went into effect, providing lesser differentials between the poorer and the better grades of coal. This has resulted in an increased price of certain coals.

Equipment for arresting the dust, cinders, and fly ash contained in flue gases is now being extensively employed in power plants where stack discharge presents a potential source of nuisance to the community. For very large plants the electrostatic type of arrestor predominates but the mechanical type is being used extensively in the smaller and medium size plants, and recent improvements in the efficiency of the mechanical arrestor has resulted in its application to several large installations.

The steam turbine continues to be pre-eminent in the field of power generation, for both central stations and industrial power plants of large and medium size, and use of hydrogen cooling for large generators continues to increase.

The first 3600-r.p.m. quadruple-flow steam turbine-generator, a 100,000-kw machine operating at 1200 lb. pressure and 950 deg. F steam temperature, went into service at Burlington, N.J., last fall; and the largest single-casing, single-flow turbine built in this country, a unit of 80,000 kw capacity at 1250 lb. pressure and 900 deg. F steam temperature and 1800 r.p.m., was placed in service in a new power station at Oswego, N.Y. The largest 3600 r.p.m. turbine-generator yet ordered is a 75,000-kw maximum capacity machine for the new Wilmington Station of the City of Los Angeles to supplement hydro power from Boulder Dam.

The first turbine unit having a spring-mounted stator core, to eliminate frequency vibration, went into operation in August at the Westport Station in Baltimore.

Research in the field of turbine materials was continued, and at the Schuylkill Station in Philadelphia extensive investigations into blade vibration were carried out on a full size impulse wheel of 10,000 kw capacity operating under actual plant conditions at 1250 lb. pressure and 900 deg. F total steam temperature. By means of mirrors placed in the impulse blades and in the hollow shaft, and a light beam, blade vibrations were recorded on a photographic film. From these studies it developed that blade failure is due to fatigue and amplified stress resulting from resonance set up by the shock of the dense steam impingement, superimposed on the natural period of vibration of the blade. This condition exists only at partial loads when intermittent steam admission is involved. The remedy appears to lie in proper damping.

During 1940 approximately  $3\frac{1}{2}$  million h.p. capacity in heavy oil engines was put out. This represented an increase of about 600,000 h.p. over 1939. Of this total, nearly  $1\frac{1}{2}$  million h.p. went into tractors, tanks, the construction field, irrigation pumping, and for mining operations; about 600,000 h.p. was employed in the marine field; slightly more than this in general industrial plants; 213,000 h.p. in railroads; 165,000 h.p. in trucks; 118,000 h.p. in buses; and 87,500 h.p. in municipal light

and water plants. Only about 10,000 h.p. was installed in the private utility field. It is anticipated that the defense program will call for a large number of Diesel engines for tanks during the present year.

The largest engines for stationary plant service were of 3600 h.p. and from this size down to 1000 h.p. the two-cycle type predominated, with rotative speeds of 225 to 720 r.p.m. Among the smaller engines the four-cycle type predominated and higher speeds were general.

Some Diesel locomotives of 4000 h.p. were put into service and improvements in design and construction were responsible for considerable reduction in maintenance. One of the railroads reports the fuel consumption of a light-weight ten-car Diesel-electric train as 1.8 gal. per mile.

In the marine field a number of ships commissioned during the year or under construction for the Maritime Commission are propelled by Diesel engines as were also a large number of smaller craft, including tugboats, ferryboats, and auxiliary naval vessels. In many of these smaller installations Diesel-electric propulsion was employed.

The utilization of the exhaust in waste-heat boilers is showing a marked increase.

A large proportion of the gas engines built last year were employed to drive compressors and pumps in pipe-line service and a few were installed in industrial power plants. In general, the sizes ranged from 25 to 800 h.p.

Extensive employment of the Houdry process of catalytic oil cracking in the United States, requiring large volumes of air at about 50 lb. pressure and making available combustion gases at 900 to 950 F., has been responsible for the use of the gas turbine which utilizes these combustion gases in driving the air compressor. Some excess power is available. While development of the gas turbine for power generation has been continued abroad, notably in Switzerland, and some units have been built for standby plants and for locomotive service, its thermal efficiency has not yet made it attractive for commercial application in stationary plants.

The present total installed water power in the United States, for both public and private use, amounts to over 20 million h.p. which is approximately 25 per cent of the potential hydro power available. During the present year Federal and municipal projects will add 450,000 h.p. and private companies 125,000 h.p., although  $1\frac{1}{4}$  million additional h.p. is due for completion during the next two years. While most of the new hydro construction represents Federal projects a few large units are being put into extensions of existing private plants and a few such new plants, mostly of small capacity, are under construction. An exception is two new plants on the Little Tennessee River in North Carolina upon which construction has recently been started by the Nantahala Power & Light Co. One of these will have a 60,000 h.p. turbine operating under a 999-foot head and the other will have a 30,000 h.p. turbine operating under 1215 feet head. These will be the highest heads thus far employed in the East.

The table on page 623 taken from *Power* of September, 1940, lists the governmental hydro projects, either built or under construction.

It will be noted that the present capacity of Boulder Dam, 1,212,000 h.p., makes it at present the World's largest power plant, although its capacity will be exceeded by that of Grand Coulee. A significant fact is that 75 per cent of the capaci-

<i>Project</i>	<i>State</i>	<i>River</i>	<i>Ultimate Cap., H.p.</i>	<i>Initial Cap. H.p.</i>	<i>Installed H.p.</i>	<i>On Order H.p.</i>
Grand Coulee	Wash.	Columbia	2,742,000	478,000	..	478,000
Booneville	Wash.	Columbia	729,000	137,000	285,000	148,000
Shasta	Calif.	Sacramento	522,000	419,000	...	419,000
Drop No. 3	Calif.	All Am Canal	15,000	7,500	7,500	..
Drop No. 4	Calif.	All Am. Canal	26,600	13,300	13,300	..
Parker Dam	Ariz & Calif.	Colorado	160,000	120,000	...	120,000
Boulder Dam	Ariz & Nev.	Colorado	1,835,000	522,000	1,212,000	115,000
Elephant Butte	N.M.	Rio Grande	34,500	34,500	34,500	..
Seminole	Wyo.	N. Platte	45,000	45,000	45,000	..
Green Mountain	Colo.	Blue	30,000	30,000	.....	30,000
Colo -Big Thompson	Colo.	Colo -Big Thompson	135,000	..	.....	..
Minidoka	Idaho	Snake	26,000	9,000	17,800	..
Fort Peck	Mont.	Missouri	150,000	70,000	.....	70,000
Sutherland	Neb.	N. Platte	35,000	35,000	35,000	..
Monroe	Neb.	Loup	9,600	9,600	9,600	..
Columbus	Neb.	Loup	54,000	54,000	54,000	..
Jeffery Canyon	Neb.	Platte	26,000	26,000	.....	26,000
Johnson No. 1	Neb.	Platte	26,000	26,000	.....	26,000
Johnson No. 2	Neb.	Platte	50,000	25,000	.....	25,000
Pensacola Dam	Okla.	Grand	100,000	80,000	..	80,000
Buchanan Dam	Texas	Colorado	51,900	34,600	34,600	.....
Tom Miller	Texas	Colorado	20,000	20,000	20,000	..
Inks Dam	Texas	Colorado	16,000	16,000	16,000	..
Marshall Ford	Texas	Colorado	90,000	90,000	..	90,000
Possum Kingdom	Texas	Brazos	51,000	34,000	34,000	.....
Kentucky	Tenn.	Tennessee	220,000	..	..	..
Pickwick	Tenn.	Tennessee	330,000	110,000	110,000	55,000
Wilson-	Ala.	Tennessee	610,000	260,000	260,000	70,000
Wheeler	Ala.	Tennessee	360,000	90,000	90,000	90,000
Guntersville	Ala.	Tennessee	136,000	102,000	102,000	..
Hales Bar	Tenn.	Tennessee	44,000	44,000	44,000	..
Chickamauga	Tenn.	Tennessee	144,000	108,000	108,000	..
Watts Bar	Tenn.	Tennessee	210,000	126,000	..	126,000
Fort Loudoun	Tenn.	Tennessee	140,000	105,000	..	..
Hiwassee	Tenn.	Hiwassee	160,000	80,000	80,000	..
Norris	Tenn.	Clinch	132,000	132,000	132,000	..
Santee Cooper	S C	Santee	213,000	173,300	..	173,300
Buzzards	S C	Saluda	30,000	22,200	22,200	..

ty represented by Federal projects is west of the Mississippi in an area that contains only 30 per cent of the population of the country. It is also noteworthy that the Tennessee Valley Authority has now under construction a large steam plant to supplement Muscle Shoals power for the manufacture of munitions.

The long-disputed proposal to develop about 2 million h.p. on the St Lawrence River has again come to the front and is being urged by the President as a defense measure, although it is generally agreed that this power would not be available till 1944. Half of the power would go to Canada and half to the United States, and the total cost to the United States, including transmission lines, has been estimated at 287 million dollars. Present plans call for developing part of this power at Niagara Falls, through additional diversion of water around the Falls, and part at the International Rapids, at Massena Point. See ELECTRIC LIGHT AND POWER.

ALFRED D. BLAKE.

**PRESBYTERIANS.** A religious connection adhering to a system of church government by presbyters or elders and having some 60,000,000 members throughout the world. In the United States there are ten Presbyterian bodies, the largest of which follow. See also RELIGIOUS ORGANIZATIONS

**Presbyterian Church in the United States of America.** This is the largest body of the Presbyterian communion, being represented by churches in every State of the Union and having official mission stations in Alaska, Cuba, Puerto Rico, and 16 foreign lands. In 1940 its churches in the United States and abroad were organized into 42 synods and 276 presbyteries. Statistics for the year ended Mar. 31, 1940, showed a total communicant membership in full standing of 2,021,901, with adherents numbering approximately 5,000,000. The Sun-

day school enrollment totaled 1,472,666. The number of churches was 8775 and of ministers 9573. Contributions during the year amounted to \$41,-862,860, of which \$35,211,708 was for current expenses and \$6,651,152 for benevolences. The Board of National Missions received \$2,235,228; the Board of Foreign Missions, \$2,113,981; the Board of Christian Education, \$509,935; and the Board of Pensions, \$155,151, all from living givers. The Church maintains 53 colleges, 11 theological seminaries, and 2 training schools for lay workers. It published three national official periodicals, *Monday Morning*, *Everyone*, and *Women and Missions*.

The 152d annual General Assembly was held in Rochester, New York, May 23-29, 1940. The Rev. William Lindsay Young, D.D., LL.D., president of Park College, Parkville, Missouri, was elected Moderator, and the Rev. Ray Freeman Jenney, D.D., of Syracuse, New York, was appointed Vice-Moderator. The Assembly condemned the sale of materials of war to aggressor nations as "immoral and unchristian"; protested against "any effort on the part of any government to abridge the fundamental rights of men"; described as "barbarous" the assumption that the blood of one people is superior to the blood of another; urged the U.S. government to co-operate with other nations in re-establishing refugees; announced that "it holds in full communion and fellowship all members who on conscientious grounds feel that they cannot participate in military service, as well as all members who on the same grounds feel they must do so"; called upon its ministers and members "to keep and strengthen the bonds with the worldwide Christian family in all lands"; and approved forward steps taken during the previous year toward closer relations with several other Communion, including the Presbyterian Church in the United States, the United Presbyterian Church, and the Protestant Episcopal Church.

The Church has its headquarters, including the

offices of the General Assembly and the General Council, in the Witherspoon Building, Philadelphia, Pa., in charge of the Rev. William Barrow Pugh, D.D., LL.D., Stated Clerk. The Board of Christian Education and the Board of Pensions also are housed there, while the Board of Foreign Missions and the Board of National Missions are located in the Presbyterian Building, 156 Fifth Avenue, New York City.

**Presbyterian Church in the United States (South).** This division of the Presbyterian denomination covers the territory commonly known as the Southern States. It was composed in 1940 of 17 Synods and 88 Presbyteries, with 3487 organized churches, 2471 ministers, and 532,135 members. During the year 25,520 were received on confession of faith, and 26,729 by certificate. There were 14,622 adult baptisms and 7418 infant baptisms. The ruling elders numbered 17,422, and deacons, 20,120. The total Sunday School enrollment was 437,053. Contributions for current expenses during the year amounted to \$3,261,636, pastors' salaries, \$3,104,932, building expense, \$2,008,157, and for benevolences, \$3,387,488. The total per capita gift was \$22.10, of which \$6.36 was for benevolences and \$15.74 for current expenses.

Foreign mission work is carried on in six countries: Africa, Brazil, China, Japan, Korea (Chosen), and Mexico, among 36,000,000 people. Three hundred and seventy-six American missionaries constitute the working foreign force.

The Eightieth General Assembly of the Church convened in the First Presbyterian Church, Chattanooga, Tenn., May 16, 1940, with 345 Commissioners present. Rev. Frank C. Brown, D.D., pastor of the First Presbyterian Church, Dallas, Texas, was elected Moderator. The Ministers' Annuity (Pension) Fund was put into operation on Apr. 1, 1940, and within six months about eighty ministers had retired from active service under the benefits which this Fund provides. The meeting of the 1941 General Assembly will convene in Montreat, N.C., on May 22nd. Rev. E. C. Scott, D.D., is Stated Clerk and Treasurer, with office at 1218 Liberty Bank Bldg., Dallas, Texas.

**Cumberland Presbyterian Church.** One of the Presbyterian bodies whose chief strength is in the Southern States. It was formed in 1810 when the so-called anti-revival party of the Presbyterian Church in the United States of America objected to the admission into the ministry of men who were not up to the usual literary and theological standards, and to the doctrine of fatality as taught in the third and tenth chapters of the Westminster Confession of Faith. The 1940 statistical report shows: churches, 1082 reporting; ministers, 784; total membership, 73,357, a net gain of 2133 members over the previous year, with 147 churches making no report.

A general assembly which meets annually is the supreme judiciary, the 1941 meeting to be held in Denton, Tex., June 19-21, 1941. Rev. Keith T. Postlethwaite, Birmingham, Ala., was moderator of the general assembly in 1940 and the Rev. D. W. Fooks, of Nashville, Tenn., was stated clerk, treasurer, and general secretary.

**PRESIDENTIAL CAMPAIGN.** See ELECTIONS, U.S. NATIONAL.

**PRESSURES, High.** See CHEMISTRY; PHYSICS.

**PRICES.** See AGRICULTURE; BUSINESS REVIEW under *Commodity Prices*; LIVING COSTS AND STANDARDS; articles on products. For price regulation, see COMMODITY EXCHANGE ADMINISTRA-

TION; UNITED STATES under *Regulation in Other Fields*. For price stabilization activities, see NATIONAL DEFENSE ADVISORY COMMISSION.

**PRINCE EDWARD ISLAND.** A Canadian province. Area, 2184 square miles; population (1939), 95,000, as compared with (1931 census) 88,038. Vital statistics (1939): 2114 living births, 1122 deaths, and 641 marriages. Chief towns (with 1931 populations): Charlottetown, the capital (12,361), Summerside (3759). Education (1938): 19,588 students enrolled in schools and colleges of all kinds.

**Production.** The gross value of agricultural production for 1939 was \$15,590,000. Field crops, which covered 479,300 acres in 1939, were valued at \$10,634,000. Chief field crops (1939): Oats 4,868,000 bu., mixed grains 1,270,000 bu., potatoes 222,000 tons, roots 121,500 tons, hay and clover 294,000 tons. Livestock (1939): 99,000 cattle (including 46,000 milch cows), 48,000 swine, 46,000 sheep, 29,000 horses, 871,000 poultry. Fur production (1938-39 season) was valued at \$1,299,300. The 1939 fish catch (15,285 tons) had a marketed value of \$950,400, including lobsters \$589,700. Forestry output in 1939, equivalent to 12,526 M cu. ft. of standing timber, was valued at \$524,511. Manufacturing (1938): 229 factories, 1041 employees, \$1,131,902 net value of products.

**Government.** Budget (1940): revenue, \$2,090,032; expenditure, \$2,297,054. The King is represented by a lieutenant governor (appointed by the governor general in council) who governs with the advice of a ministry, which is responsible to the legislature and resigns office when it fails to have the confidence of that body. There are 30 members in the legislative assembly all elected for a five-year term. At the provincial elections held on May 18, 1939, there were elected 27 Liberals and 3 Conservatives. Four senators (appointed for life) and 4 commoners represent the province in the Dominion parliament at Ottawa. Lieutenant Governor, Bradford W. LePage (appointed Oct. 2, 1939); Premier, Thane A. Campbell (Liberal). See CANADA.

**PRINCIPE.** See PORTUGAL under *Colonial Empire*.

**PRINTING.** See MACHINE DEVELOPMENT.

**PRINTS.** The American National Committee of Engraving, organized in 1939, was especially active in 1940. The first exhibition sponsored by this Committee went on view with the opening of the New York World's Fair in May. This consisted of fifty prints from Hawaii, and was displayed in the Gallery of Contemporary Art. In exchange, an exhibition of "Fifty Prints from the Mainland" was assembled and sent to Honolulu in the early autumn. A second sponsored exhibition consisted of 117 prints in all media by Mexican artists, which, after being shown at the World's Fair, was sent on a nation-wide circuit. Still later in the year, the Committee assembled a notable collection of "One Hundred Prints" by as many artists, representing three centuries of print-making in the United States, which was shown in the Corcoran Gallery of Art, Washington, D.C., in November, and subsequently purchased in its entirety by the J.M.B. Corporation.

Under the auspices of the National Academy, the Grand Central Galleries, and the Society of American Etchers, a collection of 330 prints and drawings by American artists was assembled and sent to Italy to be shown in the American Pavilion at the International Exposition held bien-



nially in the Public Gardens, Venice. Shipment was made on April 20; the prints reached their destination in due course and were installed; but when, the last of May, it became evident that Italy would enter the war on the side of Germany, 75 per cent of the artists represented asked for the withdrawal and return of their works. The request was made and granted, the collection being placed in storage until safe reconveyance to this country could be assured.

The American Color Print Society held its first annual exhibition in 1940 under the auspices of the Print Club of Philadelphia. Lithographs, wood blocks, aquatints, and etchings were all included. The representation was from all parts of the United States and Canada.

A new graphic process involving the use of a silk screen—hence called the silk-screen process—and a stencil with oil, tempera, or fluid dye, was further developed during the twelve months under review. Excellent work through this medium was exhibited and much credit was given to the group of WPA workers by whom its potentialities were discovered and first demonstrated.

From the income derived through the Pennell bequest the Library of Congress was enabled to make still further additions to its print collection.

A vogue for miniature prints developed. Early in the year the Chicago Society of Etchers sponsored an exclusive miniature print exhibition from which 140 sales were made. The Society of American Etchers made a miniature print section a feature of its 1940 exhibition and included it in the Society's traveling show. Some of these prints were no larger than a postage stamp.

Sixty prints were sold from the Seventh Annual Exhibition of Lithography and Wood Engraving held in the Art Institute of Chicago.

The City Art Museum of St. Louis, through the gift of Miss Bernice C. Ballard, added a notable group of prints by Durer to its permanent collection, and, by bequest of Horace M. Swope, over 700 prints, plates, and books on the graphic arts were acquired. Among the Durers was a complete set of the wood cuts illustrating the Book of Revelations. The Cincinnati Art Museum acquired the Allyn C. Poole collection of prints, including examples of all periods of printmaking in every graphic media. The donor in this instance was the Museum's curator of Prints, Herbert Greer French. The Toledo Art Museum added to its collection, by purchase, a rare print by Martin Schongauer—"St. James the Greater Overcoming the Saracens." The Art Institute of Chicago acquired through purchase "The Dance of the Magdalen" by Lucas Van Leyden.

Etchings and lithographs by the late Childe Hassam were generously allocated to several of the Art Institutions of this country by the artist's widow. Among the recipients were the Corcoran Gallery of Art and the National Museum in Washington, the Telfair Academy, Savannah, Ga., the New York Public Library, and the Carnegie Institute, Pittsburgh. A notable collection of early views of Mt. Vernon and pictures of the Washington family, chiefly engravings, collected by the late Annie Burr Jennings of New York, was given to the Mt. Vernon Association and exhibited in the little gallery there in January, 1940. A retrospective exhibition of the etched work of Frank W. Benson, N.A. was held at the King Hooper Mansion, Marblehead, Mass., in June, 1940, in honor of the 25th anniversary of the making of his first etching. John Taylor Arms, president of

the Society of American Etchers, gave a demonstration of etching by television in connection with a radio transmission, which was epoch marking.

The American College Society of Print Collectors issued to its constituent membership "Waterloo Bridge" by John W. Winkler and "Birch Patterns" by Luigi Lucioni, both etchings. The Society of American Etchers, The California Print Makers, The Chicago Society of Etchers, The Prairie Print Makers, The Southern Print Makers, The Wood Block Society, and the Friends of Contemporary Prints all issued excellent prints by contemporary printmakers to their Associate members.

Among the outstanding printmakers who died in 1940 were Charles Woodbury, Jac Young, and Earl Horter. See ART.

LEILA MECHLIN.

**PRIORITIES BOARD.** See NATIONAL DEFENSE ADVISORY COMMISSION.

**PRISONS, PAROLE, AND CRIME.** For many years the prison population of the United States has mounted continuously to higher levels. Now, however, it appears from preliminary census figures that the population of State and Federal prisons may show little or no increase during the past year, and that it may even have decreased slightly. As of Jan. 1, 1941, it is estimated that the total population of all prisons and reformatories in the United States (excluding local jails and houses of correction) is approximately 180,000, the same as for the previous year. For the first time the Bureau of the Census made an exact count of all prisoners, as of Apr. 1, 1939. These figures will soon be tabulated and available. The Federal prison population has declined from 24,642 on Jan. 10, 1940, to 23,182 on the same date in 1941. The stabilization or decrease of the State and Federal prison population is due partially to an increase in the use of probation and parole, but a more influential factor has been the improvement in employment conditions, better organized law-enforcement, and a new approach to the problem of readjusting the offender.

The importance of finding some better method of readjusting the prisoner has been brought to the attention of the public most strikingly by the American Law Institute. This influential organization of lawyers and judges focused attention upon the youthful offender by showing statistically and through case studies that a tremendous proportion of adult criminality had its inception in conviction of crime before the age of twenty-one years. Reasoning from the fact that while young people under twenty-one form only 13 per cent of the population but constitute some 40 per cent of our apprehended burglars and 50 per cent of our automobile thieves, and the further fact that nearly 60 per cent of those who have a prison record again commit a crime, they urged that a Youth Justice Authority be established in each State to assume responsibility for all youthful offenders. A model act was adopted at the annual meeting of the members of the Law Institute in June, 1940. This model act, in substance, is now being seriously considered by the legislatures of several States. If adopted, it will write into State laws for the first time the notion that reliance upon punishment as the only means of crime control is logically unsound, and instead will establish in each State an authority with sole responsibility for a preventive and corrective program for young persons under twenty-one years. The fact that lawyers have at

last come to recognize that behavior problems are too complex to be handled by traditional legal methods and conventional prisons, and that responsibility for an indefinite period over young offenders must be centralized in a qualified commission having full power to utilize all of our scientific and modern methods, is one of the most hopeful trends of modern jurisprudence. (See *Official Draft, Youth Correction Authority Act*, American Law Institute, Phila.) In similar vein, the conference of Senior Circuit Judges of United States Courts, with Mr. Chief Justice Hughes presiding, recommended the adoption of an indeterminate sentence law for Federal Courts.

**Prison Labor.** The final blow to a system of prison-labor depending for its markets on the sale of convict-made goods to the public was the enactment of a Federal law prohibiting the interstate shipment of products made in prison except for Government use. This act was passed by Congress in 1940 to become effective in 1941. Together with the Hawes-Cooper Act of 1929, which became effective in 1934, and the Ashurst-Sumners Act of 1935, all of which put restrictions on the interstate shipment of prison products, the Act of 1940 put the final touches on a campaign against the sale of prison products on the open market which has been carried on since 1804. Most States and the Federal Government now have enacted laws confining the sale of prison products to government agencies. But the net result of such laws has so far been that most of the State prisons are now vast idle houses with the men milling aimlessly about crowded prison yards. The emphasis on hard labor as a punitive and profitable method of deterring crime is shifting to other forms of activity, but no satisfactory solution to the problem of prison idleness has yet been found.

**The Federal Prison System.** During the past year the Federal Government opened six new prisons, all of which were a considerable departure in design from the traditional prison. Instead of massive interior cell blocks, high walls, and tool-proof steel, they are characterized by a variety of small housing units, carefully designed admission buildings, and adequate school, auditorium, and shop facilities. The largest of these institutions has a maximum capacity of but 1200, and most of them are limited to 600 inmates. This is in sharp contrast to the mammoth bastilles at San Quentin, Calif., and Jackson, Mich., each housing nearly 6000 inmates, and the older Federal prisons at Atlanta, Ga., and Leavenworth, Kan., with an average population of about 3000 each.

**Federal Prison Industries, Inc.** With the fiscal year 1940 Federal Prison Industries, Inc., which handles the industrial program in Federal prisons, completed five and one-half years of operation. During this period the corporation has made definite progress in carrying out the primary functions of the corporation as provided by statute. In order to reduce to a minimum the indirect burden of competition upon private industry, the corporation has not only endeavored to keep each industry as small as efficient operation would permit but has also sought to diversify the manufacture of articles within each industry and, so far as practicable, to give preference to the manufacture of those articles which the Government has difficulty in obtaining from private industry or in the manufacture of which private industry is not particularly interested. During these five and a half years gratifying progress has also been made by the corporation in establishing a comprehensive vocational and

job-training program. To this the corporation devotes its most earnest thought, for it conceives its function to be not so much the making of goods as the remaking of men.

Since the organization of the corporation the number of prisoners engaged in the industries operated by it has increased from slightly over 2000 to approximately 3500, an increase of 75 per cent. It has always been the policy of the corporation, under the authority of the statute, to pay modest wages to inmates engaged in the industries, usually upon a piece-work basis, the rate being fixed after taking into consideration the expense to the Government of subsistence, clothing, and housing of the prisoners. In the five years ending with the fiscal year 1940 the corporation paid out in inmate wages approximately a million and a quarter dollars. The hours of labor are those observed by similar industries on the outside. The equipment used in most cases is the same found in similar private industries, except that no purely labor-saving equipment is used. It has been the policy of the Board to reproduce as nearly as possible the conditions of work, hours of labor, and other factors which the inmate may expect to meet on the outside after his discharge.

**War and Prisons.** The war has brought several problems affecting Federal prisons to the fore. It has raised anew the question of permitting certain classes of ex-prisoners to serve in the military forces after careful investigation of each individual case. And it has begun to provide a new class of inmates peculiar to war times—the inilitant objector to the registration law, the unreconstructed alien, and the draft evader.

**Parole.** The campaign against all systems of parole seems to have abated somewhat during the past year, save in the State of Illinois. This has been due in part to the more cautious attitude of parole boards and a realization that no satisfactory substitute to the fundamental concept of the parole system can be evolved. Several States have made real progress in taking the parole system entirely out of politics as a result of the National Parole Conference held in Washington, D.C. in 1939.

All but two States (Mississippi and Virginia) have provisions for parole, but in less than ten States is there any really adequate provision for supervision on parole. This explains the criticism frequently leveled at parole and parolees who continue their anti-social actions. Except in those States having an adequate system of supervision, it would be more accurate to describe the release procedure employed as that of conditional release instead of parole.

**Crime Trends.** The latest official crime statistics of the Department of Justice showing the number of offenses known to the police in 336 cities with populations over 25,000 for the first nine months of 1939 and 1940 indicate a slight decrease for murder, robbery, and rape, and increases for manslaughter by negligence, aggravated assault, burglary, larceny, and auto-theft (see table, p. 627).

Long-time trends for these same offenses covering sixty-nine cities having populations of over 100,000 for the period 1931-40 inclusive, but for only the first three months of each year, are sharply downward for murder, manslaughter by negligence, aggravated assault, robbery, and auto theft. During these ten years burglary decreased only slightly, and there were marked increases for rape and larceny.

**Significant Studies in Penology.** A number of significant studies in penology were completed

OFFENSES KNOWN TO THE POLICE IN 336 CITIES WITH  
POPULATION OVER 25,000  
January to September, inclusive, 1939 and 1940 \*

Offense	Number 1939	1940	Increase (+) Decrease (-)
Murder and non-negligent manslaughter.....	1,949	1,869	-4 1%
Rape .....	2,829	2,773	-2 0%
Robbery .....	21,735	20,753	-4 5%
Manslaughter by negligence ..	1,003	1,091	+8 8%
Aggravated Assault ..	15,937	16,483	+3 4%
Burglary—breaking or enter- ing .....	111,540	113,316	+1 6%
Larceny—theft .....	280,481	298,170	+6 3%
Auto theft .....	60,853	61,433	+1 0%

\* *Uniform Crime Reports*, Vol XI, Third Quarterly Bulletin  
1940, Federal Bureau of Investigation, Dept of Justice, Washing-  
ton, D C.

DAILY AVERAGE NUMBER OF OFFENSES KNOWN TO  
THE POLICE IN 69 CITIES OVER 100,000 IN  
POPULATION  
January to March, inclusive, 1931 and 1940 \*

Offense	Daily Average Number 1931	1940
Criminal homicide:		
Murder, non-negligent manslaughter ..	4 0	2 7
Manslaughter by negligence ..	3 9	2 3
Aggravated Assault ..	25 0	20 3
Robbery ..	64 6	36 4
Auto theft ..	243 4	114 8
Burglary—breaking or entering ..	197 6	192 3
Rape ..	3 1	4 4
Larceny—theft ..	404 8	499 8

\* *Uniform Crime Reports*, Vol XI, First Quarterly Bulletin,  
1940, Federal Bureau of Investigation, Dept of Justice, Washing-  
ton, D C

and published during 1940. *Prison Administration—An Educational Process*, is the third of a series of studies in prison education published by members of the Division of Education of the Department of Correction of New York State. The others in this series include *Social and Economic Studies in Correctional Institutions* and *The Training of Prison Guards in New York State*, published in 1939, and 1938 respectively (Columbia Univ. Press, New York). *The Prison Community*, by Donald Clemmons (Christopher Publishing House, Boston), presents a sociological study of a typical prison in a midwest State. *A Report on the Development of Penological Treatment at Norfolk Prison Colony in Massachusetts*, by Commons, Yahkub, and Powers (Stanford Univ Press), describes some of the experiments in new methods of prison administration carried on at that institution from 1927 to 1934. Two outstanding investigations of interest include that of prison administration in California and of paroles and pardons in Massachusetts.

The most complete study of the prison system made in recent years was published by the U.S. Department of Justice as Volume V of the "Attorney General's Survey of Release Procedures." It presents the outstanding facts about the major prisons and reformatories for men in America. Supplementing this study is the survey by The Osborne Association of New York City of State juvenile institutions, which covers twelve States.

See CALIFORNIA under *History*; JUVENILE DELINQUENCY.

JAMES V. BENNETT.

**PRODUCTION MANAGEMENT**, Office of (OPM). See DEFENSIVE PREPARATIONS, U. S. **PROHIBITION**. See SOUTH CAROLINA; also, the temperance organizations listed under SOCIETIES; LAW under *Police Power*.

**PROHIBITION PARTY**. See ELECTIONS, U.S. NATIONAL.

**PROPORTIONAL REPRESENTATION**. See LAW; MUNICIPAL GOVERNMENT.

**PROTESTANT EPISCOPAL CHURCH**.

In response to a summons to face urgent present-day problems from the Presiding Bishop, the Rt. Rev. H. St. George Tucker, the General Convention of the Episcopal Church meeting in October, 1940, at Kansas City, Mo., endorsed a ten-year advance program, called Forward in Service. This new movement is described in *The Plan of Action* as "a ten-year program to set every unit in the Church at work upon the tasks God has assigned to it." The first year of the movement is devoted to preparation, re-dedication, and re-enlistment, reaching its first objective early in May, 1941, when a Church-wide roll call will enable all baptized members of the Church to register their loyalty and willingness to go forward in service in the days ahead. Forward in Service is directed by a commission of prominent Churchmen and women, under the leadership of Bishop Tucker. This commission replaces the former Forward Movement Commission first appointed by the General Convention of 1934.

The plight of the Church in the world today was brought again to the attention of General Convention by the Rt. Rev. Noel Baring Hudson, secretary of the English Society for the Propagation of the Gospel. By invitation of the Presiding Bishop and as official representative of the Archbishop of Canterbury, Bishop Hudson described the extraordinary wartime needs of the overseas work of the English Church. The Convention authorized an appeal to the American Church for \$300,000 to aid British missions. Of this amount \$50,000 was immediately voted by the Woman's Auxiliary from the United Thank Offering of 1940. This offering, presented triennially by the women of the Church, is used for the training and support of women missionaries, advance work in the mission field, and other purposes. In 1940 the offering totalled nearly \$975,000.

The Convention advanced the cause of Christian co-operation and unity by continuing the Commission on Approaches to Unity which for several years past has been discussing a concordat with the Presbyterian Church; by approving membership in the Federal Council of Churches of Christ in America and in the World Council of Churches. Two months later (December, 1940) representatives of the Episcopal Church were welcomed to the biennial meeting of the Federal Council.

Other actions of the General Convention included: The adoption, after more than 20 years of consideration, of an official Church flag; the designation of Washington, D C, as the seat for the Presiding Bishop; adoption of a new Hymnal, the first revision in twenty-four years; plans for the retirement of bishops at 72 years; and the election of the Rev. Lloyd R. Craighill, for a quarter century a missionary in China, as Bishop of Anking to succeed the Rt. Rev. D. T. Huntington, resigned. Other resignations accepted by Convention were: the Rt. Rev. Benjamin Brewster as Bishop of Maine; the Rt. Rev. Edward L. Parsons, as Bishop of California; the Rt. Rev. G. F. Mosher as Missionary Bishop of the Philippine Islands.

The Convention took appropriate recognition of three leaders in the national life of the Church who retired at the close of 1940: John Wilson Wood, as executive secretary of the National Council's Department of Foreign Missions after

41 years service with the Council and its predecessor the Board of Missions; Grace Lindley, as executive secretary of the Woman's Auxiliary to the national Council after more than thirty years at headquarters; and the Rev. Robert W. Patton, "father of the Nation-wide Campaign," as director of the American Church Institute for Negroes.

Despite ruthless wars in Europe and Asia, the Church's missionary work went on. The undeclared war in the Orient between China and Japan entered its third year. More and more the Gospel was being heard in hitherto untouched areas: in Western China where many were finding haven from the havoc of war and among refugee groups everywhere. The vitality of the Chinese Church was unmistakable and all signs pointed to a "bright sky tomorrow."

In Japan the new religious law brought profound changes, the full import of which is still uncertain. In accord with Government regulation, however, all American and English bishops of the Nippon Sei Ko Kwai—the Japanese branch of the Episcopal Church—resigned and the whole government of that Church passed to Japanese bishops of which there are five. This change in leadership may necessitate some re-alignment of the 13 dioceses in Japan and perhaps the naming of additional Japanese bishops. The Japanese law also provides that all foreign support of evangelistic work cease on Dec. 31, 1940, and of educational work by Apr. 1, 1941. No time limit was placed on foreign aid to medical and social work. Hence American co-operation in St. Luke's International Medical Center, Tokyo, will continue for the present at least.

In 1940 the total number of communicants of the Episcopal Church in 7995 parishes and missions was 1,489,384, an increase of 22,786 over the preceding year. The clergy numbered 6335; 149 priests were ordained. In the 5000 Church (Sunday) schools, 492,554 pupils were enrolled. Their special missionary offerings for the three years 1938-40 as reported to General Convention amounted to \$919,801.82. Baptisms during the year numbered 69,473 and confirmations 74,318. The government of the Church centers in a General Convention which meets triennially. The next session, the fifty-fourth, will be held in Cleveland, Ohio, in October, 1943. Between sessions of the General Convention the affairs of the Church are conducted by the National Council.

The headquarters of the National Council, which is the Board of Directors of the Domestic and Foreign Missionary Society, is in the Church Missions House, 281 Fourth Avenue, New York.

**PRUSSIA.** See GERMANY under *Area and Population*.

**PSYCHIATRY.** While strictly a medical science, by definition the treatment of mental illness, the field of psychiatry has greatly expanded within recent years. This expansion has paralleled a changing conception of health and ill-health generally and their factors, health being determined not solely by soundness of the body but also by social, domestic, economic, and occupational status and the emotional features of the individual's adaptation to his environment. Thus mutually useful and closer contacts have been made with the disciplines of anthropology and sociology (cultural backgrounds, community and family studies, living conditions) and education (mental hygiene in the schools; re-education, an integral part of treatment programs). At the same time psychiatry becomes more characteristically a biological science

(genetics) and looks hopefully to biochemistry for light upon abnormal psychic processes. (For survey of the literature of biochemistry in relation to mental disease, see McFarland and Goldstein: "Biochemistry of Manic-depressive Psychosis," *Amer. J. of Psychiatry*, July, 1939; "Biochemistry of the Psychoneuroses," *ibid.* March, 1937; "Biochemistry of Dementia Praecox," *ibid.* November, 1938; "Biochemistry of Epilepsy," *ibid.* January, 1940.)

With the swing away from the compartment idea in medicine long favored by ultra-specialization, intimate liaisons with other clinical branches have developed (psychosomatic medicine; child psychiatry). "In modern therapy, we dare not think of either 'soma' (body) alone nor of 'psyche' (mind) alone; . . . we have to deal with a highly complicated, integrated body-mind unit, . . . disturbances on any level of the integration—anatomical, physiological, neurological, or psychobiological—will exert effects upon the whole unit." (Barker, *Psychotherapy*, 1940.)

The significance of psychiatry and neurology in the broad domain of medicine, and the urgency of research in this field, are reflected in the fact that more than one-third of the total appropriations of the Rockefeller Foundation (q.v.) to the medical sciences in 1939 was devoted to these subjects. "The main interest of this division (the medical sciences) since 1931 has lain in the development of research and teaching in psychiatry and neurology and subjects contributory to their advancement." (Gregg, *Annual Report of the Rockefeller Foundation*, 1939.)

Attention continues to be focused upon the various shock methods of treatment of the psychoses. Ross reported to the American Psychiatric Association a two-year follow up of 1039 insulin-treated cases of schizophrenia from the New York State hospital service. These were compared with a control group treated by the usual methods but without insulin. On the conclusion of treatment, cases classified as recovered or improved were three times as numerous in the insulin group as among the controls. At the end of two years however the recovery-improved ratio had fallen from 65.3 per cent of the treated cases to 45.4 per cent.

Bond (Institute of the Pennsylvania Hospital) observed in a control group, followed two years, that although only 4 per cent were listed as recovered or much improved on termination of treatment, 16 per cent were so classified at the two-year follow-up. It is thus apparent that a goodly number of patients diagnosed as schizophrenics, who are not well on leaving hospital, recover or greatly improve at varying intervals thereafter, while many in the recovered-improved group on discharge do not maintain their mental health.

The advantage of insulin is that recoveries are prompt, whereas spontaneous recoveries may take one to three years. Ross also found that the recovery rate for patients whose illness did not exceed six months was ten times that of cases of five or more years' duration. Treatment with insulin combined with metrazol sometimes succeeds where insulin alone fails; and metrazol used alone has proved useful in other psychoses, particularly certain types of depression.

Pharmacologic shock therapy continues to be widely used in most parts of the world; and while the high hopes originally entertained have been considerably dampened, its results to date are notably better than those of previous treatment methods, and indeed in some cases appear spectac-

ular. With present-day technique, risks have been reduced to an almost negligible minimum. The procedure has given rise to a tremendous amount of valuable research, and has moreover considerably facilitated the understanding of psychotic processes.

Latterly electric shock therapy, introduced by Professor Cerletti of the University of Rome, has been used to replace pharmacological methods. Kalinowsky, formerly associated with Cerletti and now at the New York State Psychiatric Institute and Hospital, reports jointly with Barrera (*Psychiatric Quarterly*, October, 1940) on the use of the electric shock technique at that center. A precisely measured current is passed for one-tenth of a second between the frontotemporal regions. Unconsciousness is instantaneous and followed by a seizure of grand mal or petit mal type. The patient promptly regains consciousness without memory of the procedure. Advantages claimed over other methods of shock therapy are that the technique is more exact and easily controlled, that it can be given to larger numbers of patients at less cost in time and money, and that patients experience no unpleasant fore- or after-effects. Therapeutic results are said to compare favorably with those of other shock procedures. A comprehensive discussion of "Prognosis in Schizophrenia," with survey of the literature, is presented by Blair (*Jl. of Mental Science*, May, 1940).

Electroencephalography, recording electric oscillations from various brain areas, has gained in importance as a diagnostic measure, particularly in localizing gross pathology (trauma, tumor). Lennox, Gibbs, and Gibbs, on the basis of electroencephalographic tracings from relatives of epileptics, conclude that "the dysrhythmia of epilepsy is inheritable"; and since cases of latency or predisposition revealed by the tracings far outnumber cases with overt disease, they estimate that "persons with a predisposition to epilepsy form about 12 per cent of the population" (*Archives of Neurology and Psychiatry*, December, 1940). This procedure has been of value in identifying applicants for training as airplane pilots who may be predisposed to epilepsy.

There have been numerous reports of successful, sometimes startling results of treatment of psychotic states associated with vitamin deficiency. By the intravenous administration of vitamin B<sub>1</sub>, deficient mainly because of inadequate food intake, the course of an acute alcoholic psychosis (delirium tremens) may be greatly shortened. Likewise in subclinical pellagra with mental changes in the foreground (hebetude, stupor), diagnosis may be established and remarkable cure effected by the administration of nicotinic acid.

A great social problem in which psychiatry is vitally interested is that of alcoholism, a prominent factor in mental disease. In comparison with other countries, notably Sweden, Switzerland, and Holland, this issue has been conspicuously neglected in the United States. To make now a concerted attack upon it there has been organized the Research Council on Problems of Alcohol, an associated society of the American Association for the Advancement of Science; and there has been established as official organ of the Council the *Quarterly Journal of Studies on Alcohol*, now the only scientific periodical in English dealing solely with this subject. (*The British Journal of Inebriety* has been discontinued.)

The Council's first Symposium on Alcoholism took place at the annual meeting of the A.A.A.S.

in Philadelphia, Dec. 27-29, 1940. (To be reported in the *Amer. Jl. of Psychiatry*.) Overholser estimated "that there are in the United States probably more than 100,000 persons suffering from alcoholism at the present time." Kolb (U.S. Public Health Service) defined the situation: "Alcoholism is a serious health problem that has been handled largely by police authorities, with the result that the alcoholic has been treated as a criminal rather than as a sick individual. Present-day methods of handling chronic alcoholics are ineffective or harmful. An intensive study of the prevalence, causes and effects of alcoholism is necessary to establish a sound basis for better methods of prevention and cure."

Another comparatively neglected field, both in general medicine and psychiatry, is that of the process of aging and the disabilities connected therewith. This unmindfulness is in marked contrast to the research activities in diseases of children and the intensive studies in schizophrenia, the psychosis of adolescence, now going forward. To rectify the situation the National Institute of Health of the U.S. Public Health Service (q.v.) has organized a Unit on Gerontology, with a National Advisory Committee of scientists in contributory disciplines, to conduct co-ordinated research both in the problems of aging (gerontology), and the diseases of the involutional period and their treatment (geriatrics). "With the conspicuous shift to greater age in the population, senescent individuals are becoming increasingly significant in the national economy and defense" (Stieglitz, in Charge Investigations in Gerontology). In the new program psychiatry will have large interest in view of the frequency and seriousness of the psychoses of the later decades of life.

Extramural care of the mentally ill is receiving increasing attention, not only because it is sound policy but also because of ever increasing demand for new hospital construction to relieve overcrowding which is never relieved. From California, Rosanoff, Director of Institutions, reports that as of Dec. 31, 1940, 17.26 per cent of the aggregate patient population of the seven State hospitals was maintained in extramural care. This is a record figure and has made possible a reduction in overcrowding (population in excess of capacity) from 24.73 per cent two years ago to 17.16 per cent as of Jan. 1, 1941.

Especially noteworthy is the expansion of activity in the field of psychiatry and neurology in the several States of South America, notably Brazil, Peru, Argentina, Uruguay, as represented by the increasing number of scientific journals published on that continent. During the past five years some 10 new publications have appeared, and there are currently approximately as many South American periodicals devoted to neurology, psychiatry and allied subjects as in North America.

During 1940 a number of psychiatrists of international fame passed from the scene. Among these must be mentioned especially Edward Mapother, head of Maudsley Hospital, teaching center for the British Empire; H. Douglas Singer, president of the American Neurological Association and president-elect of the American Psychiatric Association; Julius Wagner-Jauregg, originator of the malaria treatment of dementia paralytica. See PSYCHOLOGY under *Mental Hygiene*.

CLARENCE B. FARRAR.

**PSYCHOLOGY.** The focus of experimental interest has shifted away from simple condition-

ing (habit training) to the problem of how pathological phenomena are caused. Persistence of unsuccessful behavior, analogous to that of neurotic and psychotic patients and of incorrigible psychopaths, has been produced in rats under certain conditions of frustration by N. R. F. Maier, N. M. Glaser, and J. B. Klee. J. McV. Hunt of Brown has produced abnormal hoarding in adult white rats by feeding frustration in early infancy. *Conditioning and Learning*, by E. R. Hilgard and D. G. Marquis, a critical survey of the literature of conditioning with bibliography of more than 900 titles, discusses the implications of the facts of conditioning for other problems of learning, voluntary action, emotion, and personality. Recognition of the practical value of psychophysiology has led to the creation of posts for psychophysicists in the Federal Civil Service.

Experimental investigation of all the traditional problems continues in increasing volume. The hearing tests at the New York and San Francisco World's Fairs present the widest survey of hearing ever made. Results show no significant sectional differences, but do show a decrease in hearing acuity with age, according to H. C. Montgomery. Among the many significant experimental monographs are *Studies in the Psychology of the Deaf* (from the Clarke School at Northampton, Mass.); *Studies in Quantitative Psychology* from the University of Illinois; edited by H. Woodrow; and *Reminiscence and Gestalt Theory* by J. R. Martin. Several psychological investigations have grown directly out of the war, among the most interesting being those on British children evacuated from large cities. Evacuation has increased mild nervous disorders, but not serious ones, according to C. Burt. A. Straker and R. H. Thouless find that young children adjust themselves to evacuation better than older, and that the presence of the child's own brothers and sisters in the foster home helps.

Of theoretical interest are *Mathematico-deductive Theory of Rote Learning: A Study in Scientific Methodology* by C. L. Hull, C. I. Hovland, R. T. Ross, M. Hall, D. T. Perkins, and F. B. Fitch, *Comparative Psychology of Mental Development* by H. Werner, translated by E. B. Garside, and *The Innumerable Instincts of Man* by C. A. Claremont (London). *Dynamics in Psychology*, by W. Köhler, proposes a theory of field action within the nervous system and attempts to corroborate it with new facts in perception and memory. Progress has been made on the *Cumulative Psychological Index* being prepared by New York City WPA workers under the direction of A. T. Poffenberger. *Psychological Index Abstract References*, edited by H. L. Ansbacher, covers the years 1919-28. Reflecting the internationalism of scientific technology is the *Dictionary of Terms and Expressions of Industrial Psychology*, in German, English, French, and Hungarian, by M. Erdélyi and F. Grossman (New York). *Hunger for Wholeness*, by T. H. Howells, approaches the psychology of personality from the viewpoint that present social chaos results from the frustration of man's universal quest for unity within the self and between the self and society. *How Character Develops*, by F. Kunkel and R. E. Dickerson, is the first organized summary in English of the basic conceptions of Kunkel's "We-Psychology." *Current Psychologies, A Critical Synthesis*, by A. J. Levine, does much to unify the conflicting theories of contemporary psychology and to relate them to everyday life. *Fields of Psychology*, edited by J. P. Guilford, is

a symposium. *General Psychology*, by R. W. Hubbard, treats the everyday problems of real people from a genetic point of view; the emphasis is social rather than biological. Among other introductory texts are *Psychology* by L. F. Shaffer, B. V. H. Gilmer, and M. Schoen, and *The Psychology of Normal People* by J. Tiffin, F. B. Knight, and C. C. Josey. Among the many books dealing with special fields are *The Psychology of Music*, by M. Schoen, and *The Mechanism of the Human Voice*, by R. Curry, with a bibliography of 400 titles. *How to Overcome Stammering*, by M. F. Gifford, develops the thesis that people stammer because they have not learned to solve their emotional problems and conflicts.

In the field of counseling are *Occupational Counseling Techniques: Their Development and Application* by W. H. Stead and others; *Introduction to High School Counseling* by E. G. Williamson and M. E. Hahn, and *Avocational Interest Patterns: A Study in the Psychology of Avocations*, by D. E. Super. There are also numerous popular books on marriage, love, hate, worry, personality improvement, and other pressing problems of everyday life, among them *Your Marriage: A Guide to Happiness* by N. E. Himes, and *The Art of Understanding* by H. J. Baker. *Twelve Against Alcohol*, by H. L. Nossen, gives case histories of twelve dipsomania patients who in their own words tell of their growing addiction to alcohol and their struggles in its grip.

**Tests and Measurements.** Evidence of the variability of the I. Q. under special conditions continues to pile up. S. Stinchfield-Hawk reports increases as great as 60 points, following corrective speech training. The interpretation of I. Q. changes is at present a subject of lively controversy. Some psychologists, notably the Iowa group, believe that increases and decreases of I. Q. reflect real variations in intelligence, resulting from environmental factors. As might be expected, when experimental results strike so deeply at the heart of a theory that has become almost an article of faith, the Iowa studies have been subjected to severe criticism from the standpoint of methodology, and numerous other experimenters have partially repeated some of the Iowa experiments without substantiating the conclusions. Though ten nursery schools report increases in I. Q. during nursery-school attendance, corresponding increases have been found in control groups not at school. Confirmed hereditarians regard I. Q. shifts as artifacts resulting from flaws in test technique. Some suggest that the first or the second I. Q. (whichever happens to be lower) may be unrepresentative because of emotional disturbance, ill health, or restricted powers of expression (as in the case of a child with a speech impediment). Others point out that verbal tests are unfair to the hard-of-hearing and to persons with language handicaps. Among the new scales proposed to meet this difficulty are *The Chicago Non-verbal Examination* and *The Leiter International Performance Scale*. Some point out that tests at different age levels measure different human abilities to different degrees, and that a varying I. Q. might have been anticipated from this fact alone. A growing body of psychologists are abandoning the concept of "intelligence" as a unitary trait, and are seeking, chiefly by means of factorial analysis, to identify the various human abilities operating to different degrees in different tests. Thurstone finds a limited number of "primary mental abilities." Thompson, on the other hand, regards mental abilities as prac-

tically infinite in number, a hypothesis which, if true, would preclude the possibility of measurement. M. W. Richardson contends that the present age-scales for testing intelligence violate the generally accepted logic of measurement. He considers both mental age and I. Q. to be unfortunate concepts that inevitably create false psychological issues. K. Lewin suggests that the "momentary" mental age of a pre-school child may depend on the motivational situation. Temporary increases in intelligence-test scores of adults have been obtained following dosages with certain drugs, and variously interpreted as due to release from anxiety or to mere increase in talkativeness or in motor activity. In recent years, it has been customary in many places to base a diagnosis of feeble-mindedness largely on the results of intelligence tests. With increasing evidence of the variability of I. Q.'s, there is now a tendency to return to the earlier practice of basing such a diagnosis more on social criteria, despite the fact that social criteria are at present vague and subjective. E. A. Doll of Vineland proposes to give objectivity to social criteria through the Vineland Social Maturity Scale. *An Annotated Bibliography of Tests and Scales*, by C. K. A. Wang (Peiping, China), includes 1776 items.

**Educational Psychology and Child Psychology.** That memorizing is not the prototype of learning, but that the understanding of organized wholes is, constitutes the most significant contribution of G. Katona's *Organizing and Memorizing: Studies in the Psychology of Learning and Teaching. Psychology in Education*, by H. Sorenson, stresses the importance of understanding the pupil's emotional reaction during the learning process. O. H. Mowrer calls attention to the fact that expectancy (whether of reward or of punishment) is always a state of tension and as such unpleasant. Anxiety is commonly employed to motivate classroom learning. Mowrer suggests that "in order for class-room learning to proceed efficiently, the arousal of anxiety must be followed as promptly as possible by its dissipation, after a 'correct' reaction is made." Effects of frustration upon both human and animal subjects have been widely studied. G. L. Freeman found that even college men, after failing in difficult visual discriminations, tended to respond wrongly earlier in the new series.

A. Gesell points out that both parents and teachers ought to recognize the individuality of children, defer to and understand the limitations of immaturity and laws of growth, and by consistent and sympathetic care give the child that feeling of security in which his personality may develop wholesomely. M. I. Preston calls attention to the deplorable effect on a child's security in school and home produced by failure in reading. F. O. Schwarz has found that 71 per cent of poor readers studied by him were definitely eye cases which improved following correction of the defects. *How to Increase Reading Ability*, by A. J. Harris, is a basic text for teachers. Among other new books are *Helping Children to Read*, by G. Hildreth and J. L. Wright, and *Teaching Reading to Slow-Learning Children*, by S. A. Kirk.

War hysteria has reawakened the demand for military training in the schools. E. C. Johnson contends that there is no valid argument for school military training. Military drill is not only worthless but harmful to growing boys, and investigation indicates that it does not aid in the development of obedience, character, or even patriotism. School military training includes nothing that is

relevant to preparation for modern warfare. R. Lippitt reports an experimental study of the effects of democratic and authoritarian atmospheres in children's clubs. He found conflict and hostility in the authoritarian group; none in the democratic group. The latter produced more creative work.

Among new books are *The First Five Years of Life, The Pre-school Years*, by A. Gesell, H. M. Halverson, H. Thompson, F. L. Ilg, B. M. Castner, L. B. Ames, and C. S. Amatruda; *Studies in the Development of Young Children*, by N. Bayley; *Child Psychology for Professional Workers*, by F. M. Teagarden; *From Infancy to Adolescence*, by F. K. Merry and R. V. Merry; *Your Child's Development and Guidance Told in Pictures*, by L. H. Meek; *Consider the Children—How They Grow*, by E. M. Manwell and S. L. Faks; *The Emotionalized Attitudes: The Contribution of Research to Teachers Concerned with Learning, Conduct, and Character*, by T. H. Briggs and others, and *How We Learn*, by B. H. Bode. *The Psychology of Exceptional Children*, by K. C. Garrison, discusses gifted children, the retarded, and the physically handicapped. *The Education of Exceptional Children*, by A. O. Heck, deals with the organization, administration, and supervision of education for children who are blind, crippled, deaf, socially maladjusted, mentally defective, etc., and also for the gifted. From a study of 167 gifted boys, L. M. Terman and M. Oden found that above the I. Q. level of 140, adult success is largely determined by such factors as social adjustment, emotional stability, and drive to accomplish. P. Witty finds that the present school organization fails to provide adequately for gifted children. Nonconformity with discipline requirements increased steadily from examination to examination in the gifted children he studied. He thinks we should seek to identify gifted children by consistently remarkable performance in any valuable area, but that we should not segregate them in homogeneous groups. This practice he considers a serious menace to democratic faith. As the late L. S. Hollingworth has shown, children of superior intelligence are apt to exhibit negativism, and the play of those with I. Q.'s above 170 is typically solitary. G. K. Sturup points out that bright children often exhibit unrest and distraction in school and indulge in flights of fantasy to such an extent that their work falls below that of the class in general. This should not be mistaken for evidence of a psychopathic constitution. He thinks these children should be given a more challenging and at the same time a more liberal form of instruction. H. W. Zorbaugh maintains that the community should identify its gifted children, preferably at their entrance to school, and the children should be encouraged by feeling that their unique abilities are appreciated.

**Mental Hygiene and Psychopathology.** I. S. Wile contends that the term *abnormal* should be relegated to lay usage, and that orthopsychiatry should prefer informative terms, such as *usual* and *unusual*, *desirable* and *undesirable*, *legal* and *illegal*. This would do away with many foolish attempts to reduce to mediocrity individuals who deviate in socially desirable directions. E. D. Hutchinson has clarified the relationship between genius and insanity by pointing out that creative endeavor involves such difficulties that frustration is almost inevitable for a time, even though success may come at last. Insanity is often the result of the frustration of creative effort. *Psychiatric Clinics for Children*, by H. L. Wittner, surveys psychiatric



services for children over the past quarter century. T. R. Sarbin calls attention to the ineffectiveness resulting from confusion of three current uses of the term adjustment: (1) conformity, (2) mastery, and (3) compromise. The first seeks to minimize individual differences, the second to capitalize on them, and the third to transcend the conflict. H. A. Cotton, Jr., in discussing the scope and purposes of the State mental-hygiene clinic, points out that it is as important to educate teachers, physicians, nurses, courts, etc., as it is to make examinations of patients.

*Men Against Madness*, by L. S. Selling, surveys the history of the fight against insanity from ancient times. *New Facts on Mental Disorders, Study of 89,100 Cases*, by N. A. Dayton, is a statistical study of patients admitted to Massachusetts hospitals for mental disease, during the period from 1917-33. *Social and Biological Aspects of Mental Disease*, by B. Malzberg, presents a statistical analysis, based on the records of admissions to New York State hospitals. H. M. Pollock and B. Malzberg point out that neither schizophrenia nor manic-depressive psychoses appear in frequencies that are in accord with the requirements of simple Mendelian inheritance. These authors contend that hereditary and environmental factors should not be regarded as antithetic, but as joint causes. L. M. Weinberger and F. C. Grant find evidence that hallucinations can arise from peripheral lesions.

Of major importance, both theoretical and practical, is I. Kendig's and W. V. Richmond's research publication *Psychological Studies in Dementia Praecox*. The authors conclude that "we must abandon or greatly modify our concept of deterioration" in schizophrenia. Of the 2000 cases which they studied, few had actually deteriorated in intellect. There was functional impairment, not permanent loss. Kraepelin originally grouped together hebephrenic, catatonic, and paranoid forms under the term "dementia praecox," because he believed all showed intellectual deterioration. E. F. Lowry believes that the pathology of schizophrenia is organic. H. S. Sullivan believes that "there are two unrelated syndromes confused under the rubric of dementia praecox,"—one an "organic, degenerative disease," and the other "a disorder of living, not of the organic substrate."

R. Ralston has found educational therapy valuable in increasing the personal happiness of the patient and "filling out actual deficiencies in academic education which may have been a hindrance to him." There is an increasing effort to reach and help maladjusted individuals before a definite psychosis develops. S. Coffman and D. W. Orr report an experimental mental hygiene class for maladjusted children between the ages of 7 and 15. Coffman and Orr feel that free expression of opinion and group discussion of the mechanisms of behavior and feeling give the child a sense of oneness with others. According to A. Krider, occupational therapy for maladjusted children is restricted by the fact that the child's range of manual skills is small and his ability to envision a project as a whole and to sustain interest for a long period are small in comparison to adult standards. The therapist must discipline himself to let each child work out his individual problems, even to the detriment of the task in hand.

*Psychological and Neurological Definitions and the Unconscious*, by S. Kahn, is written from a psychoanalytic viewpoint. *The Journal of Abnormal and Social Psychology* carried an interesting symposium on psychoanalysis by psychologists of

other schools who had been psychoanalyzed. J. F. Brown points out that the term psychoanalysis is used interchangeably in three senses (1) a method of psychological observation, (2) a systematized set of theoretical constructs, and (3) a method of psychotherapy. An independent psychologist may utilize the method of observation without necessarily accepting the theoretical constructs.

Psychiatry once meant a rather narrow medical specialty, limited to the treatment of nervous and mental diseases. Some contemporary psychiatrists, however, have so effectively broadened their outlook that their field is almost co-extensive with social psychology. There is growing recognition of the fact that the individual can not be understood apart from his social matrix and it is evident that no social order is safe while paranoid individuals can rise to posts of power. Psychopathologists are responding to this challenge.

**Social Psychology.** In *Beyond the Clinical Frontiers*, E. A. Strecker points out that crowds, prejudiced pressure groups, mobs, and nations at war exhibit irrational beliefs and behavior that duplicate the symptoms of most mental diseases. He stresses the perils of propaganda. *Social Psychology*, by C. Bird, includes enlightening discussions of propaganda and the psychological aspects of war and an extensive treatment of attitude measurement. Of interest in this connection is *The Pulse of Democracy: The Public-Opinion Poll and How it Works*, by G. Gallup and S. F. Rae. *Social Psychology*, by O. Klineberg, emphasizes the cultural and environmental aspects of the subject. *The Plans of Men*, by L. W. Doob, attempts to integrate some aspects of the social sciences with some of the practical problems of everyday life. L. D. Zeleny has attempted to develop mathematical formulas for measuring social status, which he defines as the degree of acceptance of a person by his associates in a particular group.

*Criminal Behavior*, by W. C. Reckless, is a textbook of criminology written from the comparative point of view. It stresses the fact that what constitutes crime varies according to the values of the society observed. Reckless contends that heredity plays no discernible role in crime causation, but the failure to obtain adequate satisfaction of wishes, accompanied by severe emotional stress, is an important force in motivating crime. *Girls on City Streets*, by J. A. Goldberg and R. W. Goldberg, reports studies of 1400 case histories. *Juvenile Delinquents Grown Up*, by S. Glueck and E. Glueck, follows through an additional ten-year period the same offenders previously studied by the authors. The various peno-correctional methods to which the young delinquents were subjected are discussed in relation to subsequent success or failure, recidivism, serious crimes, etc., and eight prediction tables are included. *Trends in Crime Treatment*, edited by M. Bell, is published by the National Probation Assn. *Marriage and the Child*, by J. H. S. Bossard, deals with the child welfare movement in the United States, the changing status of the child, and the factors influencing marriage rates and stability. *Industrial Conflict: A Psychological Interpretation*, edited by G. W. Hartmann, is the 1939 Yearbook of the Society for the Psychological Study of Social Issues. Its 1940 yearbook deals with the psychology of war. See ANTHROPOLOGY; PSYCHIATRY.

MABEL F. MARTIN.

**PUBLIC ASSISTANCE.** See SOCIAL SECURITY BOARD; also, RELIEF.

**PUBLIC BUILDINGS ADMINISTRATION.** The Public Buildings Administration is the unit of the Federal Works Agency responsible for the design, construction, and maintenance of most of the buildings in use by the administrative and service departments of the Federal Government.

These activities were originally assigned to the Office of the Supervising Architect, now more than a century old, and formerly within the Treasury Department. The Reorganization Act of 1939, which created the Public Buildings Administration, brought together the Public Buildings Branch of the Treasury's Procurement Division (containing the Office of the Supervising Architect) and the Branch of Buildings Management, including the office of space control, National Parks Service, Department of Interior. Thus within the framework of a single agency, designers, construction engineers, and building superintendents work in close co-operation so that the experience of each may contribute to the plans for Federal buildings.

In Washington, the PBA continues the construction and management of buildings to house the various administrative departments and agencies of the Government, co-operating with the National Capital Park and Planning Commission and the Commission of Fine Arts so that the development of the capital city may follow an orderly and efficient plan.

Throughout the rest of the country the services which the Federal Government extends to its citizens cover a wide range of building types. The Treasury Department must have custom houses; the Coast Guard needs air stations, the Department of Justice, court houses and penitentiaries; the Labor Department must have immigration depots, the Public Health Service, hospitals and quarantine stations; and the Department of State, ambassadors' residences and embassies in foreign countries. The Post Office Department needs the greatest number of Federal buildings. With respect to post offices, a federally owned building becomes legally eligible when the postal receipts exceed \$10,000 per annum.

In addition to the design and construction of new buildings, the PBA also remodels and extends existing buildings, carries out necessary repairs, and acquires new building sites as well as disposing of those no longer needed. For each of the new buildings constructed, its Section of Fine Arts plans appropriate mural or sculptural decorations, the commissions for which are awarded to artists selected through anonymous competitions. See ART; PAINTING.

Within the District of Columbia, its Office of the Buildings Manager repairs, cleans, and protects government owned and leased buildings, and the Office of Planning and Space Control co-operates with other government agencies in planning space needs and assigns space in Federal buildings and leases space in private buildings.

The work of the Public Buildings Administration falls into two major categories, work within the District of Columbia and work throughout the rest of the country.

Expansion of government as the result of the National Defense Program intensified the work of the Office of Planning and Space Control in the District of Columbia during the last year. Government-owned buildings in Washington represent a net area of almost 16,000,000 square feet, but during the last six months it has been necessary to lease over four million more square feet to accom-

modate the large influx of workers on the National Defense Program.

During the 1940 fiscal year, PBA spent approximately \$10,000,000 on Federal buildings in the District of Columbia for new construction, extensions, remodeling, and major alterations. The largest project undertaken was the construction of the Social Security and Railroad Retirement Board buildings, costing \$14,750,000. These buildings add 1,580,000 square feet to administrative office space for the Capital City. Because of pressing defense needs, these buildings have been temporarily loaned to the National Defense Advisory Commission and co-operating divisions of the War Department.

Another large project begun during the year was the first unit of a War Department Building. Congress appropriated \$10,800,000 for the site and the construction of the smaller of two units.

Three general Federal office buildings—to be assigned temporarily to agencies with emergency space problems—were worked on during the year. The first, now in use by the Census Bureau, was completed, and the other two are in plan stage.

Outside the District of Columbia, a total of 335 buildings were completed during the year by the PBA and contracts were awarded for 303 additional projects. Exclusive of land costs, this work represents an expenditure of \$42,775,000.

Well over two hundred of these projects were small post office buildings, with allotments generally ranging from \$70,000 to \$100,000 for site purchase, construction costs, and the PBA administrative expenses.

Being one of the major construction agencies of the Government, the PBA is taking an active part in the national defense program. Beginning in November, the Federal Works Administrator has assigned to the Commissioner of Public Buildings more than 70 projects for family housing units to be erected near army posts or factories turning out defense orders. By December 31, twenty-six construction contracts had been awarded and work was well underway on a dozen projects. The PBA housing projects range in size from 20 family units needed for Fort Dupont, Del., to a 3000 unit development at San Diego, Calif., called the largest low-cost housing project ever to be undertaken in this country. See ARCHITECTURE.

W. E. REYNOLDS.

**PUBLIC DEBT, Bureau of.** See FISCAL SERVICE.

**PUBLIC FINANCE.** The national defense program brought sweeping changes in the finances of the Federal Government. During the year, plans for expanding the Army and Navy were completed calling for appropriations, authorizations, and recommendations aggregating \$28,480,000,000. This program, embracing the fiscal years 1940, 1941, and 1942, was divided as follows:

ARMY AND NAVY APPROPRIATIONS, AUTHORIZATIONS, AND RECOMMENDATIONS  
(Fiscal Years 1940, 1941, and 1942)

		[In Millions of dollars]
Army . . . . .	..	\$13,704
Navy . . . . .	..	11,587
Expansion of industrial plant. . . . .	..	1,902
Other defense activities . . . . .	..	1,287
Total . . . . .	..	28,480

Confronted with such huge armament expenditures, public interest in a balancing of the Federal

budget dwindled. Even in the presidential campaign in the fall of the year, this issue did not play the important role that had been expected. With both parties committed to a defense program adequate to arm the United States for war with major European and Asiatic powers, economies could be effected only in other portions of the budget. For the fiscal year 1942, however, almost two thirds of all expenditures in the budget were to be for national defense, so that the possibilities of major reductions in total expenditures were greatly limited.

The Roosevelt Administration adopted a policy of increasing taxes so as to secure in this way all the funds needed for the regular budget, apart from national defense, and sufficient funds to cover the maintenance of the Army and Navy, as distinct from their expansion. To achieve this object, two revenue acts were passed in 1940, increasing income taxes and imposing an excess profits tax. A further rise in taxation was planned for 1941, and the Treasury launched studies with this end in view. The sharp upturn in business activity and national income, at the same time, swelled tax collections further.

The Treasury was concerned not only with raising money to finance the defense program, but also with the problem of preventing an inflation of commodity prices because of the huge purchases by the Government and the consequent bottlenecks created in a number of markets and industries. The sale of Government bonds as far as possible to individual investors, rather than banks, was planned to avoid a further increase in bank deposits and to absorb income that would otherwise go for consumption, expanding the demand for goods produced by industries whose capacity was needed for defense production. Also, some curtailment of ordinary public works was effected to free productive capacity for armaments and to build up a backlog of such projects that could be launched during the postwar readjustment period, when a severe depression was feared. The Treasury, however, opposed the adoption of the drastic program for checking further increases in bank deposits and raising interest rates which the Federal Reserve System proposed to help prevent commodity price inflation.

**Federal Revenues.** The receipts of the Federal Government from taxation for the fiscal year ended June 30, 1940, were \$5,387,000,000, an increase of \$223,000,000 as compared with the preceding fiscal year. The small size of this increase in receipts reflected the fact that higher tax rates were not yet in effect and the upturn in business

activity following the outbreak of the war was not fully reflected in the income tax receipts for the fiscal year. Income taxes produced \$2,125,000,000 in 1940, or \$57,000,000 less than in the year before. The lower corporate and individual earnings of 1938 made for lower income tax collections in the first half of the 1940 fiscal year. Other sources of revenue were mostly moderately higher. The extent to which the new tax laws and increased national income would expand Federal receipts was reflected in the budget estimate that \$7,012,000,000 would be collected by the Federal Government in the 1941 fiscal year.

The chief sources of Treasury revenues in the year ended June 30, 1940, with estimates for 1941 and 1942, are shown below.

**Federal Expenditures.** Federal expenditures during the 1940 fiscal year totalled \$8,998,000,000, of which national defense amounted to \$1,579,000,000. In the preceding fiscal year, expenditures totalled \$8,707,000,000, of which \$1,163,000,000 went to national defense.

The President's budget message for 1942, issued immediately after the turn of the year, emphasized the extent to which national defense would produce revolutionary changes on the expenditures side of the Federal accounts. The estimated expenditures for the fiscal year 1941 were \$13,202,000,000, of which fully \$6,463,000,000 would go for national defense. In the 1942 fiscal year, total expenditures were scheduled to rise to \$17,485,000,000, and national defense outlays to \$10,811,000,000. These budget estimates, furthermore, did not include the cost of the aid-to-Britain program, which, it was indicated semi-officially, might about equal for a time that of the domestic armament program. Despite the rapid increase in national debt, interest payments of the Federal Government were expected to increase but slowly because of the low interest rates prevailing. The interest on the public debt, which amounted to \$1,040,000,000 in the 1940 fiscal year, was expected to rise to \$1,100,000,000 in 1941, and to \$1,225,000,000 in 1942.

Estimated expenditures for the fiscal year beginning July 1, 1940, with estimates for the two following fiscal years, are shown on pages 635-636.

**Treasury Financing Policy.** The Treasury financed the deficit for the fiscal year ended 1940, amounting to \$3,740,000,000, in part through new loans and, to the extent of \$1,083,000,000, through reducing its working balances, which had been very large at the beginning of the fiscal year. The increase in the public debt for the fiscal year 1940 amounted to \$2,527,000,000. Only a small part of

#### RECEIPTS FOR THE FISCAL YEAR 1940 AND ESTIMATED RECEIPTS FOR THE FISCAL YEARS 1941 AND 1942

	Estimated, 1942	Estimated, 1941	Actual, 1940
<b>1. Revenue</b>			
Internal revenue:			
Income tax (Including tax on unjust enrichment) . . . . .	\$4,509,000,000	\$3,055,000,000	\$2,125,324,634 92
Miscellaneous Internal Revenue . . . . .	3,029,335,000	2,871,010,000	2,344,625,130 84
Federal Insurance Contributions Act Taxes . . . . .	725,300,000	667,500,000	604,694,236 48
Federal Unemployment Tax Act Taxes . . . . .	91,100,000	88,400,000	107,523,266 69
Taxes on Carriers and employees . . . . .	144,900,000	135,300,000	120,966,719 36
Railroad Unemployment Insurance Act Taxes . . . . .	7,200,000	6,800,000	4,918,040 78
Customs . . . . .	295,000,000	302,000,000	348,590,635 21
Miscellaneous revenues . . . . .	161,438,830	158,030,305	162,454,931 73
<b>Total revenues . . . . .</b>	<b>8,963,773,830</b>	<b>7,284,040,305</b>	<b>5,819,097,596 01</b>
<b>2. Realization upon assets:</b>			
Return of surplus funds from Government corporations . . . . .		360,500,000	
Other . . . . .	7,961,170	8,669,695	105,738,806 75
<b>Total receipts . . . . .</b>	<b>8,971,735,000</b>	<b>7,653,210,000</b>	<b>5,924,836,402 76</b>
Deduct net appropriation for Federal old-age and survivors insurance trust fund . . . . .	696,300,000	640,280,000	537,711,733.00
<b>Net receipts . . . . .</b>	<b>8,275,435,000</b>	<b>7,012,930,000</b>	<b>5,387,124,669 76</b>

## EXPENDITURES FOR THE FISCAL YEAR 1940, AND ESTIMATED EXPENDITURES FOR THE FISCAL YEARS 1941 AND 1942

*(Estimated and actual expenditures from general and special accounts)*

	Estimated, fiscal year 1942	Estimated, fiscal year 1941	Actual, fiscal year 1940
<b>I. LEGISLATIVE, JUDICIAL, AND EXECUTIVE.</b>			
1 Legislative establishment.....	\$ 25,950,400	\$ 23,874,580	\$ 23,070,529.31
2 Judicial establishment.....	12,393,500	11,530,800	10,973,057.88
3 Executive Office of the President.....	2,984,300	3,090,788	2,661,099.98
Total, legislative, judicial, and executive.....	41,328,200	38,546,168	36,704,687.17
<b>II CIVIL DEPARTMENTS AND AGENCIES.</b>			
1 Department of Agriculture.....	114,030,300	152,386,000	184,466,492.75
2 Department of Commerce.....	31,241,600	47,757,400	42,291,518.23
Civil Aeronautics.....	25,235,900	24,510,200	21,504,645.93
3 Department of the Interior.....	70,075,500	83,580,100	89,262,944.41
4 Department of Justice.....	55,471,000	52,875,500	52,641,402.71
5 Department of Labor.....	11,812,500	12,398,000	9,541,759.52
6 Department of State.....	19,171,500	19,771,500	21,848,092.44
7 Treasury Department.....	173,967,900	167,765,200	158,589,603.12
8 War Department (nonmilitary).....	45,415,000	47,576,000	50,584,891.31
Panama Canal.....	10,778,000	11,050,000	11,981,490.78
9 Post Office Department, deficiency.....	51,087,587	29,760,102	41,991,378.92
10 District of Columbia, United States share.....	6,000,000	6,000,000	6,000,000.00
11 Federal Loan Agency.....	8,480,000	9,340,000	14,209,361.86
12 Federal Security Agency.....	59,112,100	57,703,900	53,158,969.62
13 Federal Works Agency.....	39,230,000	34,882,050	36,627,996.76
14 U S Maritime Commission.....	150,178,500	135,180,500	98,809,569.23
15 Other independent offices and establishments.....	66,243,900	58,617,750	57,220,031.22
16 Refugee relief.....	18,500,000	14,000,000	75,042.33
Unclassified items.....	.....	.....	1,443,738.03
Adjustment for disbursing officers' checks outstanding.....	.....	.....	.....
Total, civil departments and agencies.....	956,028,287	965,154,202	952,248,927.17
<b>III GENERAL PUBLIC WORKS PROGRAM.</b>			
1 Federal Security Agency.....	900,000	275,000	403,712.68
2 Federal Works Agency.....	183,200,000	223,165,000	204,865,949.56
3 National Advisory Committee for Aeronautics.....	9,900,000	10,150,000	987,865.09
4 Tennessee Valley Authority.....	40,000,000	40,000,000	39,135,754.44
5 Veterans' Administration.....	4,000,000	5,000,000	5,980,993.30
6 Department of Agriculture.....	9,800,000	9,500,000	11,477,059.19
7 Department of Commerce.....	1,500,000	2,059,000	354,313.95
8 Department of the Interior.....	100,658,000	110,817,000	109,101,115.08
9 Department of Justice.....	420,000	255,000	1,578,335.97
10 Department of State.....	2,206,000	2,781,000	2,444,822.21
11 War Department (nonmilitary).....	150,300,000	166,000,000	164,455,404.98
Total, General Public Works Program.....	502,884,000	570,002,000	540,785,326.45
<b>IV NATIONAL DEFENSE:</b>			
1 Navy Department.....	3,447,394,000	2,136,303,300	891,484,523.08
2 War Department.....	5,956,600,600	3,845,665,700	667,138,363.59
3 Other agencies.....	407,320,000	381,954,900	21,282,539.06
4 Supplemental items.....	1,000,000,000	100,000,000	.....
Total, national defense.....	10,811,314,600	6,463,923,900	1,579,905,425.73
<b>V VETERANS' PENSIONS AND BENEFITS.....</b>			
	564,570,000	560,110,000	550,692,391.13
<b>VI AIDS TO AGRICULTURE:</b>			
1 Agricultural Adjustment Program.....	947,775,000	968,544,600	1,020,147,739.69
2 Commodity Credit Corporation.....	.....	.....	119,599,918.05
3 Farm Tenant Act.....	5,339,000	25,312,200	41,779,009.15
4 Federal Farm Mortgage Corporation.....	9,400,000	90,500,000*	7,125,158.14
5 Federal land banks.....	27,000,000	72,500,000*	29,315,767.69
6 Farm Security Administration.....	65,000,000	67,000,000	158,536,339.40
7 Farm Credit Administration.....	7,047,700	106,465,000*	1,441,026.44*
Total, aids to agriculture.....	1,061,561,700	791,191,800	1,375,062,905.68
<b>VII AIDS TO YOUTH</b>			
1 Civilian Conservation Corps.....	265,000,000	274,000,000	283,244,748.93
2 National Youth Administration.....	97,590,000	95,325,000	94,648,335.41
Total, aids to youth.....	362,590,000	369,325,000	377,893,084.34
<b>VIII SOCIAL SECURITY</b>			
1 Administrative expenses.....	26,120,000	26,907,800	23,747,789.27
2 Grants to States.....	436,400,000	403,372,100	359,867,323.75
Total, social security.....	462,520,000	430,279,900	383,615,113.02
<b>IX. WORK RELIEF:</b>			
1 Work Projects Administration.....	.....	975,000,000	1,477,537,908.00
2 Public Works Administration.....	38,600,000	122,500,000	347,742,750.40
3 Other.....	5,539,700	29,915,000	36,141,326.95
4 Supplemental items.....	990,000,000	350,000,000	.....
Total, work relief.....	1,034,139,700	1,477,415,000	1,861,421,985.35
<b>X REFUNDS:</b>			
1 Customs.....	18,500,000	16,000,000	17,486,902.12
2 Internal revenue.....	63,006,380	44,008,000	61,812,222.70
3 Processing tax on farm products.....	7,500,000	10,000,000	11,771,638.90
Total, refunds.....	89,006,380	70,008,000	91,070,763.72
<b>XI INTEREST ON THE PUBLIC DEBT.....</b>			
	1,225,000,000	1,100,000,000	1,040,935,696.71
<b>XII. TRANSFERS TO TRUST ACCOUNTS.</b>			
1 Railroad retirement account.....	141,700,000	123,500,000	120,650,000.00

## EXPENDITURES FOR THE FISCAL YEAR 1940, AND ESTIMATED EXPENDITURES FOR THE FISCAL YEARS 1941 AND 1942 (Continued)

	Estimated, fiscal year 1942	Estimated, fiscal year 1941	Actual, fiscal year 1940
2. Government employees' retirement funds (United States share) . . . . .	\$102,885,262	\$92,715,000	\$87,203,400 00
3. Adjusted service certificate fund . . . . .	10,000,000	.....	.....
4. National service life insurance fund . . . . .	20,000,000	.....	.....
Total, transfers to trust accounts . . . . .	274,585,262	216,215,000	207,851,400 00
XIII. SUPPLEMENTAL ITEMS—REGULAR . . . . .	100,000,000	150,000,000	.....
Total, expenditures (excluding debt retirement)....	17,485,528,049	13,202,370,970	8,998,189,706 47
XIV DEBT RETIREMENT . . . . .	100,000,000	100,000,000	129,184,100 00
Total, expenditures . . . . .	17,585,528,049	13,302,370,970	9,127,373,806 47

\* Excess of credits, deduct.

the money obtained through the sale of securities came from new public issues of Treasury obligations, however. Sales of Treasury obligations to the social security funds produced \$606,000,000, while United States savings bonds sales yielded \$1,102,000,000. As the debt limit of \$45,000,000,000 was closely approached, Congress authorized an increase in the limit of \$4,000,000,000, consisting of special national defense obligations with maturities up to five years. In December, the Treasury issued \$531,000,000 of 5-year  $\frac{3}{4}$  per cent obligations under this series. The only public issue for cash during the fiscal year was \$521,000,000 of 2 per cent bonds maturing in 1953, which was offered on Dec. 8, 1939. For the calendar year 1940 the only public issue for cash, made from the defense notes, was \$631,000,000 of  $2\frac{1}{4}$  per cent bonds maturing in 1956, which was sold on July 22.

The status of the public debt for the fiscal year ended June 30, 1939, with estimates for the two following years, contained in the President's budget message of Jan. 3, 1941, was as follows:

## GROWTH IN THE PUBLIC DEBT IN FISCAL YEARS ENDING JUNE 30, (000 OMITTED)

	Estimated, fiscal year 1942	Estimated, fiscal year 1941	Actual, fiscal year 1940
Public debt at beginning of year . . . . .	\$49,156,972	\$42,967,531	\$40,439,532
Increase in public debt during year:			
To meet deficiency in revenues and receipts, general and special accounts . .	9,310,093	6,289,441	3,740,249
Less debt retirements included in deficit . . .	100,000	100,000	129,184
Decrease in working balance on general and special account . . . . .	9,210,093	6,189,441	3,611,065
Net increase in public debt during year . . . . .	2,210,093	2,189,441	2,527,999
Public debt at end of year . . . . .	58,367,065	49,156,972	42,967,531

**The Public Debt.** The gross public debt at the end of the calendar year 1940 amounted to \$45,-

024,631,488, the highest total ever attained. In addition, there were outstanding \$5,901,000,000 of obligations of governmental agencies guaranteed by the United States.

The vast increase in the scale of borrowings that would be required by the Treasury to finance the defense program made necessary important changes in financing methods. The Treasury made an intensive study of this problem during the latter months of the year. The policy of selling new bonds to a much greater extent to individual and corporate investors, rather than to the banks which had been the chief outlet in recent years, would necessitate a sharp increase in the average interest cost of new money, and also drastic changes in the form of the obligation sold. Savings bonds were not regarded as suitable for this purpose, not only because of the 29 per cent interest cost involved, but because holders were entitled to cash them at any time. It was felt that a coupon obligation, even if not purchasable by banks, would meet a better reception than savings bonds that were offered on a discount basis. The intention of the Treasury to make future issues of Federal bonds fully taxable made its task all the greater. This proposal, announced shortly after the election in November, brought sharp increases in quotations of already outstanding Treasury obligations, for this plan would give a scarcity value to outstanding issues having the tax-exempt privilege.

The public debt at the end of the calendar year 1940 is shown below.

See BUDGET, BUREAU OF THE; CUSTOMS, BUREAU OF; FINANCIAL REVIEW under *New Financing*; FISCAL SERVICE; INTERNATIONAL BANKING AND FINANCE; MONEY, U.S. STOCK OF; REPARATIONS AND WAR DEBTS, TAXATION. See foreign countries under *Finance*. For appropriations see UNITED STATES under *Legislation*.

JULES I. BOGEN.

**PUBLIC HEALTH.** See topics listed under HEALTH WORK.

**PUBLIC HEALTH SERVICE.** The most significant developments and advances in public health services in recent years are represented by the accelerated trend in Governments to accept

## COMPARATIVE PUBLIC DEBT STATEMENT

	Mar. 31, 1917, pre-war debt	Aug. 31, 1919, when war debt was at its peak	Dec 31, 1930, lowest post-war debt	Dec. 31, 1939	Dec. 31, 1940
Gross public debt. . . . .	\$1,282,044,346 28	\$26,596,701,648.01	\$16,026,087,087 07	\$41,942,456,008 42	\$45,024,631,488 41
Gross public debt per capita. . . . .	12 36	250.18	129.66	318.59	340.84
Computed rate of interest per annum on interest-bearing public debt (per cent) . . . . .	2 395	4.196	3.750	2.598	2 566
Obligations of governmental agencies guaranteed by the United States . . . . .	.....	.....	.....	5,621,069,023.67	5,901,357,155.28
General fund balance. . . . .	74,216,460 05	1,118,109,534.76	306,803,319.55	2,476,160,943.36	1,928,454,975.75

wider responsibilities in matters of health and social welfare. This stimulation is largely the result of the adverse economic conditions, which have brought into public consciousness the lack of adequate health facilities for large groups of population. Not only have economic conditions focussed attention on these needs, but they have also increased them.

During 1940, the Federal Government, through the U.S. Public Health Service, continued its assistance to States, by means of grants-in-aid, in expanding and improving State and local health services.

For the fiscal year 1940, the funds appropriated for this purpose were increased from \$8,000,000 to \$11,000,000, and the latter amount was appropriated for the fiscal year 1941. Under the program for improving the qualifications of public health personnel, 1142 persons received training during the year. The additional funds made available to the States during 1940 were utilized principally in strengthening or establishing special programs, such as those for pneumonia, tuberculosis, cancer, and malaria control, and for dental hygiene and industrial hygiene activities.

The end of the fiscal year 1940 marked the second year of intensified activities in combating the venereal diseases under the Venereal Disease Control Act of 1938. Federal funds totaling \$8,080,000, made available to the States in the fiscal years 1939 and 1940 under this act, supplemented by approximately \$10,300,000 from State and local sources, have enabled State and local health authorities to put into effective operation administrative procedures for the control of the venereal diseases. Among these important measures are improved practices in case-finding and case-holding, expanded and improved diagnostic and treatment facilities, and the provision of free drugs for the treatment of indigent or part-pay patients. There are indications that the number of new cases of syphilis reported annually has about reached the peak. For the fiscal year 1941, Congress appropriated \$6,200,000 for venereal disease control activities, most of which will be allotted to the States.

Among the advances made in research were: The preparation of rickettsial vaccines by a method employing the yolk sac of the chick embryo, and especially the development of a vaccine for epidemic typhus fever; the successful transmission of the virus of poliomyelitis to the Eastern cotton rat and to the white mouse, thus making these animals available for experimental purposes; and the demonstration of the encouraging possibility of developing effective immunization against pneumonia.

Cancer control and research were concerned particularly with fundamental biological problems, the carcinogenic properties of chemicals, clinical and therapeutic studies conducted at the tumor clinic of the Marine Hospital in Baltimore, Maryland, where 226 patients were treated by various methods during the first eight months of operation, grants-in-aid for research projects, and the loan of radium to hospitals for use in the study and treatment of cancer. During the year, seven additional States instituted special cancer control programs, making a total of 17 States now conducting such programs.

In the hospital care and medical treatment of American seamen and other legal beneficiaries—the oldest function of the Public Health Service, dating from its origin in 1798—provided in 26

marine hospitals, 126 relief stations and over 130 contract hospitals, approximately 70,000 patients were furnished more than 2,000,000 days of hospital relief, while 353,724 patients were given approximately a million and a half office treatments.

In addition to these hospitals, the Public Health Service conducts two special institutions for the confinement and treatment of drug addicts, principally Federal prisoners. One of these institutions, located at Lexington, Kentucky, operated during the fiscal year 1940 with an average daily population of 1014; the other, at Fort Worth, Texas, had an average daily population of 410, but will eventually have a bed capacity of 1000. The purpose of these hospitals is to treat and rehabilitate drug addicts where possible, and to utilize the opportunity afforded to study the various problems of drug addiction.

The Public Health Service continued to provide diagnostic psychiatric services to 10 Federal courts during the year. Freedmen's and St. Elizabeths Hospitals, in Washington, D.C., were transferred to the administrative supervision of the Public Health Service during 1940.

The Public Health Service administers the Federal quarantine laws and regulations in preventing the introduction of dangerous communicable diseases into the country from abroad and the interstate spread of disease. Although quarantinable diseases were prevalent in many parts of the world during 1940, the only instances in which such diseases reached United States territory during the year were two cases of smallpox, which were stopped at quarantine—one at Honolulu and the other at New Orleans. Successful measures were also taken to prevent the introduction, by aircraft, of yellow fever from South America, where it is present practically throughout the entire continent north of 30° south latitude.

During the year, quarantine officers of the Public Health Service inspected 15,607 vessels, carrying 1,422,517 passengers and seamen, and fumigated 900 vessels. Medical officers of the Service examined 637,398 alien passengers and 551,489 alien seamen at various ports of entry. Of these, 8793 passengers and 1271 seamen were certified to immigration officials as having mental or physical defects or disease. Inspections were also made at United States airports of entry of 2184 airplanes, carrying 35,667 passengers, of whom 11,171 were aliens.

A total of 64,442 applicants for immigration visas was examined by medical officers of the Public Health Service stationed at American consulates in foreign countries, and of these, 576 were found to have a disease or condition which made their exclusion mandatory, while 15,046 were found to have conditions likely to affect their ability to earn a living. In view of conditions incident to the war which increase the danger of the importation of disease into the United States, Federal quarantine procedures will be intensified while such conditions obtain.

According to morbidity and preliminary mortality reports received and compiled by the Public Health Service, health conditions in the United States were generally favorable during 1939 and the first six months of 1940. In 1939 most of the important communicable diseases were below the 5-year (1934-38) median as well as below the figures for 1938. An outbreak of poliomyelitis occurred in the South Atlantic States early in the summer of 1939, and the incidence of the disease became slightly above normal in other localities

later. The pneumonia death rate again declined sharply in 1939. The marked decrease in deaths from this disease during the past two years reflects the more intensive use of improved diagnostic and treatment methods and, perhaps, also the tendency to earlier diagnosis and treatment. An epidemic of influenza of mild type, appeared on the West Coast in the latter part of November, 1940, and was spreading eastward at the close of the year. Few deaths were reported from the disease.

The crude death rate for 1939 was the lowest on record, namely, 10.6 per 100,000 population as compared with 10.7 in 1938. On the basis of preliminary figures, a slight increase in the death rate is indicated for 1940 as compared with the preceding year, probably resulting principally from increased mortality in the chronic diseases of late adult life. These are the diseases, especially cancer and heart diseases, to which the Public Health Service is now devoting greater attention.

Detailed accounts of the activities of the Public Health Service may be found in the Annual Reports of the Surgeon General.

**The National Institute of Health.** The National Institute of Health, the principal research institution of the U.S. Public Health Service, is the successor to the Hygienic Laboratory, established in 1887. In 1930, Congress expanded the scope of research activities and changed the name of the Hygienic Laboratory to the National Institute of Health. Since 1938 the Institute has gradually been moved from Washington, D.C., to new buildings at Bethesda, Maryland, which were dedicated by the President on Oct. 3, 1940.

Under broad Congressional authorization, the National Institute of Health conducts investigations into all fields of health, in both pure and applied science, and in public health administration. The divisions, indicating the broad scope of investigations, include chemistry, industrial hygiene, infectious diseases, nutrition, pathology, pharmacology, zoology, epidemiology, cancer (the National Cancer Institute, established by act of Congress in 1937, is part of the National Institute of Health), and public health methods. In 1940, a unit of gerontology was organized to study the problems of aging, especially the biology of senescence and mental and physical diseases of old age. Through the Institute, the Public Health Service administers the act regulating the sale, in interstate commerce, of viruses, serums, toxins, and analogous products used in prophylaxis and therapeutics.

THOMAS PARRAN.

**PUBLIC UTILITIES.** See BUSINESS REVIEW; ELECTRIC LIGHT AND POWER, etc

**PUBLIC WORKS ADMINISTRATION (PWA).** The Public Works Administration, formerly the Federal Emergency Administration of Public Works, was consolidated into the Federal Works Agency July 1, 1939. It was created under authority granted the President under Title II of the National Industrial Recovery Act, approved June 16, 1933, to bring about an expansion of Federal and non-Federal public construction that would increase employment, stimulate private industry, and promote economic recovery. The agency was originally established for two years and funds for its operation were made available from the \$3,300,000,000 appropriated for the accomplishment of the purposes of the Recovery Act as a whole. From early 1937 to the summer of 1938, PWA was in a state of liquidation. Congress on

June 16, 1938, enacted the Public Works Administration Appropriation Act of 1938, which authorized a new program of public works and provided an appropriation of \$965,000,000 for projects which, in the determination of the Administrator, could be commenced prior to Jan. 1, 1939, and could be substantially completed by June 30, 1940. The life of the organization was extended to June 30, 1941.

There have been five Public Works programs and, as of Nov. 1, 1940, the total of the allotments under all PWA programs was \$4,108,225,779 for 34,465 projects with a total estimated cost of \$6,000,728,349. PWA programs embrace three major classes of projects; (1) projects for Agencies of the Federal Government, classed as Federal projects; (2) projects undertaken by State and local governments or other public bodies, classed as non-Federal projects; and (3) railroad projects. (Loans, but no grants, were approved for privately-owned railroads.) Under the non-Federal program allotments were made for 16,641 projects (including 32 railroad projects) estimated to cost \$4,222,250,278 and under the Federal program allotments were made for 17,824 projects costing \$1,778,478,071. The share of the applicant in the non-Federal program is approximately \$1,900,000,000.

Both the PWA Federal and non-Federal programs were substantially complete as of July 1, 1940, with the exception of a few large projects which are rapidly nearing completion.

M. E. GILMORE.

**PUBLISHING.** See COPYRIGHT; LITERATURE, ENGLISH AND AMERICAN; NEWSPAPERS AND MAGAZINES.

**PUERTO RICO.** A West Indian Island, forming a territory of the United States. Acquired from Spain through the Treaty of Paris, 1898. Small adjacent islands, Vieques and Culebra, are included in its jurisdiction and statistics. Capital, San Juan.

**Area and Population.** Area, 3435 square miles. Population, 1940 (U.S. Census), 1,869,255; 1935 (by special census of the Puerto Rico Reconstruction Administration), 1,723,534; 1930 (U.S. Census), 1,543,913. In 1940 the dwellers in places of 2500 or more numbered 566,357; the rural population, 1,302,898. The territory had, in 1940, 544.2 inhabitants to the square mile—an exceptional density for an area dependent mainly on agriculture. Births totaled 73,044 in 1939 and came to slightly less than 4 per cent of the population. Deaths in 1939 totaled 32,631 and constituted 17.8 per 1000, the lowest yearly rate recorded. The births exceeded deaths (1940) by more than 40,000, and comparable though not quite so great excesses had been the rule. Despite an apparent excess of emigration over arrivals from elsewhere, the population gained by 21 per cent in the ten-year period 1930-40. Colored inhabitants (1938) were stated as 417,401; whites, 1,388,079. Populations of cities (1940): San Juan, 169,247; Ponce, 65,182; Mayagüez, 50,376.

**Education.** Not far from 4 persons in 9 of the population being in their fifteenth year of age or younger, the need for schooling was more prevalent than in the general run of the States and Territories. Enrollments of pupils in the public day schools in the year ending June 30, 1940, numbered 286,098, or about 15 per cent of the population; of the pupils, 68 per cent were in the lowest four grades; less than 6 per cent were in grades 9-12.



Public schools were numerous, 1773 in all; four out of five were rural elementary schools; teachers numbered 6294. The year's expenditures for these schools averaged \$25.57 to the pupil in regular attendance; they totaled \$5,470,517 as budgeted.

The University of Puerto Rico, at Rio Piedras and Mayaguez, giving instruction in various branches of higher education, had 4987 on its roll in 1940. Its faculty and administrative staff numbered 277. A School of Tropical Medicine, attended largely by students from elsewhere, not only gave instruction and conducted research in its field but operated a hospital newly reconstructed to meet contemporary standards.

**Production.** The territory, as an economic producer, is predominantly agricultural; its main manufactures are those processing its agricultural products. Of some 2,000,000 acres of land area, about 825,000 acres were reported in 1940 as under cultivation. Of the remainder, 780,000 acres were pasture, mainly clear, but some of it wooded; 120,000 acres in farm woodland; and only some 280,000 acres were not in farms. Sugar cane, the most extensive cultivated crop, occupied approximately 300,000 acres, divers minor crops, grouped, 250,000; coffee, 225,000; tobacco, 33,000. In the year ended with June 30, 1940, 8,795,932 tons of sugar cane were gathered and ground, they produced 1,018,803 tons of sugar (value, about \$66,000,000). Tobacco, on 33,262 acres, produced 18,369,848 lb.; in value, \$2,572,000. The crop of coffee totaled 23,498,000 lb., worth \$4,247,500 at the price fixed for the domestic market. Crops grown mainly for the farmers' subsistence included sweet potatoes, corn, rice, cowpeas, beans, and bananas. Cotton of the sea-island type was grown on a rising scale: in 1940, on 4000 acres. Manufactories, apart from the sugar mills, produced rum, alcohol, embroideries, men's clothing, canned fruits and juice, cigars, cigarettes, and straw hats.

**External Trade.** In the year ended with June 30, 1940, Puerto Rico imported merchandise to the value of \$107,030,482 and exported to the total of \$92,347,242. Of imports, \$100,517,184 came from the United States; and to that destination went \$90,002,156 of the exports. Thus other countries sent Puerto Rico only \$6,513,298 of its imports and took only \$1,445,086 of its exports for that year. The year's exports of sugar were 868,568 tons, value \$57,328,790.

For the calendar year 1940 Puerto Rico's imports of merchandise from the United States amounted to \$103,972,709, as against \$86,447,423 for 1939, and exports to the United States declined to \$83,773,274 for 1940, from \$88,977,210 for 1939. Sugar accounted for five-eighths of the exports to the United States; namely, to \$51,800,616 for 1940 and \$58,325,509 for 1939. Other articles exported to the United States: tobacco and its manufactures, \$8,700,595 for 1940 and \$5,006,782 for 1939; rum, \$6,366,261 and \$4,413,129; women's cotton apparel, \$5,248,072 and \$7,671,831; worked linen, \$2,662,387 and \$4,037,672. Relative to conditions in the trades in cotton and linen needlework, see under *History*, below. The main groups of imports from the United States were vegetable foods, \$19,670,656 for 1940 and \$16,394,573 for 1939; textile products (1940), \$15,750,420 and (1939) \$17,418,279; machinery and vehicles, \$12,678,098 and \$8,292,527; other metal goods, \$8,856,557 and \$5,561,450.

**Finance.** The general fund of the Territorial Government received, in the fiscal year ended with June 30, 1940, insular revenues of \$16,867,933. It expended \$15,393,982. Insular internal taxes made

up about three-fourths of the revenue. Of the expenditure, \$5,678,403 was for education; \$2,068,895 for public health. Bonded debt amounted to \$27,200,000 on June 30, 1940.

**Transportation.** Highways in Puerto Rico were said to have an aggregate length of 11,252 miles in 1939. Surfaced roads maintained by the Territory totaled 1033 miles. Railroads, aggregating 922 miles, included 574 miles for the special uses of producers of sugar. Pan American Airways maintained frequent service between San Juan and Miami, Florida. Airplanes also covered routes to a number of South American and West Indian points.

**Government.** Under the Organic Act, as passed by the U.S. Congress in 1917 and later amended, Puerto Rico has the status of an organized Territory of the United States. Its citizens are U.S. citizens. A Governor, the chief executive officer, holds office by appointment of the President of the United States, confirmed by the U.S. Senate. The popular vote elects a Legislature of two houses and a Resident Commissioner to the United States.

Governor at the beginning of 1940, Admiral William D. Leahy, U.S.N. retired. Resident Commissioner, Bolívar Pagan.

## HISTORY

**General Conditions.** The Territory experienced economic improvement in 1940. External trade, essentially with the United States, increased, as did public revenues and banking business. Political partisanship was relatively free of the violence that had marked it in former years of hardship and discontent.

**Governor Leahy's Administration.** Governor Leahy was withdrawn from his post in November to become Ambassador to France. His service of some 14 months had not lasted long enough to permit of his carrying through any series of policies of long range. Instead of appointing an immediate successor, President Roosevelt entrusted the duties of the office temporarily to the Commissioner of Education, Dr. José M. Gallardo, Acting Governor through the rest of 1940.

The Legislature held a regular annual session, convening on February 12. It transferred to the Federal Government, for use in the latter's defenses, the small islands of Desecheo and Monito, in the Mona Passage, and some tracts on the Bay of San Juan; granted land to the San Juan Housing Authority; appropriated \$50,000 to help laborers grow crops for their subsistence; strengthened control over the growth and marketing of coffee; created an Advisory Pardon and Parole Board; permitted the use of alternate jurors in some sorts of cases at law; enacted a measure against adulterated and improperly branded foods and drugs; and remodeled the law as to traffic on the highways, after an American pattern. The Governor vetoed a bill to create a Territorial Water-Resources Authority, a Federal agency of like purpose being in contemplation at the time.

**Elections and Parties.** A quadrennial election (November 5) voted to Bolívar Pagan another term as Resident Commissioner in Washington. The Coalition party (Republican-Socialist) retained its control in the Legislature's House of Representatives but lost its previous majority in the Senate, a new party, the Popular Democratic, obtaining a Senatorial majority of one. The older minor parties did not in any case make conspicuous gains. For the first time in many years the demand for Puerto Rico's independence was not a dominant

issue. Vote (approximate): Coalition, 215,130; Popular Democratic 206,405; other, 127,467.

In the field of partisanship the rise of the new Popular Democratic party won chief attention. Its progenitor, Senator Luis Munoz Marin, former Liberal party man, had charged the Federal Director of Territories and Insular Possessions, five years before, with not trying to extend the New Deal adequately to the Territory; later he had crusaded successfully for enforcing the law against great landholdings (q.v. below). The party's first convention, held in July, adopted principles summarized by the slogan, "bread, land, and liberty." It favored independence, but tempered this leaning with a readiness to accept Statehood in the Union. It sought division of big estates among small farmers. Its goal was prosperity for the struggling part of the people, and it gained a great following among the small cultivators. Another new group, the Unification party, formed by Speaker Garcia Mendez of the House, in protest against reported corruption among the Coalition, came out poorly at the polls; it had sought, outright, for Statehood. Garcia Mendez himself was involved (September 28) in an encounter at Utuado, fatal to one man; friends maintained that a band had tried to kill him and that his bodyguard had fired to save him; hostile accounts made these two the aggressors. The Nationalist party remained in existence but did not enter the general election; on February 26 it re-elected as its president Pedro Albizu Campos, still in Federal prison for attempting to overthrow United States rule in Puerto Rico by organizing an armed rebellion.

**Defenses of the Island.** The Federal drive to put the United States in an adequate state of defense made much work in Puerto Rico. Governor Leahy proposed in October that the WPA increase its working force in the Territory to 30,000 men, from 19,162, thus raising those engaged on preparing defenses to 20,000. The Island was regarded as the base for preventing naval invasion of the Caribbean Sea and as an outpost against attack on the southeastern coast of the Union. Against 1877 acres at Punta Borinquen, obtained by condemnation for a base of military aviation, the Department of War deposited \$332,728 toward defraying the claims of the expropriated. It intended to turn the site into a highly developed airport, at considerable expense. The previously undertaken naval aeronautical station at San Juan was put in commission on May 1, just a little over a year after its authorization, among nine others elsewhere, by Congress; its construction and equipment, however, remained far from complete.

The U.S. military draft operated in the Territory. The lottery determining the eligibles' numbers for drafting was held in San Juan. The machinery of the governmentally maintained Puerto Rican Lottery was used. Volunteers came forward in such numbers that it seemed likely that they would forestall the conscripts in filling the 4800 required enlistments. The chance of military service offered the specific attraction that army pay and subsistence exceeded the prevailing rate of wages. Nationalist leaders urged resistance to the draft, but with little apparent effect. Another U.S. defensive measure, the registration of aliens, was reported in October to have provoked a rush to seek naturalization, on the part of many of mixed parentage, who had wrongly taken their citizenship in the United States for granted. Such cases might have been more numerous, but for a ruling of the U.S. Commissioner of Immigration, in April, that

children born abroad of native Puerto Rican parents might enter as citizens.

**Education, Lands, Wages and Hours.** The peoples' awareness of the advantage of knowing the English tongue grew by experience. Many of the volunteers for the U.S. Army or Navy found themselves rejected for lack of it. Plenty of Puerto Ricans who had gone to the United States could testify to its usefulness. The new feeling gave point to a dispute about the teaching of the language in the public schools. Dean Osuna, of the College of Education at the University, blamed the teachers with having failed to learn best methods of instructing Spanish-American children in English. Commissioner of Education Gallardo was condemned by the Legislature for slack promotion of English-teaching. He, on his part, declared that to give the children a knowledge of English would require an expenditure for teaching that the budget could not well meet—one that the Federal Government ought to supply. The Governor's report indicated that 514 out of 6030 teachers gave instruction in English. From this it would appear that the schools were paying about \$500,000 a year for teaching English to nearly 300,000 pupils, most of whom would stay less than four years in school; and that thus the schools were engaged in trying to inculcate the English language at the cost of less than \$7 throughout for each pupil.

The landholding issue passed through an active stage: the U.S. Supreme Court upheld a 40-year-old law, long withstood, restricting the areas of individual landed properties to 500 acres. The decision was welcome to small farmers, who looked on the great sugar estates as smothering their class; it gave worry to companies that had invested money in equipment for the production of sugar on a great scale from cane efficiently grown by experts on such estates. One of the main ventures of the Puerto Rican Reconstruction Administration, a scheme of co-operative landholding known as the Lafayette Central, came to grief in August; the participants could not meet the sum required for the first payment on the \$2,000,000 that their holdings had cost. Parts of the land were consequently offered for resale; in December a decision to sell out the whole enterprise to individual owners was announced.

The United States' system of regulating wages and hours was applied actively to Puerto Rico in 1940. As the Island's way of living and scale of earnings differed radically from those in the Union, new regulations led to much protest and some litigation. An extreme case was that of makers of fine needlework, largely for export. These people, working mainly in their homes, numbered possibly 65,000 women; they embroidered or otherwise worked such articles as handkerchiefs, silken underwear, and household linen. They received very little by the hour, according to American standards. An investigating committee from the mainland came, to determine a proper minimum pay in this industry. One of the members, David Dubinsky, said that despite a Territorial law requiring that the needleworkers get at least 12½ cents an hour, most of them had been getting only 2 cents. The committee recommended to the Wages and Hours Division that they receive a minimum rate of 12½ cents an hour for homework and of 20 cents or more for work done in a factory, with some addition for special types of work. Employers doubted the possibility of doing business at the extra cost and threatened to leave the industry. Though the articles that it produced might indi-

vidually sell at high price, such a price did not necessarily give a substantial return on the hours of nice manual work required.

See also BIRTH CONTROL; CHILDREN'S BUREAU; SUPREME COURT.

**PULITZER PRIZES.** A series of awards established in 1915 by the will of Joseph Pulitzer, publisher of the New York *World*, presented annually by Columbia University on recommendation of the advisory board of the Pulitzer School of Journalism, for outstanding achievements in letters and literature.

In 1940, as announced on May 6, the awards in literature were: Novel, *The Grapes of Wrath*, by John Steinbeck; play, *Time of Your Life*, by William Saroyan; history, *Abraham Lincoln: The War Years*, by Carl Sandburg; verse, *Collected Poems*, by Mark Van Doren; biography, *Woodrow Wilson: Life and Letters*, vols. vii and viii, by Ray Stannard Baker. (William Saroyan rejected the prize, on the grounds that he disapproved of patronage of the arts, and the \$1000 awarded to him reverted to the prize fund.)

In journalism, awards were made to Otto D. Tolischus of the New York *Times*, for his articles from Berlin explaining the economic and ideological background of war-engaged Germany; to Bart Howard of the St. Louis *Post-Dispatch*, "for distinguished editorial writing during the year," as exemplified in his editorial "Europe's Emperor," published Mar. 17, 1939; to the Waterbury (Conn.) *Republican and American* "for the most disinterested and meritorious public service rendered by an American newspaper during the year," in recognition of their exposure of graft in the city administration that resulted in trial and conviction of several city officials, to S. Burton Heath of the New York *World-Telegram* "for a distinguished example of a reporter's work during the year," in recognition of his series of articles on Federal Judge Martin T. Manton that were followed by the latter's resignation, indictment, and conviction for accepting financial favors from companies whose affairs were up before him for judicial decision; to Edmund Duffy of the Baltimore *Sun* for a distinguished example of a cartoonist's work, exemplified by his cartoon "The Outstretched Hand," printed Oct. 7, 1940.

Three traveling scholarships, worth \$1500 each and intended to give the recipients a year's foreign travel, were awarded to David D. Newsom of Richmond, Calif.; Ross P. Schlabach, Jr., of Newport News, Va., and Miss Nona P. Baldwin of Montclair, N.J. All are students in the Graduate School of Journalism at Columbia.

**PULP.** See PAPER AND PULP.

**PWA.** See PUBLIC WORKS ADMINISTRATION.

**QATAR.** See under ARABIA.

**QUAKERS.** See FRIENDS.

**QUARANTINE.** See PUBLIC HEALTH SERVICE.

**QUEBEC.** A Canadian province. Area, 594,534 square miles; population (1939 estimate), 3,210,000, as against (1931 census) 2,874,255. Vital statistics (1939): 79,621 living births, 33,388 deaths, and 28,911 marriages. Chief cities (1931 populations): Quebec, the capital (130,594), Montreal (818,577), Verdun (60,745), Three Rivers (34,450), Hull (29,433), Sherbrooke (28,933), Outremont (28,641). Education (1937-38): 715,751 students enrolled in schools of all kinds, including 39,575 in colleges and universities.

**Production.** The gross value of agricultural production for 1939 was \$203,429,000. Field crops,

which covered a total of 6,142,100 acres in 1939, were valued at \$83,376,000. Chief field crops (1939): oats 45,293,000 bu., barley 4,055,000 bu., buckwheat 2,483,000 bu., mixed grains 4,763,000 bu., potatoes 536,850 tons, roots 309,850 tons, hay and clover 4,917,000 tons, fodder corn 559,000 tons. Livestock (1939): 1,817,000 cattle (including 1,002,000 milch cows), 744,000 swine, 647,000 sheep, 297,000 horses, 8,128,000 poultry. Fur production (1938-39) was worth \$2,230,300. Forestry output (1938) was equal to 890,590 M cu. ft. and was valued at \$42,182,132. The fisheries catch in 1939 totaled 48,420 tons and had a marketed value of \$2,011,000 of which cod represented \$633,300.

Mineral production (1939) was valued at \$77,335,998, including gold (953,377 fine oz.) \$34,455,998, silver (1,167,444 fine oz.) \$472,675, copper (117,238,897 lb.) \$11,831,749, zinc (28,758,759 lb.) \$882,606, asbestos (364,454 tons) \$15,858,492. During 1940 Quebec's output of gold was 1,017,386 oz., silver 1,328,854 oz., asbestos 345,581 tons, and cement 3,850,937 bbl. Manufacturing (1938): 8655 factories, 214,397 employees, \$428,614,029 net value of products.

**Government.** Finance (year ended June 30, 1939): ordinary revenue, \$60,836,000; ordinary expenditure, \$55,948,091; net public debt \$252,719,282. The King is represented by a lieutenant-governor (appointed by the governor-general in council) who is advised by a ministry which is responsible to the legislature and resigns office when it fails to have the confidence of that body. In the legislature there are a legislative council of 24 members (appointed for life by the lieutenant-governor) and a legislative assembly of 86 members (70 Liberals, 15 Union Nationale, and 1 Independent elected on Oct. 25, 1939) elected by popular vote. Twenty-four senators (appointed for life) and 65 commoners represent Quebec in the Dominion parliament at Ottawa. Lt.-Gov., Maj.-Gen. Sir Eugène Fiset (appointed Dec. 30, 1939); Premier, Adélard Godbout (Liberal).

**History.** Two loans were floated by the province early in 1940: the first for \$25,000,000 was sold privately; the second, for \$40,000,000 was sold to banks. On May 15, 1940, the city of Montreal defaulted on two payments—one of \$3,000,000 owing to banks and another of \$3,637,300 issued to the public. Steps were taken to alter the financial administration of the city. A law (effective Jan. 1, 1941) was passed on Apr. 25, 1940, which granted women the right to vote in provincial elections and made them eligible for election to the legislative assembly. On Oct. 16, 1940, Premier Godbout brought Hector Parrier into his cabinet as Provincial Secretary and gave to Henri Groulx, Minister of Health, the new portfolio of Minister of Social Welfare. It was announced on Nov. 23, 1940, that the final payment on "seigniorial tenure," a medieval system of landholding brought to Canada in the 17th century, would be paid in November. The Quebec legislature voted to buy all land held under "seigniorial tenure," and to continue to charge rent which would be used to amortize a \$3,000,000 loan made to finance the transaction. In time, according to the government, the tenants would receive title to the land. See CANADA under History.

**QUEENSLAND.** A State in northeastern Australia. Area, 670,500 square miles; population (Mar. 31, 1940), 1,018,362, exclusive of full-blood aboriginals. Vital statistics (1939): 20,348 births, 9530 deaths, 9108 marriages. Chief cities: Brisbane, the capital (326,000 inhabitants on Dec. 31, 1939), Rockhampton (32,526), Townsville (31,-

414), Toowoomba (29,056), Ipswich (22,056). **Production.** Chief agricultural products: sugar (763,242 tons in 1937-38), wheat (6,585,000 bu. in 1939-40), maize, hay, potatoes, cotton, grapes, tobacco, pineapples, oranges. Livestock (1939): 23,500,000 sheep, 6,125,000 cattle, 445,000 horses, 350,000 swine. Wool (as in the grease) production (1940): 190,000,000 lb. Dairy products (1938-39): 157,625,746 lb. of butter, 15,768,543 lb. of cheese, 19,021,752 lb. of ham and bacon. Chief minerals (1939 values where available are given): Gold (£1,428,598), silver and lead, copper, tin, coal (£1,167,844), zinc. Manufacturing (1938-39): 3087 factories, 54,110 employees, £19,301,475 net value of production (£A averaged \$3.8955 for 1938; \$3.5338 for 1939). Railways (1939) totaled 6567 miles.

**Government. Finance:** (1938-39) revenue £19,333,369, expenditure £19,316,323; (1939-40) revenue £20,756,000, expenditure £20,740,000. The public debt on June 30, 1940, totaled £129,033,000. Executive power is vested in a governor who is aided by a council of ministers. There is a legislative assembly of 62 members, elected by universal suffrage. At the election of Apr. 2, 1938, the standing of the political parties was Labor 44, United Country 13, United Australia 4, and Protestant Labor 1. Governor, Col. Sir Leslie Orme Wilson; Premier, William Forgan Smith (Labor). See AUSTRALIA under *History*.

**QUISLING.** Major Vidkun. See NORWAY.

**QUIZ PROGRAMS.** See RADIO PROGRAMS.

**RACKETEERING.** See AMERICAN FEDERATION OF LABOR; LABOR CONDITIONS.

**RACKHAM FUND.** See BENEFACTIONS.

**RACQUETS.** See COURT GAMES

**RADIO.** By Presidential Order the long-talked-of Defense Communications Board was created Sept. 24, 1940. Official statements assured that the Board "is basically a planning agency . . . will have no power to censor radio or other communication or to take over facilities . . . does not propose to interfere with normal operation . . . more than is necessary for national protection." However, the Board "is charged with the important duty of charting the utilization and control of our communications systems in the best interests of the national security," and will function through a system of committees having appreciable autonomy and power. The DCB was designated to consist of the FCC, the Chief Signal Officer of the Army, the Director of Naval Communications, the Assistant Secretary of State in charge of the Division of International Communications, and the Assistant Secretary of the Treasury in charge of the Coast Guard.

Incidental to National Defense, the Federal Communications Commission (q.v.) succeeded in supplementing its original Congressional appropriation of \$2,100,000 for the current fiscal year to an effective level of \$4,000,000 to facilitate the extension of its investigatory and regulatory efforts. That the FCC intends to "crack down" on broadcasting chains under charges of monopoly was indicated by the trend of hearings in progress as 1940 closed. Whereas FOC was created originally to assist in the purely technical problem of distributing the available channels in the radio-frequency spectrum in such a way as to minimize interference between stations or between channels, competent observers are now pointing out that FCC is in a position to do an effective censorship job by the simple expedient of declining to renew any or all of the short-term licenses by means of

which it now controls broadcasting stations. To train some 4000 radio and signal men for the Reserve, the Navy Department announced the establishment of seven schools in different parts of the United States.

Highlight of radio development for 1940 is the emergence of the frequency-modulation ("FM") system of radio broadcast transmission into recognized commercial status. This static-free radio system (see 1938 and 1939 YEAR BOOKS) was declared by the FCC to be "one of the most significant contributions in recent years" when the FCC authorized FM on a commercial basis May 20, 1940. This recognition constitutes a fitting tribute to the able and courageous pioneering efforts of Maj. E. H. Armstrong and his associates. The frequency band—from 42,000 to 50,000 kilocycles—assigned to FM by FCC is intended to provide 40 FM channels each 200 kc wide, 35 for regular broadcast service and 5 for non-commercial stations. This number of FM channels is considered to be adequate for complete United States coverage because FM stations can be located within 300 miles of each other without serious interference. To provide for FM relay channels, the frequency bands of from 156 to 168 megacycles and above 300 mc also were assigned to FM. Although FM broadcasting was authorized to begin Jan. 1, 1941, the formulation of governing rules and regulations involved some delay. As of Dec. 6, 1940, a total of some 25 construction permits had been issued by FCC for FM stations, and 46 addition applications had been filed. Its noise-free characteristic is making FM especially attractive for use in mobile equipment for police, fire, public-utility emergency, and military services.

A new record was established in 1940 by the radio manufacturing industry in the sale of some 11,000,000 receiving sets, bringing the estimated total of such sets in the United States to 52,000,000. Receivers are being made in various combinations of broadcast and short-wave radio, television, and record-playing equipment. The size range has been extended—downward to a 4½-lb. 150-milliwatt "camera-case" portable, and upward to a full combination of the above-noted equipment camouflaged in a large piece of period furniture of top quality and fitted with two or more speakers to provide full tone response with an output of 50 watts or more. In general, engineering improvements resulted in receivers having better tone, power, and performance.

Radio has felt the influence of war and is playing a vital rôle in providing direct voice control of distant and highly mobile military units. The impact on the industry is reflected in the report that by the close of 1940 vacuum tubes were being turned out at the rate of 400,000 per day. Among short-wave developments for 1940 is a 50-kw international broadcasting station at Brentwood, Long Island, N.Y., a joint project of Columbia Broadcasting System and Mackay Radio Telegraph Co., designed to provide 13 different frequency channels which may be selected for use at any time to suit vagaries of atmospheric conditions. Also, station WBZ near Boston installed 50-kw equipment for short-wave international broadcasting and two additional 50-kw transmitters, one for conventional amplitude-modulation broadcasting and one for frequency-modulation.

See BROADCASTING STATIONS; RADIO PROGRAMS; TELEVISION; also, AUTOMOBILES under *Accidents*; EDUCATION, U.S. OFFICE OF; FEDERAL COMMUNICATIONS COMMISSION; INTERNATIONAL LAW; TE-

LEGRAPHY. See MUSIC under *General News* for ASCAP-BMI fight over performing rights.

G. ROSS HENNINGER.

**RADIOACTIVE SUBSTANCES.** See PHYSICS.

**RADIO PROGRAMS.** Although this review of 1940 is concerned with America, the marked influence of the European war upon broadcasting cannot be overlooked, since radio today is international in scope. In the United States, radio within the year 1940 became the voice of national defense.

Broadcasting, as conducted under the Stars and Stripes, is appraised as an outstanding demonstration of democracy in action. The American people are free to listen to whatever they choose. There is no censorship of the programs broadcast by more than 800 stations serving approximately 50,000,000 receiving sets, 8,000,000 of which are in automobiles. The result is that American people are the best informed in the world.

Statistics indicate that approximately 10 per cent of radio's time in 1940 was consumed by talks, while at least another 9 per cent went to news—an increase of 5 per cent over 1939. Because the year had a Presidential campaign, war in Europe, and a drive for national defense in the United States, there was plenty of talk on the wave-lengths. Despite the activity and divergent opinions presented by a wide variety of organizations and individuals, the broadcasters operating under their code of equality in presenting controversy, came through the year a marked credit to the American system of broadcasting. All sides seemed to be satisfied that radio in the United States had operated fairly, unbiased and uncensored.

The policy of handling news at definite periods operated to the satisfaction of the majority. Fewer flash bulletins interrupted the regular programs. Commentaries from Europe also were handled generally at specific periods. Censorship muzzled Europe's microphones and stripped from broadcasting much that otherwise might have been interesting. There was little reason, therefore, to assign more time to the overseas reporters. War news supplied by the press associations, however, increased because of the tremendous public interest in national and international affairs. World history in the making was constantly before the American listening public throughout the year.

The various round-table discussions, public forums, and ethereal platforms aimed at greater freedom in expression in an effort to become less "frozen." Current events demanded more time from radio for "civic discussion." Aid to Britain, a two-ocean Navy, the care of refugees, feeding of Europe, and the acquiring from Britain of defense bases in this hemisphere, were only a few of the subjects, the pros and cons of which were broadcast coast-to-coast to assist in the formulation of public opinion. Incidentally, of the news analysts, Raymond Gram Swing, H. V. Kaltenborn, Lowell Thomas, and Elmer Davis were favorites among radio critics.

Radio is preserving a sound record of this war, not obtainable from 1914-18. The declarations of war and the historic speeches that followed are etched on discs for posterity. Electrical transcribing has become an essential branch of the radio business: More firms are supplying transcriptions, and more sponsors are turning to the prepared-in-advance program recorded on discs.

Oddly enough, the 1940 daily pattern of broadcasting remained quite routine or stable; in fact,

about 75 per cent of the time was allocated in advance without unforeseen events upsetting the scheduled programs. On an average, slightly more than 20 per cent of radio's time was devoted to education, which the broadcasters prefer to call "public service programs," since the word "education" is said to frighten listeners into believing that something highbrow is about to be broadcast. In the year-end polls, the American School of the Air, University of Chicago Roundtable, American Town Meeting, and Damrosch Music Appreciation Course, were tops.

About 20 per cent of the time went to drama which in 1940 became more professional, attracting specialists in playwrighting for radio as an art form. To embellish their efforts, greater attention was given to selection of talents. Helen Hayes took to the air in a new series of plays; Katherine Cornell was heard in her radio debut. The "Radio Theatre" directed by Cecil B. DeMille, ranked on top in popularity surveys on drama.

Music, recognized as the backbone of broadcasting, consumed about 55 per cent of 1940's radio time, with 25 per cent of it classical, 75 per cent popular. The NBC Symphony directed by Arturo Toscanini, the New York Philharmonic, and Metropolitan Opera were outstanding in the classical field. "Soapbox operas" and "washboard dramas" continued to fill the air in the daytime, luring the audience to wait from day to day for the solution of a triangle or romance. These continued serial stories change on a 15-minute schedule; the broadcasters justify the great amount of time they get by the fact that they are in general true-to-life, and people hear their own problems and those of their neighbors unfold. "One Man's Family" and "the Aldrich Family," on evening schedules, ran ahead among the serials, with "Vic and Sade," third. See MUSIC under *General News*.

The quiz programs, topnotch among them "Information Please," "The Quiz Kids," "Dr. I. Q.," "Take It or Leave It," and "Kay Kyser's College," continued to attract the invisible crowds. The year added to the number of audience-participation programs. In many instances this trend "loosened up" radio and made it more informal, less dependent upon prepared and rehearsed scripts; the programs became more natural and more extemporaneous.

In the United States, the gross revenue of the broadcasting industry for 1940 is estimated at more than \$207,000,000. As an indication of how much of radio broadcasting is commercial, the National Broadcasting Company reports for 1940 that approximately 33.4 per cent of the hours were commercial, and 66.6 per cent sustaining. On the networks, news broadcasts showed the most notable gain. Drama and comedy also picked up more time compared with 1939. Speaking of comedy, Jack Benny led the jesters in 1940 popularity polls, with Bob Hope, Fred Allen, and Eddie Cantor also high up in the parade. Charlie McCarthy, leader in recent years, relinquished leadership among the jesters, dropping several places.

Contributing to the strengthening of the solidarity of the Americas, stations in the United States increased the power of their transmitters and improved the efficiency of their directional beams. Internationally, the American waves are aimed to foster friendship and good trade relations among the neighbors of the Western World.

Just as each year in radio is remembered for some dramatic broadcast, probably the one for which 1940 will be recalled, was the one of June

22, from Compiegne, in the forest 45 miles north of Paris. There, radio observers stood around the historic "Armistice car" of the World War to broadcast a stirring eye-witness description of the dramatic meeting of the Germans and French—this time with German Army officers dictating the terms, at the table along which Foch sat in 1918. Here was a reversal in history, and this time all the world might listen-in.

Television, though unauthorized to operate on a commercial basis, made history however, and so 1940 will be recorded as the year in which the NBC's radio camera entered the political arena, first to telecast the GOP Convention at Philadelphia. Films of the democratic conclave in Chicago were flown to New York for telecasting. To top off the television performance, President Roosevelt was seen on the air at the Democratic rally in Madison Square Garden, and a week later Wendell Willkie, the GOP candidate, was televised at the same site. These events inspired the comment that as "a social and political event they may be regarded in the future as a milestone in human affairs." It was estimated that for the first time 10,000 persons in New York and vicinity witnessed by television the nomination of a candidate for the Presidency. By television, the election returns also were illustrated on the air for the first time. Radio cameras focused on charts, figures, and a huge score board, while teletype machines of press associations were seen feverishly typing the bulletins.

ORRIN E. DUNLAP JR.

**RADIOTELEPHONE SERVICE.** See TELEPHONY.

**R.A.F.** Royal Air Force. See EUROPEAN WAR.  
**RAILROAD RETIREMENT BOARD.** See RAILWAYS.

**RAILWAYS.** The Military Transportation Section of the Association of American Railroads was established Aug. 1, 1940. A. H. Gass was appointed Manager. It was located in the Quartermaster General's office at Washington, D.C. The avowed object was to make it unnecessary for the Government to take over the operation of the railways in case of war. The memory of what happened when the Government took over the operation of the railways in the World War was unpleasant enough both to railway owners and railway users to induce them to try to avoid it in the present crisis.

"Are the railways in physical shape to meet adequately the strain of war conditions?" was the question asked of railway officers more frequently than any other in 1940. J. J. Pelley, President of the Association of American Railroads speaking in Chicago on Oct. 10, 1940, said that the railways had ample line haul capacity and that they had ample terminal capacity, provided that freight be unloaded promptly upon arrival. He explained that while the railways had 628,000 fewer cars and 22,000 fewer locomotives than in 1918 the cars are much larger and the locomotives are nearly half again as powerful now as at that time. He said that in October, 1940, there were 1,503,055 serviceable freight cars on line.

It is a fact that in the last eight years maintenance expenses of railways have been drastically cut, but the contention is that the cuts were at the expense of fine housekeeping and did not impair efficiency. Sufficient rail, tie, and ballast renewal was made for high speeds and heavy trains, but the ballast toe line was left ragged and stations were not repainted. Inspection shows that the main lines

serving the eastern ports are in first class condition. There was no apparent let down in main line operating standards. The Pennsylvania Railroad and the New York Central will bear the brunt of the movement of material to the seaboard. The average car miles per day in 1939 on the Pennsylvania was 21.7 and in 1940 was 22.7. On the New York Central it was 31.7 in 1939 and 36.6 in 1940. Freight train speeds have been very much stepped up in the last few years through the use of the 2-8-4 type of locomotive in freight service and through the use of the superheater. In 1940 many freight trains were scheduled at 40 to 45 miles an hour which means that at times they made speeds of 60 miles an hour.

Special attention during 1940 was given to yard operations, for these have been the bottlenecks of railway freight movement. The factors that did most to improve yard operation in 1940 were car retarders, Diesel-electric switching locomotives, flood lights so that yards could be worked 24 hours a day, telephones and teletypes with central control of signals and switches in yards, and truck motors for car riders so that a minimum of time would be lost in returning from the terminus of one job to the starting point of another. By the middle of 1940 there were 31,000 freight cars with Duryea cushioned underframes. The damage to freight caused by shocks in switching yards has been large; the cushioned underframe greatly reduces it.

Diesel-electric car ferries across the Great Lakes have opened new routes between the Mississippi valley and the Atlantic seaboard. There are now 45 pairs of cities having overnight freight service; the shortest distance covered by this overnight service is between Denver and Minturn, Colo., 302 miles and the longest between St. Louis, Mo., and Texarkana, Ark., 551 miles. As an alternative to all-rail movement of material from the West, mention should be made of the Seatrain put in service March 1 between Texas City on the Gulf and New York. The Seatrain is 500 feet long by 66 feet broad. Freight cars are loaded onto it by electric crane.

There was a test of the capacity of railways for troop movement in August, 1940, when 150,000 men (troops in maneuver) were carried by railway in three days. This average of 50,000 a day compares with an average of 37,000 a day at the peak of the troop movement in 1918.

**Truck Service.** The co-ordination of trucking service with railway service in facilitating movement of material under war condition is important but not susceptible of precise measurement. While competition between railway and truck is still active there was a noticeable trend in 1940 toward a supplementing of one service by the other. Co-ordination is being retarded by an interplay of forces; on the one hand railway companies are trying to maintain a transportation monopoly, and on the other animosity against railways is hampering them in extending transportation by the use of trucks. In June, 1940, the Interstate Commerce Commission (q.v.) adjudged unlawful railway tariffs providing for pickups by trucks of livestock in Illinois, Iowa, and Wisconsin destined to Chicago. The reason given was that the trucks were subject to the Motor Carrier's Act and thus they "are being conducted without lawful authority, since no certificate that public convenience and necessity require such operations has been sought or obtained."

There was a strong minority opinion, however,

which pointed out that this was in effect a step toward co-ordination of transportation services. The majority took the view that it was an attempt to cut rates rather than co-ordinate transportation. Without going into technicalities, the railways by extending their terminals to points ten miles from the railway made a bid for part of the haul on livestock. The minority laid stress on the "public convenience" that would follow. The majority laid stress on the fact that the railways would not entirely lose the competitive livestock business to the trucks.

On its Delmarva division, which serves the peninsula extending south from Wilmington, Del., to Cape Charles, Va., the Pennsylvania Railroad operates a co-ordinated truck and railway service where truck lines extend to territory not reached by railway and also parallel railway lines but do only a local business, thus relieving the railway of the necessity of running a non-profit-earning local freight train. It is an important development because it suggests a form of co-ordination that has nation-wide possibilities.

In the west the Missouri Pacific Railroad has put fleets of trucks in operation. Both a truck line and a railway, operate from Houston to Freeport, 62 miles, with truck lines to other nearby cities. Other truck lines handle merchandise from distributing points such as Dallas, Beaumont, Fort Worth, San Antonio, Waco, St. Louis, Memphis, Little Rock, and New Orleans. Through the Missouri Pacific Freight Transport Company a flexible freight service is furnished for much of south-east Texas, which also furnishes transport for perishables through the medium of small refrigerator units carried by truck.

A larger refrigerator unit is being used in the East. The M. H. Renken Dairy Company of Brooklyn, N.Y., has placed in service fourteen 3000-gal demountable milk tanks. These tanks can be shifted from truck to flat-car and from flat-car to truck to give co-ordinated rail and truck service. The National Dairy Products Corporation is using a like device, so that by October, 1940, over 50,000 gal. of milk were being shipped daily to the New York metropolitan area by this new system which combines long haul rail service with short haul trucking.

A report of the Bureau of Motor Carriers' Section of Finance before the Interstate Commerce Commission recommends, under conditions to protect labor, that the Commission approve the applications of the Transport Company of New York to acquire various motor carriers operating over a network of routes extending along the Atlantic seaboard from Massachusetts to Florida and into Ohio, West Virginia, Tennessee, Louisiana, and Alabama. In all there are 56 companies operating more than 10,000 vehicles. The report recommends that the Commission deny a supplemental application to effectuate singleness of title to the operating rights of the motor carriers involved. The bankers for the proposed merger are the bankers for the Pennsylvania Railroad.

**Diesel Locomotives.** The use of oil-electric (Diesel) locomotives is complementary to the use of highway trucks in that it gives the railways flexibility for on-line service as the truck gives the railway flexibility for off-line service. This does not include the use of the Diesel in switching yards, where the Diesel is simply an improved tool for doing the same work heretofore done by the steam locomotive. In line haul work the Diesel adds a new service.

On Jan. 1, 1940, there were 57 Diesel locomotives on order for 16 railways. During 1940 there were 462 Diesel locomotives ordered by 60 railways. The trend was towards the use of more powerful units. Prior to 1939 the favored unit was 600 h.p. By the end of 1940 it was generally conceded that the 1000-h.p. unit was the more economical. The official tests that were made used 600-h.p. and 900-h.p. units, but it was thought that the superiority of the more powerful unit over the 600-h.p. unit would be more notable if the 1000-h.p. unit had been used in the comparison.

The gal. of fuel oil burned by the 600-h.p. unit per hour of work was 5630; the 900 h.p.-unit used 6371 gal., but the cost of repairs per hour of work averaged 30.38 cents for the 600 h.p.-unit and 27.55 cents for the 900-h.p. unit. In other words, with an increase of 50 per cent in power there was an increase of but 13 per cent in fuel cost and an actual decrease in cost of repairs.

The accusation that railways have been remiss in providing adequately for the strain of war is met, not only by citing improvements such as the Diesel locomotive, but also by pointing to the fact that Class I railways in the first five months of 1940 bought nearly \$400,000,000 of supplies of which \$284,160,000 was for materials and \$112,143,000 was for fuel-oil and coal.

**Transportation Act of 1940.** The Transportation Act of 1940, known as S.2009 while it was under discussion, was passed by both houses of Congress and was signed by the President on September 18. The Act provides for the appointment by the President of a three-member board to study the relative economy of various agencies of transportation, and government aid to transportation. It conditionally repeals land-grant rates and relieves the Interstate Commerce Commission of the duty of making proposed consolidations conform to its general consolidation plan. [As noted in previous YEAR BOOKS this duty, as interpreted by the Commission, had heretofore effectively blocked all important consolidations.]

The Act provides for the regulation of water carriers on much the same comprehensive scale as railways and motor carriers. Thus railways, highway motor carriers, and waterways are brought under regulation in respect to permits to operate, accounts, and rates. The Commission is permitted to make exceptions for water carriers that transport commodities in bulk by contract on the Great Lakes. Water carriers are required to make joint rates with railways and may establish joint rates with motor carriers. Minimum rates may be ordered by the Commission as well as maximum rates. Foreign competition may be taken into consideration by the Commission.

In two respects the Transportation Act of 1940 departs radically from former regulation of railways. In giving a basis for judging rates to the Interstate Commerce Commission the act says: "In the exercise of its power to prescribe just and reasonable rates the Commission shall give due consideration, among other factors, to the effect of rates on the movement of traffic by the carrier or carriers for which the rates are prescribed, to the need, in the public interest, of adequate and efficient railway transportation at the lowest cost consistent with the furnishing of such service; and to the need of revenues sufficient to enable the carriers, under honest, economical management to provide such service."

Gone is valuation of railway property as a basis of rate making. One has only to remember the



years of wrangling over cost of reproduction new or original cost as a basis on which to allow earnings of 6 per cent. Theoretically, just rates are discarded in favor of rates that will move the traffic and induce continued investment in railway facilities. The words "among other factors" should be noted however. It is still within the discretion of the Interstate Commerce Commission to give weight to each of the different factors. Apparently Congress for the first time has recognized that the ICC acts in a managerial capacity. Heretofore Congress saw the ICC only as a curb on the railways.

The second respect in which the Transportation Act of 1940 differs radically from any former regulation of railways is contained in the declaration of policy in the Act:

"It is hereby declared to be the national transportation policy of the Congress to provide for fair and impartial regulation of all modes of transportation subject to the provisions of this Act, so administered as to recognize and preserve the inherent advantages of each; to promote safe, adequate, economical, and efficient service and foster sound economic conditions in transportation and among the several carriers; to encourage the establishment and maintenance of reasonable charges for transportation services, without unjust discriminations, undue preferences or advantages, or unfair or destructive competitive practices; to cooperate with the several states and the duly authorized officials thereof, and to encourage fair wages and equitable working conditions—all to the end of developing, coordinating, and preserving a national transportation system by water, highway and rail, as well as other means, adequate to meet the needs of the commerce of the United States, of the Postal Service, and of the national defense. All the provisions of this Act shall be administered and enforced with a view to carrying out the above declaration of policy."

Vitaly important as this declaration of policy was, there were some pessimists who discounted it because, in the same year in which it was made the law, a report by J. B. Eastman was made public that covered government aid in 1936 which showed, the pessimists thought, how the policy might be falsified. The Eastman report estimated that the railways had been aided by the government to the amount of \$35,635,000, the waterways to the amount of \$128,528,000, airways to the amount of \$21,453,000, and motor vehicles to the amount of \$8,000,000. The pessimists said that if an Interstate Commerce Commissioner, past or present, could estimate that motor vehicles had been aided only to the extent of \$8,000,000, then a mere declaration of policy by Congress could be brushed aside as window dressing.

The estimate obviously assumed that the taxes of motor vehicles paid their share of the interest on the cost of construction of 3,000,000 miles of highways and their share of the cost of maintenance of these 3,000,000 miles. The pessimists pointed out that while the railways also paid taxes, they were compelled to charge rates that would cover interest on the cost of construction of the roadbed they used and also cover the cost of the maintenance of that roadbed. Under such an assumption the words "unfair . . . competitive" would be meaningless. The fact remains, however, that in 1940 Congress recognized that railways were desirable in a national transportation system and that they must be encouraged as well as restrained.

**Railroad Retirement Board.** On October 10 the President signed amendments to the Railroad Unemployment Act which increased payments by the Railroad Retirement Board to unemployed railway workers. In a press release, dated October 21, the Board said:

The Board estimates that over a period of years the effect of the amendments will be to raise benefits on the

average by about 75 per cent. In any given year, however, the increase in benefits resulting from the amendments may be greater or less than this average depending upon the number of unemployed workers and the length of their periods of unemployment.

The important increase in the benefit rights of unemployed railroad workers is made without increasing the contributions from employers which maintain the system. It is estimated that the present contribution rate of 3 per cent of the payroll, exclusive of the excess over \$300 in monthly earnings per employee, will be sufficient to support the higher level of benefits.

In making this estimate it is evident that the Board relied on increased railway employment which would at the same time increase the number of payments into the benefit fund and decrease the number of payments from the benefit fund.

But even discounting estimates for the future the results achieved in the past and the current position of the Board was thought to justify an increase in benefits. The October, 1940, *Monthly Review* of the Railroad Retirement Board gives the amount of tax collections under the Carriers Taxing Act cumulative through September, 1940, as \$412,869,059, and the total and retroactive payments as \$338,154,367, leaving \$74,714,692 excess collections over payments. These payments were divided: Employee Annuities \$234,091,003, Pensions \$95,605,724, Survivor Annuities \$2,373,631, Death Benefit Annuities \$1,990,759, and Lump-Sum Death Benefits \$4,093,248.

Of the administrative expenses of the Board the October, 1940, *Monthly Review* says: "Of the \$2,536,000 appropriated by Congress for administrative expenses of the retirement system for the fiscal year ending June 30, 1941, a total of \$647,318 had been expended or obligated for expenditure by the end of September." The *Review* also says: "Retirement account assets at the end of September consisted of \$85,400,000 invested in 3 per cent special Treasury notes and an unobligated cash balance of \$12,490,847, in addition to a balance of \$77,530,000 in the amount appropriated by Congress for the current fiscal year."

"Employee annuities totaling 109,738 with a monthly amount payable of \$7,193,887, were in force at the end of September." [1940] This is apparently a monthly payment of \$65.56.

At the end of June, 1940, there were 35,146 retirement pensions in force—the average pension was \$58.66 per month. Through June 28, 1940, the Railroad Retirement Board certified the payment of 1,000,378 claims for unemployment insurance. The average amount paid was \$14.80.

**National Mediation Board.** The National Mediation Board, created in 1934, consisting of George A. Cook (Chairman), Otto S. Beyer, David J. Lewis, with Robert F. Cole Secretary, made its annual report for the fiscal year ended June 30, 1940. The Board disposed of 93 cases, of which 9 covered negotiations of new cases (rates of pay, working conditions, etc.), 51 changes in rates of pay, 32 changes in existing agreements, and one miscellaneous case. There was only one minor strike occurring among employees subject to the Railway Labor Act.

The three types of disputes subject to the jurisdiction of the National Mediation Board are: (1) Disputes among employees concerning their duly authorized representative; (2) Disputes between carriers and their employees over negotiations for new agreements or changes in existing agreements; (3) Interpretation of mediation agreements where differences arise between carriers and their employees as to the meaning or application of such agreements. In all there were 182 disputes and, as

noted above, 93 of these were settled by inducing the parties to make mediation agreements. There was appropriated \$230,406 for the NMB for the fiscal year ended June 30, 1940. The Board's operating expenses were \$149,502.

The difference in functions between the National Mediation Board and the National Railroad Adjustment Board are important. Labor agreements consummated as a result of direct negotiations between carriers and their employees, if in dispute, are subject to the jurisdiction of the National Adjustment Board. Agreements arrived at with the help of the National Mediation Board, if in dispute, are subject to interpretation by the Mediation Board itself. The U.S. Supreme Court has upheld the National Mediation Board.

**Earnings and Expenses.** The following figures are for Class I railways which operate 234,031 out of the total 249,826 miles of railway in the United States. In 1940 total operating revenues amounted to \$4,275,000,000, compared with \$3,995,000,000 in 1939. Total operating expenses in 1940 amounted to \$3,090,000,000, compared with \$2,918,000,000 in 1939.

Income Account	1940	1939
Total Operating Revenue	\$4,275,000,000	\$3,995,000,000
Freight	3,520,000,000	3,251,000,000
Passenger	415,000,000	417,000,000
Total Operating Expenses	3,090,000,000	2,918,000,000
Maintenance of Way	500,000,000	467,000,000
Maintenance of Equipment	817,000,000	766,000,000
Transportation	1,500,000,000	1,418,000,000
Net Railway Operating Income	650,000,000	589,000,000
Net after Fixed Charges	155,000,000	95,000,000

#### New Construction and Lines Abandoned.

Twenty-six miles of new lines were built in the United States in 1940 as against 58 built in 1939. Lines abandoned totaled 1299 miles as against 1783 miles in 1939.

**Locomotives Ordered.** The total number of locomotives ordered was 782 comparing with 469 ordered in 1939. Of the 694 which were ordered for use within the United States in 1940, 219 were steam locomotives, 462 Diesel-electrics, and 13 electrics.

**Locomotives Built.** There were 560 locomotives built in the United States in 1940 and 355 built in 1939.

**Freight Cars.** Freight cars ordered totaled 67,591 in 1940 as against 62,914 ordered in 1939. There were 56,603 freight cars built in 1940 and 27,236 built in 1939.

**Passenger Train Cars.** Passenger-train cars ordered totaled 370 in 1940 and 435 were ordered in 1939. The passenger cars built in 1940 were 200 in number, 221 in 1939.

**Finance.** No railway receiverships were established in 1940. One of the reasons for this is that at the beginning of the year there were 76,907 miles of railway already in the hands of receivers or trustees. During the year 6 companies with a total mileage of 3675 were taken out of the hands of the courts. Three of these were important railways: the Mobile and Ohio; the Chicago, Great Western, and the Chicago-Eastern Illinois.

With the exception of the sale of equipment trusts no new financing for railways was done in 1940. There were only two important dividend changes: the Pennsylvania Railroad paid \$1.50 a share on its \$50 par value shares, and the Atchison Topeka and Santa Fe resumed payments on its common stock with a payment of \$1 in November, 1940. Total dividend disbursements in 1940 were a

little over 90 million dollars and in 1939 were a little less than 75 million dollars.

**European Railways.** While no reliable figures for the operation of European railways in 1940 were available, certain general conclusions may be drawn from the news. English railways were maintained at a very high standard. Right of way (permanent way, they call it) has been more rigid than called for by American practice. It was not allowed to deteriorate with the falling off in traffic; cars and locomotives were kept in excellent repair. In contrast to this the Russian railways were under-maintained or lavishly extended as was thought expedient. Under the strain of troop movement for the conquest of Finland, the Russian railways were quite incapable of handling the soldiers, and their supplies and ordinary traffic was almost entirely neglected. Under the strain of troop movement to France, the English railways were able to handle, not only military traffic, but also ordinary freight and passenger traffic with almost no delays.

See ACCIDENTS; BRIDGES; BUSINESS REVIEW; VERMONT. An account of the major accidents is given by date under CHRONOLOGY.

WILLIAM E. HOOPER.

**RAPID TRANSIT.** To the list of cities having subways or underground railways, Chicago will soon be added, the date set for completion being June 30, 1941. However, the new lines are not for a separate local transportation system, but are mainly to provide for connecting the several elevated railways by means of subways through the congested business district. Of the total length of 8.75 miles for two lines, 6.78 miles were completed in January, or 13.56 miles of single track and tunnel. Twin tunnels are driven, each track having its own "tube." The estimated cost is \$57,400,000, of which \$34,270,000 is to come from the city's traction fund, and the remainder is a grant from the Federal government.

One line runs north and south under State St., 4.9 miles, with 16 stations. The other line comes down Milwaukee Ave., south on Dearborn St., and then west on Congress St. to a loop or turnaround at Wells and Market Sts. This line is 3.8 miles long, with 13 stations. A deep-level system was adopted, the tunnel tracks being about 45 ft. below the streets. At stations, there is a mezzanine floor 18 ft. below the street for ticket offices and other facilities. A proposed new company, to be formed by merger of existing separate traction companies, is to operate the subways as part of a unified local transportation system. This company would assume the cost of tracks, signals, and station equipment.

In New York, the underground railways were extended, about three miles in Manhattan and the same length in Brooklyn, while some 25 miles of the older elevated lines were removed, having been superseded by modern subway lines. The city took possession of the Interborough system in June, thus completing the unification of all the rapid transit lines. The new 6th Ave. subway from 9th to 53d Sts. was opened on December 15; although only 2½ miles long, it cost \$46,800,000 owing to value of property and difficulties of construction.

Street railway lines make but little progress, and in several cities they are being superseded to varying extent by motor-bus lines. This is the case in New York and Brooklyn. In Chicago, it is proposed to convert 250 to 300 miles of street-car routes to bus lines, and the Chicago & West Towns Ry. has substituted buses on 12 miles of its former track routes. Traffic congestion in parts of New

York, due to the use of the streets by suburban bus lines, has led to regulations restricting such use and requiring these bus lines to use terminal stations.

Substitution of trackless-trolley operation for street-car operation has been effected on a considerable scale at Milwaukee, Wis. Classification of local traffic in cities of the United States, for 1940, has been given as follows: Street railways 46 per cent, motor bus 32, elevated and underground lines 18, and trolley bus or trackless trolley 4 per cent.

To extend its rapid transit system, the city of New York has purchased part of the defunct New York, Westchester and Boston Railway, and will convert it from the original trolley line system to the third-rail system, to conform to the equipment of the city lines. See ILLINOIS; NEW YORK.

E. E. RUSSELL TRATMAN.

**RATIONING.** See CHEMISTRY, INDUSTRIAL; LIVING COSTS AND STANDARDS; AUSTRALIA, BELGIUM, BOHEMIA AND MORAVIA, BULGARIA, DENMARK, FINLAND, FRANCE, GERMANY, GREAT BRITAIN, HUNGARY, IRELAND, ITALY, JAPAN, NETHERLANDS, NEW ZEALAND, NORWAY, RUMANIA, SLOVAKIA, SPAIN, SWEDEN, SWITZERLAND, and YUGOSLAVIA under *History*

**RAYON.** Chemically produced fibers, which have won world acceptance under the generic term rayon, achieved another year of expansion in both production and consumption of all types of yarns. The most remarkable circumstance in this connection is that the increase in volume was independent of any influence of "war-orders." Other important textile fibers, including cotton, wool, and silk, have figured in the government contracts for clothing and other raw materials. Rayon, as the latest type of fiber, has served to meet every demand that has been made upon it by the textile mills whether operating on cotton, wool, or silk, and has proven itself to be universally adaptable.

In considering the industry in America, it is necessary to keep in mind that all of the prerequisites for its manufacture are available in ample quantities in this country and are not affected to any degree by importation from the Eastern Hemisphere. Wood pulp and cotton linter, the bases for all rayons, have remained at reasonable price levels, and all of the chemicals necessary for their conversion into yarn have been free from hysterical price advances.

For the year 1940, production of all types of chemical filament yarns and rayon staple fiber yarns, totaled over 465 million lb. Stocks in the hands of yarn spinners, at the close of the year, were non-existent, and sales into 1941 have taken production through January and February and into March. The installed capacity of rayon and other chemically produced yarn plants in the United States, as of Jan. 1, 1941, is reported as 600 million lb. per year.

Due notice should be taken of the marked achievements of the past year in the use of rayon staple fiber. It has been used to a greater extent in the past 12 months in connection with wool in blends running as high as 40 per cent rayon and 60 per cent wool than in any other year. The resulting fabrics have been used in women's wear, suitings, and cloakings, men's overcoatings and suitings, and in a wide line of upholsteries. Another outstanding record is that achieved by rayon staple fiber in the production of cord tires for autos, buses, and trucks, and the adoption of rayon

staple fiber especially crimped for use in the carpet and rug industry. Manufacturers of floor coverings now announce that they have solved all problems in the use of rayon staple fiber, the last of which was overcome when it was given a permanent curl which heretofore has been solely a property possessed by coarse wools. With resiliency, the use of rayon staple fiber in the carpet industry becomes of major importance.

Close to 60,000 men and women operatives are assured of year-round employment in this industry, at the highest wage prevailing for work of similar character in any other textile or chemical plants.

FRANCIS A. ADAMS.

**RECLAMATION, Bureau of.** The Bureau of Reclamation is engaged in the construction, operation, or supervision of the operation of 68 irrigation projects or divisions of projects in 16 arid and semiarid States in the West, which will furnish ultimately a full or supplemental water supply to approximately 10,000,000 acres of thirsty land. The funds for this work have come from repayments by the water users, from oil leasing and other mineral operations, from the sale of public lands, and by allotments and direct appropriations by the Congress. The money expended is returned to the U.S. Treasury for deposit in the Reclamation Revolving Fund by payments of settlers and from sales of power and water.

During the 1940 fiscal year the Bureau of Reclamation continued its major construction program. Work was in progress on 27 projects in 13 States. Thirteen major storage dams and one diversion dam were under construction during the year. Of these, four for storage and the one for diversion were completed. Four of the storage dams under construction are of tremendous size. They are Grand Coulee, Shasta, Friant, and Marshall Ford. Grand Coulee will be the largest concrete dam in the world, while Shasta and Friant Dams will be second and fourth largest; and Marshall Ford will be fifth. Boulder Dam, although ranking first in height, is third largest.

Since 1902, the Bureau of Reclamation has completed the following construction: 161 storage and diversion dams; 51 power houses; 3058 buildings; 20,575.9 miles of canals, ditches, and drains; 87.8 miles of tunnels; 4802.5 miles of telephone lines; 300.5 miles of dikes; 6377 flumes; 21,525 culverts; 13,912 bridges; and 202,491 other irrigation structures. Reservoirs on Federal irrigation projects had a combined capacity of 51,215,000 acre-feet at the end of the fiscal year.

An outstanding project under construction is the Columbia Basin project, designed to provide water for the irrigation of 1,200,000 acres of dry land in central Washington and for the generation of large blocks of cheap hydroelectric power for irrigation pumping requirements, and industrial and urban consumption. Rising to a height of 553 feet and stretching across the Columbia River 4300 feet, Grand Coulee Dam was nearing completion at the end of the fiscal year. Looking forward to the time in 1943 or 1944, when water may be available for the irrigation of the first block of lands included in the project area, the Bureau of Reclamation in July, 1939, launched joint investigations of the Columbia Basin Irrigation project. The object of the investigations is to plan for the successful settlement and development of the project area, which it is expected will support an increase of 350,000 in population of the State of Washington.

Another major undertaking of the Bureau in progress is the Central Valley project in California, designed to alleviate critical water shortage and problems in three important agricultural areas through the conservation of waste flood waters of the Sacramento and San Joaquin Rivers. By means of Shasta Dam in the north and Friant Dam in the south, regulation of both the Sacramento and the San Joaquin Rivers will provide adequate water to supplement the irrigation supply of a large area of highly productive orchard and farm lands in the southern San Joaquin Valley; re-establish navigation to Red Bluff on the Sacramento River; prevent salt water intrusion in the irrigation channels of the delta of the Sacramento-San Joaquin Rivers; provide supplemental water for irrigation, domestic and industrial uses in other areas, and make possible the generation of 375,000 kilowatts of water power at Shasta Dam. At the end of the fiscal year construction work was about 40 per cent complete on Shasta Dam, to be 560 feet in height, and 3500 feet in length along the crest. The work in progress also includes the 46-mile Contra Costa Canal, the Southern Pacific Railroad relocation around the Shasta Dam reservoir site and Friant Dam, to be 320 feet in height and 3430 feet in length. See DAMS

Boulder Dam, with 8 largest generating units and 1 smaller one in operation had almost doubled its output during the fiscal year, generating 2,834,248,000 kilowatt-hours of electrical energy. With 8 large generators in operation, the present installation includes 6 of the large 82,500 kilovolt-ampere generating units in the Nevada wing and 2 of the large and 1 of the smaller 40,000 kv-a generating units in the Arizona wing, totaling 700,000 kw. Ultimately there will be 15 of the large and 2 of the smaller generating units in operation with a capacity of 1,317,500 kw. Present power contracts will not only return the cost of Boulder Dam and Power Plant to the Federal Government with interest but will also pay certain revenues to the States of Arizona and Nevada.

The 80-mile All-American Canal, by far the largest irrigation ditch in the United States, is practically completed. This canal with its 130-mile Coachella Branch will carry Colorado River water to irrigate lands in Imperial and Coachella Valleys in southern California. Work on the second 40-mile section of the Coachella Canal was about a third completed at the end of the fiscal year.

The population of the 53,205 irrigated farms and the 258 towns and cities served by Federal projects reached a total of 837,617 persons. Of the 3,140,976 acres irrigated, 3,078,072 acres were harvested in 1939, producing crops worth \$114,082,794, or an average of \$37.06 per acre.

Under the present construction program, the largest in the Bureau's history, water will be provided for about 2,500,000 additional acres, transforming them from sagebrush wastes into productive farms that will support approximately a million people. This will bring to 5,000,000 acres the total of new lands the Bureau has watered. Supplemental water will be supplied for about 3,500,000 acres already irrigated, bringing to almost 5,000,000 acres the land which will have been rescued by the Federal Government supplying supplemental water. The Bureau of Reclamation estimates that as many as 20,000,000 acres additional can be irrigated with water resources as yet undeveloped and policies now in effect. The future growth and stabilization of conditions in the West will be correlated in large measure with the con-

servation of these remaining water resources and their beneficial use.

JOHN C. PAGE

**RECONSTRUCTION FINANCE CORPORATION (RFC).** The Reconstruction Finance Corporation, one of several agencies grouped under the Federal Loan Agency, may perform all its functions to Jan. 22, 1947, or such earlier date as the President may authorize. The Corporation was created by Act of Congress approved Jan. 22, 1932, to provide emergency financing facilities for financial institutions, to aid in financing agriculture, commerce, and industry, and for other purposes. Subsequent legislation extended its operations. The capital stock of the Corporation is \$500,000,000, fully subscribed and paid in by the Secretary of the Treasury and held for the benefit of the United States.

Public No. 664, approved June 25, 1940, authorized the Reconstruction Finance Corporation to aid the Government in its national defense program in the following manner:

"(1) To make loans to, or, when requested by the Federal Loan Administrator with the approval of the President, purchase the capital stock of, any corporation (a) for the purpose of producing, acquiring, and carrying strategic and critical materials as defined by the President, and (b) for plant construction, expansion and equipment, and working capital, to be used by the corporation in the manufacture of equipment and supplies necessary to the national defense, on such terms and conditions and with such maturities as the Corporation may determine, and

"(2) When requested by the Federal Loan Administrator, with the approval of the President, to create or to organize a corporation or corporations, with power (a) to produce, acquire, and carry strategic and critical materials as defined by the President, (b) to purchase and lease land, to purchase, lease, build, and expand plants, and to purchase and produce equipment, supplies, and machinery, for the manufacture of arms, ammunition, and implements of war, (c) to lease such plants to private corporations to engage in such manufacture, and (d) if the President finds that it is necessary for a Government agency to engage in such manufacture, to engage in such manufacture itself."

In aid of the defense program, under this and other authority, the RFC has made commitments aggregating approximately \$1,100,000,000. These include the creation on June 28, 1940, of the *Rubber Reserve Company* to acquire a reserve supply of raw rubber; \$5,000,000 was subscribed to the capital stock of this Company, and with the approval of the RFC it has agreed with the International Rubber Regulation Committee, which controls the world output of raw rubber, to purchase up to 430,000 tons of crude rubber, costing approximately \$190,000,000. Of this amount, 52,516 tons have been delivered, 20,139 tons are in transit, and 16,343 tons await shipment. In order not to interfere with the requirements of the rubber industry, the RFC is buying in co-operation with the industry at approximately 20¢ a lb. The industry agreed to carry not less than 150,000 tons to meet its current needs.

On June 28, 1940, the Corporation created the *Metals Reserve Company* with a capital of \$5,000,000 to acquire a reserve supply of critical and strategic materials. Purchases of such materials are in excess of current requirements. The Metals Reserve Company has made commitments to acquire supplies of antimony, chrome ore, copper, graphite, manganese ore, tungsten trioxide, tin, antimony, and wolframite at a total cost of \$376,724,200.

The *Defense Plant Corporation*, created Aug. 22, 1940, with a capital of \$5,000,000, has made commitments aggregating \$349,779,683. Of this amount \$283,206,197 is for the construction of plants

and the acquisition of machinery and equipment for the manufacture of airplanes and parts. These plants and equipment are owned by the Defense Plant Corporation and leased to the manufacturer. The Corporation is protected either by the rent received or by a contract of reimbursement from the Army or Navy Department. Of the total, \$35,550,000 is for machine tools, and the remainder for docks, shipyards, and the manufacture of tanks and tank engines, ordnance, and other items.

On Aug. 29, 1940, the *Defense Supplies Corporation* was created with a capital of \$5,000,000 to acquire and carry a reserve supply of critical and strategic materials and supplies which may be necessary in the national defense program. At the request of the National Defense Commission, it has allocated \$50,000,000 for the purchase of highest aviation gasoline. It has contracted for the purchase of 300,000 tons of nitrate of soda from Chile at a cost of \$5,400,000. It is transporting to and storing in this country 250,000,000 lb. of Australian wool. The estimated cost of the transportation and storage of the wool is \$12,000,000, to be provided by the President from the "Emergency Fund for the President" contained in the Military Appropriation Act, 1941. The wool belongs to Great Britain, but the United States government has the right to use any part of it that it may need.

On Oct. 23, 1940, the *Defense Homes Corporation* was incorporated with a capital of \$10,000,000, supplied by the President from the "Emergency Fund for the President" provided in the Naval and the Military Appropriation Acts of 1941. The Corporation assists in providing homes in localities where manufacturing is necessary in connection with facilities for the War and Navy Departments when private capital is not available, and where it is anticipated that the homes will be of permanent value to the community after the present emergency. Mortgages placed on these homes will be insured by Federal Housing Administration (q.v.) and if not purchased by private investors will be held by the Federal National Mortgage Association or The RFC Mortgage Company. The Defense Homes Corporation furnishes the equity in the projects.

In addition to the creation and capitalization of the foregoing corporations, and loans to them as outlined, the RFC has authorized 195 loans to 167 private manufacturers in the defense program, aggregating \$127,394,965. The RFC co-operates with banks in making loans for production, plant expansion, or other national defense purposes by taking participations in any such loans. Where the bank wishes to carry the entire loan, the Corporation gives a definite take-out agreement under the rates now in effect or as may be agreed upon. The Corporation has authorized participations to the extent of \$4,821,807 in defense loans aggregating \$6,786,894, practically all made by banks.

The construction of all defense plants and the acquisition of equipment are at the request of the War or Navy Departments, and the larger defense loans by the Corporation to manufacturers engaged on government contracts are made in co-operation with the Defense Commission. The purchase of defense supplies and critical and strategic materials is made at the request of, or in co-operation with, the Defense Commission. All of these subsidiaries of the RFC are managed and operated by directors, officers, and employees of the RFC under the supervision of the Federal Loan Administrator.

Through Dec. 31, 1940, total authorizations by

the Corporation and tentative commitments outstanding at the end of the month were \$12,199,428,377.01. Cancellations and withdrawals were \$2,713,075,098.94, and \$1,476,300,144.66 remains available to borrowers and to banks in the purchase of preferred stock, capital notes, or debentures, etc. Total disbursements were \$8,010,053,133.41, repayments and other credits \$6,181,589,851.66 (over 77 per cent.).

In addition to the foregoing loans and investments, the Corporation has allocated \$3,204,398,637.69 for relief and to other Governmental agencies by direction of Congress. Under an Act of Congress passed in February, 1938, the Secretary of the Treasury was directed to cancel notes of the Reconstruction Finance Corporation to the extent of funds outstanding in connection with allocation and relief disbursements; but no part of the notes canceled was for loans made to borrowers, or for investments made by the Corporation, and no debt due to the Government by any one was canceled. The total amount of notes canceled up to Dec. 31, 1940, was \$2,728,286,823.03.

After the payment of all expenses and interest on the money borrowed to lend, the Corporation has accumulated an operating surplus in excess of \$189,000,000, after providing a reserve of \$125,000,000 for losses and contingencies. The operating expenses of the Corporation have been substantially less than 1 per cent of the amount disbursed.

EMIL SCHRAM.

#### RECORDINGS. See PHOTOGRAPHY.

**RED CROSS, American National.** With the outbreak of European hostilities, the American Red Cross, working in association with sister societies throughout the world, inaugurated extensive war relief operations. On Oct. 31, 1940, relief totaled \$12,339,505. This was made possible through response of the public in oversubscribing a \$20,000,000 war relief appeal which began May 10. More than half of American Red Cross expenditures on European relief went to Great Britain, a total of \$7,261,489 as of October 31. An American Red Cross Committee was set up in London to administer assistance from this country to British relief agencies. American women, some 500,000 volunteers, were engaged during the year in the production of war relief garments and surgical dressings for use abroad. On October 31, the central warehouse at Jersey City, N.J., had received 14,588,505 surgical dressings and 1,786,260 articles of clothing for shipment. Grave needs arising in Finland's postwar period prompted the American Red Cross in October to begin shipment of \$1,000,000 worth of Government-purchased foodstuffs and chapter produced garments. Food, clothing, and medicines also moved to free and penetrated China for the relief of needy Chinese war victims. To assist the millions of Americans with family ties in the war zones, the Red Cross conducted an Inquiry Service, handling some 59,000 letters of inquiry up to November 15. More than 10,000 volunteers in the New York City area gave their blood for shipment to Great Britain for the treatment of war-wounded civilians and troops.

The American Red Cross had 3721 chapters with 6585 chapter branches in the United States and the insular possessions on June 30, 1940. In the 12 months preceding June 30, the American Red Cross conducted disaster relief operations at the scene of 102 catastrophes occurring in Continental United States. Assistance was given 102,000 persons at a cost of \$637,928. During the year 94,246 life sav-

ing certificates were issued, and 182,697 persons were qualified as beginners or swimmers under Red Cross supervision. Through the same period 379,860 first aid certificates—the largest number in the 30-year history of the program.

The problems of 140,357 disabled veterans or their families were dealt with by chapter workers. In hospitals and regional offices of the Veterans' Administration and in other Government hospitals, representatives of the national organization dealt with 58,505 ex-service men or their families. Chapters aided 12,155 men now in regular service, or their families. Red Cross field directors in Army, Navy, Coast Guard, and Marine Corps stations and workers in Government hospitals handled the cases of 53,365 men in active service or their families.

On the active list of the Red Cross Nurses' Reserve are 43,258 nurses ready to respond to calls from Army, Navy, and Red Cross disaster service. Public Health nurses made 1,038,363 nursing visits to or on behalf of patients; inspected 618,623 school children within the 12 months. At the close of the fiscal year 638 public health nurses were employed in 459 communities.

During the year 868 Red Cross chapters conducted 4440 courses in Home Hygiene and Care of the Sick, certifying 61,855 persons. Accomplishments of volunteers in special services included: Production of 462,857 pages of Braille transcribed by hand for blind readers, and 683,106 pages printed by duplicating process; 18,834 Christmas bags for distantly stationed men of the Army and Navy; the making of 66,379 calls by members of motor corps; the feeding of 80,599 persons by canteen workers. Membership for the year ended June 30, 1940, was 7,139,263 men and women—an increase of 1,470,583 over the previous year.

Increased responsibilities in connection with the national defense program greatly enlarged domestic operations of the Red Cross during the year. Machinery was set into motion for the induction of 4000 Red Cross nurses into the Army for active duty; at the request of the Surgeon General, the Red Cross began enrolling medical technologists for service when and if needed; in four key cities in the country, Red Cross volunteers gave their blood to enable specialists to perfect new methods of saline plasma transfusions for military use; metropolitan chapters began training Nurses' Aides as a part of the defense program; co-operating with Harvard University the Red Cross made plans for the erection of a 100-bed hospital in Great Britain in which 75 American doctors, Red Cross nurses and medical technicians will study wartime diseases under siege conditions, reporting findings to the Army, Navy, and U.S. Public Health Service.

The President of the United States is president of the American Red Cross. Norman H. Davis is chairman of the Central Committee, having been named by President Roosevelt on Apr. 12, 1938, to succeed the late Rear Admiral Cary T. Grayson. The Central Committee is composed of 18 members, six of whom are appointed by the President of the United States to represent the Government.

**REFORMED CHURCH.** A name used by three religious denominations in the United States. The Reformed Dutch Church in America, formerly the Reformed Dutch Church, was founded in New York in 1628 as a branch of the Reformed Church in Holland. Headquarters, 25 East 22 Street, New York, N.Y. The Christian Reformed Church was established in Michigan in 1857 by a group who withdrew from the former body. Headquarters,

Grand Rapids, Mich. For statistics, see **RELIGIOUS ORGANIZATIONS.**

**REFRESHER COURSES.** See **EDUCATION**; **EDUCATION, U.S. OFFICE OF**; **SOCIAL SECURITY BOARD.**

**REFUGEES.** The year 1940 encompassed the greatest refugee problem of all history, both in numbers of people involved and in intensity of suffering. Even the migrations following the first World War, which involved substantial numbers of Turks, Greeks and Bulgarians, Russians and Armenians, paled in comparison. These had been partially financed and directed by the League of Nations and, under bilateral treaties, relatively orderly exchanges of populations had taken place. The decade following the first World War saw a heavy infiltration into Western Europe of Russian and Armenian refugees. Although they suffered because of statelessness and the attendant political difficulties, many were able, in the prosperous era of the 1920s, to become absorbed. Nevertheless, as late as 1938, the League of Nations reported that almost 1,000,000 of these earlier refugees were still unsettled.

When 1940 opened, Europe held about 4,500,000 recent refugees—close to 4,000,000 Poles who had fled eastward and southward before the invading German armies in September, 1939; some 250,000 Spanish Loyalists in France; and about 140,000 German, Austrian, and Czech refugees in various western countries of asylum. Early in the year, the Russian conquest of Finland necessitated the resettling of 400,000 Finns from the areas ceded to Russia into the interior of Finland. The German invasion of Norway in April gave rise to a similar internal refugee problem, although of smaller dimensions.

The most panicky exodus of the year was that following the German conquest of the Low Countries, when 3,000,000 Dutch, Belgians, Luxemburgers, and Frenchmen clogged the roads of Southern France in their retreat from the Nazi advance. A refugee flow in the opposite direction took place a few weeks later after the collapse of France, when the great majority of these fleeing men, women, and children returned to their homes to assume the role of conquered peoples.

Most complicated of all was the lot of the refugees from Central Europe who had fled from Germany and the lands she successively swallowed in the period since 1933. These German, Austrian, and Czech refugees, the majority of them Jews, had been existing on sufferance in their countries of asylum. Forced out of their homelands by a series of legal and administrative decrees, they had crossed borders into contiguous lands where they were permitted to remain, for the most part, on the assumption that they would quickly re-emigrate to lands of permanent refuge overseas. Countries such as France, Holland, Belgium, Switzerland, despite humanitarian compassion, were unable to absorb large numbers of foreigners, predominantly urban dwellers.

Overseas countries accepted large numbers of refugees from 1933 onward. Approximately 130,000 entered the United States on immigration quotas. Over 110,000 found asylum in Latin America and the Philippines. Palestine absorbed about 90,000 refugees from Germany, Austria, and Czechoslovakia, in addition to about 150,000 Jewish emigrants from Poland, Rumania, and other East European countries. From 20,000–30,000 refugees went to such remote places as Australia and the Far East. These, taken together with the 140,000 refu-

gees who had remained on the European continent, completed the roster of the 500,000 persons who had fled from Greater Germany since the rise of National Socialism.

The difficulties encountered by the German refugees during 1940 were considerably aggravated by the outbreak of the war. Bottlenecks developed in overseas transportation facilities; the closing of the Mediterranean, when Italy entered the war in June, was a serious blow. A trans-Siberian route to the Pacific Ocean was developed, which was used by substantial numbers of refugees. Lisbon became the chief funnel for the westward refugee flow.

The more than 100,000 Polish refugees who had fled to the Baltic and Balkan countries when Poland was invaded, faced new threats during 1940 when Latvia, Lithuania, Estonia, and part of Rumania were absorbed by Soviet Russia, while Hungary and the rest of Rumania came increasingly under German domination. Large numbers of Poles, their number conservatively estimated at 300,000, were deported from Soviet-occupied Poland to Siberia during the latter part of the year. Smaller numbers voluntarily left Lithuania, Latvia, and Estonia for refuge in the Western Hemisphere.

The year was characterized by a number of cross-movements of populations. In the course of the German re-organization of Poland, Germans who had lived in the Baltics and the Balkans were repatriated to the western sections of Poland incorporated into Germany itself, while from the same area, Poles and Jews were driven eastward. During the fall more than 300,000 Germans were in process of repatriation from Bucovina, Bessarabia, and Rumania to Germany. Earlier in the year some 200,000 Austrians had been moved from the Italian Tyrol to new homes in Germany and Austria.

England, which began the year with some 65,000 refugees from Central Europe, after the invasion of the Low Countries sheltered numbers of Dutch and Belgian nationals as well as German, Austrian, and Czech refugees. These were all interned, and during the late summer many were removed to Canada, Australia, and New Zealand together with prisoners of war. A minor refugee movement, but one which aroused great sympathy, was that of 7000 British children who were sent to Canada, the United States, and Australia for the duration of the war. This plan was halted after several months because of the perils of overseas transportation.

The German policy of forced labor involved the transfer of several hundred thousand Czech, Danish, Norwegian, Dutch, and Belgian workers to the farms and war industries of the Reich. The refugee tide was further swelled with the expulsion of 10,000-20,000 Frenchmen from Lorraine into unoccupied France, and of several hundred Jews from Luxembourg. During the fall, the internment camps in unoccupied France were also made to house about 9000 Jews from the Baden and Palatinate areas of Germany.

The refugee problem received the attention of a number of intergovernmental and private agencies during the year. Relief work in France was conducted on an extensive scale by the American Red Cross, American Friends Service Committee, and the American Jewish Joint Distribution Committee. The latter organization likewise continued to bring help to distressed refugee and native Jewish populations in almost every country of Europe and to facilitate the emigration of large numbers. The Commission for Polish Relief was active through-

out the year. The Intergovernmental Committee on Refugees was unable, because of war conditions, to launch large-scale settlement projects. Hopeful progress was made, however, in the settlement of refugees in the Dominican Republic, a project which had been started early in the year with the co-operation of the Intergovernmental Committee. Other official bodies, such as the office of the League of Nations High Commissioner for Refugees and the International Labor Office, while unable to move forward in effective action, became increasingly aware of the enormity of the problem which would have to be faced when the war ended.

See JEW; MUSIC; WAR RELIEF. Also see BELGIUM, BRITISH GUIANA, BRITISH HONDURAS, DOMINICAN REPUBLIC, FRANCE, MEXICO, PALESTINE, and PORTUGAL under *History*.

**Bibliography.** Sir John Hope Simpson, *The Refugee Problem*. Refugees (London, 1939), and *Refugees, A Review of the Situation since September 1938* (London, 1939), issued under the auspices of The Royal Institute of International Affairs, "Refugees," *The Annals of The American Academy of Political and Social Science* (May, 1939); *Survey Graphic* supplement November, 1940, and other articles

JAMES G. McDONALD.

**REGISTRATION BOARDS.** See DRAFT, MILITARY

**RELIEF.** Relief and work relief, which had been for eight years the largest single object of Federal expenditure and had constituted a major congressional issue in 1939, faded somewhat from the public interest in 1940 as attention was focused on rearmament and employment began to rise. The roster of total recipients (including both public assistance under the Social Security Board and work-relief wages) started a downward trend in March and reached the low point of 15,232,000 in September. The slight rise occurring thereafter produced no figure comparable to the January total of 18,386,000. WPA rolls followed unemployment downward from about 2,300,000 in March to only 1,900,000 in December. The Treasury Department reported that allocations (warrants issued) under the Emergency Relief Appropriation Act for the fiscal year 1941 totaled only \$1,071,729,157, as compared with \$1,795,478,539 under the Act of 1939 and \$2,529,649,668 under the Act of 1938. Expenditures (checks issued) for the first half of the 1941 fiscal year (to Dec. 31, 1940) were \$727,015,239, considerably less than half of the totals for the fiscal years 1940 (\$1,835,290,498) and 1939 (\$2,617,974,767).

In the year's national elections, likewise, the relief issue failed to play so prominent a part as it might have in any of several preceding years. The Republican platform reiterated the contention that administration of aid to the needy should be placed under State rather than Federal control, and held out the hope of ultimately reducing the need for high expenditures by measures to improve economic conditions. However, it favored the raising of old-age benefits as far as revenues would permit and guaranteed continued aid to farmers, including continued cash benefits. The Democrats alleged that the placing of relief administration in the hands of the States would be virtually a return to the dole. They promised the farmers continued parity (as well as conservation) payments, and additional funds for tenant purchase and refinancing of mortgages. Obviously, neither party felt itself in a position to risk its popularity with the voters by taking a stand against the preponderance of



TABLE 1—AMOUNT OF PUBLIC ASSISTANCE AND EARNINGS OF PERSONS EMPLOYED UNDER FEDERAL WORK PROGRAMS IN THE CONTINENTAL UNITED STATES, FROM THE SOCIAL SECURITY BULLETIN<sup>1</sup>

[In thousands]

Year and month	Total	Obligations incurred <sup>2</sup> for—			Subsistence pay- ments certified by the Farm Security Ad- ministration	Earnings of persons employed under Federal work programs				Other Federal work and construction projects	
		Old-age assistance	Special types of public assistance Aid to depend- ent children	Aid to the blind		General relief	Civilian Conser- vation Corps	National Youth Administration Student work program	Out-of-school work program		Work Projects Administration
1940 total	2,724,124	475,011	133,179	21,825	403,685	18,254	215,846	26,749	65,167	1,268,994	609,978
January	244,395	38,199	10,385	1,790	41,537	2,008	19,426	2,852	5,816	109,759	37,390
February	248,558	38,526	10,513	1,783	40,424	2,093	19,605	3,114	6,138	115,032	35,207
March	253,755	38,329	10,721	1,793	39,085	2,005	17,479	3,266	6,251	124,363	34,907
April	247,885	38,490	10,839	1,800	36,690	2,800	18,051	3,370	5,932	119,959	40,352
May	239,260	38,656	10,892	1,803	34,273	2,144	17,908	3,427	5,554	114,339	44,302
June	218,913	39,200	10,882	1,822	31,376	1,516	15,872	2,314	5,708	100,419	45,720
July	212,047	39,638	11,085	1,817	32,155	617	18,137	2	3,407	97,076	47,268
August	213,460	39,928	11,218	1,832	32,155	940	19,022	4	4,759	97,317	50,299
September	203,012	40,034	11,315	1,829	28,505	732	16,828	106	4,791	93,341	52,361
October	216,097	40,862	11,546	1,847	29,226	811	18,479	2,150	4,898	101,792	60,387
November	209,045	41,306	11,708	1,849	28,893	831	18,725	3,053	5,450	93,312	72,908
December	217,697	41,839	11,977	1,861	29,855	1,037	16,314	3,091	6,463	102,285	88,878

<sup>1</sup> Figures are partly estimated and subject to revision, exclude cost of administration and of materials, equipment, and other items incident to operation of work programs

<sup>2</sup> Figures exclude cost of hospitalization and burial and beginning with September, 1940, of medical care  
<sup>3</sup> Payments to recipients from Federal, State, and local funds for programs administered under State plans approved by the Social Security Board, and from State and local funds for programs administered under State laws without Federal participation.

<sup>4</sup> Less than \$500

TABLE 2—RECIPIENTS OF PUBLIC ASSISTANCE AND PERSONS EMPLOYED UNDER FEDERAL WORK PROGRAMS IN THE CONTINENTAL UNITED STATES, FROM THE SOCIAL SECURITY BULLETIN<sup>1</sup>

[In thousands]

Year and month	Households	Persons in these households	Estimated unduplicated total	Recipients of special types of public assistance <sup>2</sup>			Persons employed under Federal work programs			
				Old-age assistance	Families	Children	Ad to the blind	Cases receiving general relief	Cases for which subsistence payments were certified by the Farm Security Administration	Other Federal work and construction projects
1940										
January	6,146	17,759	1,922	325	783	70	1,674	106	437	319
February	6,221	18,024	1,927	329	792	70	1,672	115	456	296
March	6,188	17,912	1,933	334	804	71	1,613	119	473	306
April	5,981	17,134	1,942	338	814	70	1,527	87	482	340
May	5,741	16,270	1,953	342	823	71	1,442	72	477	368
June	5,383	15,129	1,967	346	831	72	1,355	60	313	393
July	5,058	14,340	1,986	349	840	72	1,362	31	274	397
August	5,100	14,484	2,001	353	849	72	1,342	43	1	395
September	4,992	14,065	2,016	356	857	72	1,262	35	238	432
October	5,202	14,442	2,034	360	865	73	1,231	36	340	488
November	5,279	14,585	2,051	363	873	73	1,213	36	438	641
December	5,359	14,794	2,067	370	890	73	1,239	44	448	733

<sup>1</sup> Figures are partly estimated and subject to revision.

<sup>2</sup> Includes recipients assisted from Federal, State, and local funds for programs administered under State plans approved by the Social Security Board, and from State and local funds for programs administered under State laws without Federal participation. Excludes recipients of hospitalization and/or burial only and, beginning with September, 1940, of medical care only

<sup>3</sup> Less than 500 persons.

relief expenditures in the Nation's unbalanced budget.

There was a more noticeable tendency in general to accept the relief rolls as a permanent rather than an emergency burden and to undertake improvement of the set-up under which they were to be conducted. Several States made improvements in their laws or administration. (See the articles on the States, notably CALIFORNIA, NEW JERSEY, NEW YORK, and PENNSYLVANIA.) A special committee of the House of Representatives, investigating the interstate migration of destitute citizens, conducted hearings during the 76th Congress. Privately initiated was a grant made by the Falk Foundation for study of the relief problem.

A respect in which the present system is noticeably unsatisfactory is the variation in assistance provided in various States under the public assistance program (where the Federal Government matches State grants) and as general relief (which is entirely financed from State and local funds). For example, in November, 1940, general relief payments per case ranged from \$2.99 monthly in Mississippi to \$37.15 in New York; old-age payments were \$7.92 monthly in South Carolina per recipient, and \$37.88 in California. A series of articles in the *Social Security Bulletin* during 1940 by Daniel S. Gerig, Jr., raised the question as to whether a formula can be constructed for allocating Federal grants-in-aid among the States in such a way as to secure adequate welfare services in all States. He pointed out that the discrepancies now existing are due to the varying financial resources of each State; for example, per capita income varied from \$207 to \$923, mean taxable wage per employee from \$413 to \$1102, in the poorest and wealthiest States. One solution suggested was the adoption of variable-ratio grants, in which the Federal grants-in-aid to the States would be based on the per capita income of each State. Such a policy, according to Gerig, would not raise total Federal payments and would be relatively stable from year to year.

The Emergency Relief Act of 1940 appropriated \$1,157,711,357 for expenditure in the fiscal year 1940; \$975,650,000 was for the WPA and might be expended within eight months. The Act authorized \$50,000,000 for relief of European refugees, and authorized the President to require disciplinary training of CCC workers in non-combatant trades and skills useful to the Army in an emergency. An effort to repeal the provision that WPA workers must be removed from the rolls after 18 months was defeated after considerable debate.

The tables on page 653, reprinted from the *Social Security Bulletin*, show the number of recipients and the amounts paid under the public assistance program and the Federal works programs of the United States. The reader is referred to the separate articles on all the government agencies there listed, on the SOCIAL SECURITY BOARD, and on the various Federal lending agencies. For special discussion of farm aid, see AGRICULTURE. For non-government activities in the field of public welfare, see BENEFACTIONS and the articles there listed, especially WAR RELIEF.

**RELIGIOUS BOOKS.** See LITERATURE, ENGLISH AND AMERICAN.

**RELIGIOUS ORGANIZATIONS.** The table on pages 655 and 656 presents statistics released during 1940 for the decennial census of religious bodies in the United States. Churches having fewer than 5000 members have not been given a separate listing. However, the group totals, as "Methodist

bodies," include all denominations in the connection, regardless of membership. For more recent statistics on the larger churches, the reader is referred to separate articles in this volume.

The U.S. Bureau of the Census summarized the results of this census in part as follows:

According to the returns received, there were in continental United States in 1936, 256 Religious Bodies with 199,302 organizations and 55,807,366 members, as compared with 213 denominations reporting 232,154 organizations and 54,576,346 members in 1926. . . . As the term "members," has a variety of uses, each church was requested to report the number of members according to the definition of membership in that church or organization. . . .

At the census of 1936 the total expenditures were \$518,953,571, as compared with \$817,214,528 in 1926. Under this item are included the amount expended for salaries, repairs, etc.; for payments on church debt; for benevolences, including home and foreign missions; for denominational support, and for all other purposes.

The value of church edifices in 1936 was \$3,411,875,467, as compared with \$3,839,500,610 in 1926. This item includes any building used mainly for religious services, together with the land on which it stands and all furniture and furnishings owned by the church and actually used in connection with church services. It does not include buildings hired for religious services or those used for social or organization work in connection with the church.

**RENTS.** See BUILDING; HOUSING AUTHORITY, U.S.; LIVING COSTS AND STANDARDS

**REPARATIONS AND WAR DEBTS.**

War debts payments in default to the U.S. Government and the new installments due June 15 and Dec. 15, 1940, follow:

Country	Previously due and unpaid	Due June 15	Due Dec 15
Belgium	\$89,269,900	\$9,442,454	\$4,642,454
Czechoslovakia	23,046,652	1,682,813	1,682,813
Estonia	5,728,689	322,850	468,850
Finland		159,398	235,398
France	687,197,254	102,372,111	41,569,745
Great Britain	1,411,169,427	85,670,765	127,670,765
Hungary	597,371	37,411	52,771
Italy	122,486,131	17,941,593	3,387,031
Latvia	2,261,261	134,883	194,883
Lithuania	1,936,495	172,802	121,467
Poland	71,134,306	4,039,040	5,696,040
Rumania	12,741,311	1,386,870	956,310
Yugoslavia	2,917,578	526,516	154,062
Total	2,430,486,376	223,889,505	186,834,589

Payer	Paid June 15	Paid Dec 15
Finland	\$159,398	
Hungary	9,828	\$9,828
Rumania	100,000	
Total	269,226	9,828

The German Government on Sept. 30, 1940, defaulted on an installment of 43,147,737 reichsmarks due the U.S. Government. This brought the total German defaults since Sept. 30, 1933, to 676,127,241 reichsmarks (reichsmark = \$0.4033 at par).

**REPRESENTATIVES, U.S. House of.** The results of the 1940 elections to the House will be found under ELECTION, U.S. and in articles on the States. For legislation and committees, see UNITED STATES.

**REPUBLICAN PARTY, CONVENTION, AND CAMPAIGN.** See ELECTIONS, U.S. NATIONAL.

**RESERVE OFFICERS' TRAINING CORPS (R.O.T.C.).** See NAVAL PROGRESS; MILITARY PROGRESS

**RESETTLEMENT, Rural.** See FARM SECURITY ADMINISTRATION.

**RESOURCES, National.** See NATIONAL RESOURCES PLANNING BOARD.

**RETAIL TRADE AND PRICES.** See BUSINESS REVIEW; MARKETING.

## UNITED STATES RELIGIOUS BODIES HAVING 5000 OR MORE MEMBERS

*[Derived from reports of the U.S. Census of Religious Bodies: 1936]*

<i>Denomination</i>	<i>Number of Churches</i>	<i>Number of Members</i>	<i>Value of Church Edifices *</i>	<i>Annual Expenditures *</i>	<i>Sunday (or Sabbath) School Scholars *</i>
Adventist bodies—total for 6	2,536	165,815	\$8,776,620	\$6,574,658	119,756
Advent Christian Church	346	26,258	1,867,420	321,922	18,702
Seventh-day Adventist Denomination	2,054	133,254	6,690,955	6,196,143	97,062
Assemblies of God, General Council	2,611	148,043	6,099,541	2,876,463	179,356
Baptist bodies—total for 21	49,478	8,262,287	389,661,696	55,779,246	4,382,097
Northern Baptist Convention	6,284	1,329,044	167,576,463	19,577,463	892,872
Southern Baptist Convention	13,815	2,700,155	117,766,295	19,630,844	1,664,105
Negro Baptists (National Baptist Convention)	23,093	3,782,464	93,798,181	14,978,506	1,656,638
American Baptist Association	1,064	115,022	1,507,798	352,529	50,008
Colored Primitive Baptists	1,009	43,897	1,643,804	207,352	13,572
Duck River and Kindred Associations (Baptist Church of Christ)	91	7,951	49,615	5,333	992
Free Will Baptists	920	76,643	1,090,779	192,620	42,455
General Baptists	422	36,573	555,309	103,799	17,562
Primitive Baptists	1,726	69,157	2,180,047	157,530	2,631
Regular Baptists	266	17,186	234,595	24,023	3,358
General Association of Regular Baptist Churches in the U.S.A.	84	22,345	1,694,448	340,376	17,021
Separate Baptists	69	5,287	66,670	10,553	2,932
Seventh Day Baptists	66	6,698	727,285	85,027	3,306
United American Free Will Baptist Church (Colored)	226	19,616	468,883	79,712	8,317
United Baptists	277	27,000	179,215	15,448	4,929
Brethren, German Baptist—total for 4 bodies	1,381	188,290	9,900,815	1,720,956	138,123
The Brethren Church (Progressive Dunkers)	163	30,636	2,113,753	422,093	23,871
Church of the Brethren (Conservative Dunkers)	1,143	153,516	7,636,440	1,285,817	113,771
Brethren, Plymouth—total for 8 bodies	664	25,806	1,442,685	504,519	25,241
Plymouth Brethren II	344	15,684	1,054,068	311,645	16,994
Brethren, River—total for 3 bodies	121	7,026	498,300	96,838	9,208
Brethren in Christ	90	5,495	429,500	89,881	8,517
Buddhist Mission of North America	35	14,388	622,610	99,793	6,332
Christian and Missionary Alliance	444	32,145	3,448,939	1,171,643	43,536
Christian Union	93	6,124	171,125	33,427	4,702
Church of Armenia in America	37	18,787	584,000	105,638	1,517
Church of Christ (Holiness) U.S.A.	106	7,379	305,152	52,961	3,675
Church of Christ, Scientist	2,113	268,915	65,361,301	10,429,418	139,758
Churches of God					
Church of God	1,081	44,818	954,962	568,030	52,206
Church of God, Anderson, Ind.	1,032	56,911	3,687,312	942,568	82,277
(Tomlinson) Church of God	441	18,351	410,559	179,268	17,083
Church of God and Saints of Christ	213	37,084	544,270	363,049	17,356
Church of God in Christ	772	31,564	1,453,128	392,009	20,770
Church of the Nazarene	2,197	136,227	8,987,961	3,797,224	226,608
Churches of Christ	3,815	309,551	10,717,977	2,274,432	191,150
Churches of God, Holiness	35	5,872	116,900	27,413	2,312
General Eldership of the Churches of God in North America	352	30,820	2,884,213	378,175	39,495
Churches of the Living God—total for 2 bodies	215	9,363	245,526	86,090	5,756
Churches of the New Jerusalem—total for 2 bodies	97	5,964	2,422,021	245,497	2,120
General Convention of the New Jerusalem in the U.S.A.	82	5,099	2,135,691	210,900	2,078
Congregational and Christian Churches	5,300	976,388	149,755,041	16,110,465	526,907
Disciples of Christ	5,566	1,196,315	88,070,194	11,273,964	761,257
Eastern Orthodox Churches—total for 11 bodies	659	356,638	13,704,081	1,991,039	21,549
Apostolic Episcopal Church	12	6,389	28,900	17,029	181
Greek Orthodox Church (Hellenic)	241	189,368	6,688,227	1,013,132	13,553
Rumanian Orthodox Church	35	15,090	293,700	65,063	299
Russian Orthodox Church	229	89,510	4,936,350	591,353	4,293
Serbian Orthodox Church	27	20,020	498,765	81,389	848
Syrian Antiochian Orthodox Church	61	18,451	555,139	100,480	1,386
Ukrainian Orthodox Church of America	28	11,480	486,900	83,151	646
Evangelical and Reformed Church	2,875	723,877	77,581,798	9,325,381	480,909
Evangelical Church	1,695	212,446	21,043,229	4,057,521	248,666
Evangelical Congregational Church	160	23,894	3,296,428	461,969	30,193
Evangelistic Associations—total for 12 bodies	270	20,230	1,988,720	307,519	15,478
Apostolic Christian Church	57	5,841	552,490	41,048	3,616
Federated Churches	508	88,411	10,870,046	1,408,560	61,502
Friends—total for 4 bodies	717	93,697	5,351,674	898,138	52,657
Society of Friends (Hicksite)	115	14,680	1,408,950	169,289	5,200
Society of Friends (Orthodox)	570	75,652	3,861,174	717,177	46,950
Independent Churches	384	40,276	3,725,653	692,046	32,864
Independent Negro Churches	50	12,337	180,300	44,232	2,006
International Church of the Foursquare Gospel	205	16,147	612,019	391,743	19,584
Italian bodies—total for 2	120	11,114	442,860	60,350	2,967
Unorganized Italian Christian Churches of N.A.	104	9,567	352,360	51,626	2,512
Jewish Congregations	3,728	4,641,184	123,284,677	14,404,427	104,392
Latter-day Saints—total for 6 bodies	2,072	774,169	20,763,350	3,772,227	293,685
Church of Jesus Christ of Latter-day Saints	1,452	678,217	19,064,244	2,963,690	264,321
Reorganized Church of Jesus Christ of Latter-day Saints	567	93,470	1,615,126	399,010	28,451
Lutherans—22 bodies	14,788	4,244,890	279,428,601	43,431,160	1,376,102
American Lutheran Conference—total for 5 bodies	5,855	1,424,442	81,027,758	13,187,871	444,417
American Lutheran Church	1,803	499,899	27,690,047	4,697,195	165,947
Evangelical Lutheran Augustana Synod of N.A.	1,133	327,472	24,902,814	3,842,636	101,843
Norwegian Lutheran Church of America	2,400	516,400	25,056,616	3,994,253	149,682
Lutheran Free Church	341	47,140	1,964,311	346,929	15,496
United Danish Evangelical Lutheran Church in America	178	33,531	1,413,970	306,858	11,449
Evangelical Lutheran Synodical Conference of N.A.—total for 5 bodies	4,926	1,463,482	78,292,729	15,433,728	289,795

\* With all figures in this column read "for churches reporting." Not all the churches enumerated in the first column gave a report in this category.

## UNITED STATES RELIGIOUS BODIES HAVING 5000 OR MORE MEMBERS—Continued

<i>Denomination</i>	<i>Number of Churches</i>	<i>Number of Members</i>	<i>Value of Church Edifices *</i>	<i>Annual Expenditures *</i>	<i>Sunday (or Sabbath) School Scholars *</i>
Lutherans—continued					
Evangelical Lutheran Synod of Missouri, Ohio, and Other States	4,014	1,192,553	\$66,273,902	\$13,138,974	247,609
Evangelical Lutheran Joint Synod of Wisconsin and Other States	718	235,402	10,104,627	1,998,986	33,661
Slovak Evangelical Lutheran Synod of the U S A	54	18,910	1,091,200	169,507	2,477
Norwegian Synod of the American Evangelical Lutheran Church	59	7,632	453,850	79,209	1,226
Negro Mission of the Synodical Conference	81	8,985	369,150	47,052	4,822
United Lutheran Church in America	3,484	1,286,612	117,577,984	14,366,739	627,181
Finnish Apostolic Lutheran Church of America	123	16,293	207,559	28,645	1,723
Finnish Evangelical Lutheran Church of America (Suomi Synod)	160	21,466	958,437	160,900	4,899
Finnish Evangelical Lutheran National Church of America	67	6,157	156,184	29,772	993
Danish Evangelical Lutheran Church in America	80	16,057	730,100	139,393	3,544
Mennonite bodies—total for 17	913	114,337	4,759,632	1,111,116	113,136
General Conference of the Mennonite Church of N A	142	26,535	1,308,800	311,207	25,778
Mennonite Brethren in Christ	112	7,841	706,970	210,593	11,399
Mennonite Brethren Church of N.A.	55	7,595	297,612	105,062	9,080
Mennonite Church	342	46,301	1,809,535	319,962	52,070
Old Order Amish Mennonite Church	100	9,887	16,000	10,992	1,366
Methodist bodies—total for 21	42,327	7,001,637	546,184,814	79,560,919	4,547,531
African Methodist Episcopal Church	4,578	493,357	20,710,623	4,059,809	238,185
African Methodist Episcopal Zion Church	2,252	414,244	14,750,165	2,319,367	167,362
Colored Methodist Episcopal Church	2,063	269,915	6,148,826	1,378,746	94,668
Congregational Methodist Church	121	8,293	106,795	17,143	4,507
Free Methodist Church of N.A.	1,084	37,587	4,097,534	1,167,385	76,678
Methodist Episcopal Church *	18,349	3,509,763	345,402,555	46,231,459	2,515,181
Methodist Episcopal Church, South *	11,454	2,061,683	137,567,532	21,558,363	1,261,966
Methodist Protestant Church *	1,498	148,288	12,533,926	1,704,717	121,983
Primitive Methodist Church in the U S A	91	12,395	2,043,250	253,732	13,337
Reformed Zion Union Apostolic Church	54	5,035	283,100	18,460	3,715
Union American Methodist Episcopal Church	71	9,369	516,630	116,368	4,786
Wesleyan Methodist Connection of America	565	22,017	1,606,235	668,597	40,387
Moravian bodies—total for 3	176	36,519	3,500,774	480,630	21,793
Evangelical Unity of Bohemian and Moravian Brethren in N.A.	41	5,330	86,250	10,083	1,689
Moravian Church in America	132	30,904	3,402,524	467,087	19,904
New Apostolic Church	56	6,147	635,887	53,066	1,123
Old Catholic Churches in America—total for 4 bodies	69	22,240	367,900	117,943	5,500
North American Old Roman Catholic Church	36	14,985	220,900	74,222	4,702
Old Catholic Church in America	24	5,470	144,500	35,720	259
Pentecostal Assemblies					
Pentecostal Assemblies of Jesus Christ	245	16,070	444,214	186,793	12,249
International Pentecostal Assemblies	98	6,333	223,850	96,714	5,115
Pentecostal Assemblies of the World	87	5,713	287,670	77,149	3,877
Pentecostal Church, Incorporated	168	9,681	191,850	110,624	9,712
Pentecostal Holiness Church	375	12,955	682,596	254,901	24,261
Pilgrim Holiness Church	510	20,124	1,493,756	604,727	58,493
Polish National Catholic Church of America	118	63,366	3,409,265	422,188	4,091
Presbyterian bodies—total for 10	12,685	2,513,653	352,755,588	48,210,689	1,686,105
General Synod of the Associate Reformed Presbyterian Church	141	21,981	2,044,350	320,209	15,043
Colored Cumberland Presbyterian Church	145	10,668	359,125	48,317	5,341
Cumberland Presbyterian Church	699	49,975	2,160,676	376,524	35,206
Presbyterian Church in the U S	2,967	449,045	33,197,115	9,123,628	331,833
Presbyterian Church in the U S A	7,789	1,797,927	270,464,345	34,316,610	1,154,985
Synod of the Reformed Presbyterian Church of N A	83	6,386	1,002,903	218,901	6,241
United Presbyterian Church of N A	778	170,967	23,076,774	3,711,043	133,226
Protestant Episcopal Church	6,407	1,735,335	266,400,447	29,288,532	432,679
Reformed bodies—total for 3	986	299,694	30,326,429	5,670,517	153,951
Christian Reformed Church	272	107,993	4,999,077	1,588,186	34,062
Free Magyar Reformed Church in America	19	7,165	475,479	72,299	572
Reformed Church in America	695	184,536	24,851,873	4,010,032	119,317
Reformed Episcopal Church	67	7,656	1,803,925	170,859	4,978
Roman Catholic Church	18,409	19,914,937	787,001,357	139,073,358	972,891
Salvation Army *	1,088	103,038	21,781,052	6,056,923	122,463
Scandinavian Evangelical bodies—total for 3	553	56,827	7,804,351	1,473,244	65,441
Evangelical Free Church of America	102	8,857	891,542	236,542	13,245
Evangelical Mission Covenant Church of America	407	43,981	6,173,909	1,130,245	48,162
Spiritualists—total for 4 bodies	424	27,352	934,165	296,005	2,797
National Spiritualist Association	258	11,266	735,305	157,739	1,392
Progressive Spiritual Church	21	11,347	93,500	73,210	1,191
Unitarians	305	59,228	19,098,977	1,846,760	14,879
United Brethren bodies—total for 3	2,762	392,897	28,253,633	4,574,149	337,154
Church of the United Brethren in Christ	2,500	376,905	27,435,058	4,343,537	317,297
Church of the United Brethren in Christ (Old Constitution)	248	15,401	774,500	225,355	18,857
United Holy Church of America, Inc.	162	7,535	344,722	68,900	5,179
Universalist Church	339	45,853	9,286,523	824,176	12,811
Volunteers of America *	72	7,923	435,005	418,553	4,292

\* With all figures in this column read "for churches reporting." Not all the churches enumerated in the first column gave a report in this category.

\* The Methodist Episcopal Church, the Methodist Episcopal Church South, and the Methodist Protestant Church were united in 1939 as the Methodist Church (q.v.)

\* For the word "church" read "corps."

\* For the word "church" read "station."

**RÉUNION.** An insular colony of France, 420 miles east of Madagascar. Area, 970 square miles; population (1938), 210,000. Chief towns: St. Denis (the capital), 30,762 inhabitants in 1936; St. Paul; St. Louis; St. Pierre. Chief products: sugar, rum, manioc, coffee, tapioca, vanilla, and spices. Trade (1938): imports, 263,900,000 francs; exports, 206,400,000 francs (franc averaged \$0.0288 for 1938; \$0.0251, 1939). Budget (1937): balanced at 61,620,700 francs (franc averaged \$0.0405 for 1937). Governor, M. Truitart. Réunion adhered to the Vichy Government after the collapse of the French Republic in 1940. See FRANCE under *History*.

**REVENUES.** See CUSTOMS, BUREAU OF; PUBLIC FINANCE; TAXATION; and the articles on foreign countries under *Finance*.

**REYNOLDS FOUNDATION.** See BENEFRACTIONS.

**RFC.** See RECONSTRUCTION FINANCE CORPORATION

**RHODE ISLAND.** Area, 1248 square miles; includes water, 181 square miles. Population (U.S. Census), April, 1940, 713,346; 1930, 687,497. Providence, the capital (1940), 253,504. The urban population (inhabitants of places of 2500 or over) numbered 653,383 in 1940, having since 1930 gained 17,954, or 2.8 per cent; while the small rural population, 59,963 in 1940, had gained 7895, or 15.2 per cent—more than five times the urban rate of gain.

**Agriculture.** Rhode Island harvested, in 1940, 60,500 acres of the principal crops. On nearly three-fourths of this area, tame hay, occupying 44,000 acres, produced 56,000 tons (\$974,000 in estimated value to the growers); potatoes, 4500 acres, gave 878,000 bu. (\$667,000); corn, 9000 acres, 369,000 bu. (\$284,000); apples for market, 267,000 bu. (\$280,000). Farms numbered 3014 in 1940 and averaged 73.6 acres.

**Manufactures.** Rhode Island's production of manufactured goods amounted to \$516,390,541 for 1939; \$517,196,193 for 1937. Other related totals for 1939 (each with 1937's in parentheses) · 1460 (1409) establishments, paying to 106,275 (108,031) persons \$105,406,950 (\$112,933,084) in year's wages, expended \$278,301,981 (\$276,738,611) for materials, contract work, etc., and added to materials by manufacture \$238,088,560 (\$240,457,582).

**Education.** For the academic year 1939-40, inhabitants of school age (from 4 years to 20) were reckoned at 194,013. Enrollments of pupils in all public schools numbered 114,198; this comprised 65,841 in elementary study, 24,443 in junior high schools, and 23,914 in high schools. Private and parochial schools had 34,060 enrollments. The year's expenditure for public-school education totaled \$10,716,795. Public school teachers, 4229, averaged \$1653 in year's salary.

**History.** The legislature held a regular annual session, ended on April 24. Although under the control of Republican leaders the session gave no great support to the proposals of Governor Vanderbilt; it passed a measure, on his recommendation, allowing \$50,000 for the investigation of frauds in voting; but it passed legislation contrary to his wish to make all State employees pass examinations before admittance into the new civil-service system, and it removed the State's tax of 10 per cent on tobacco from all but cigarettes. Providence was authorized to hold a referendum election on whether to adopt a nonpartisan system of local government. Restaurants and dancing-places deriving 70 per cent or more of their receipts from sales of intoxicants lost the right to a

kind of license that had allowed them to operate on Sundays and holidays.

Governor Vanderbilt ran into difficulties early in the year on account of his admittedly having hired agents to run down, by wiretapping, cases of possible official corruption. Among those declaring that they had been subjected to this kind of espionage were Mayor Thomas P. McCoy of Providence and Attorney General Jackvony, a Republican. Vanderbilt, accused of wiretapping by State Senator McCoy, the Mayor's brother, early in January, later admitted that he had used this way of hunting evidence as to fraud in the State election of 1938; he defended his course as proper for his purpose. Recent revelations elsewhere had nevertheless given mechanical espionage a bad name, and Vanderbilt's wiretapping underwent a public airing in May before a committee of the U.S. Senate.

**Elections.** At the general election (November 5) the popular vote for President totaled 181,122 for Roosevelt (Dem.) and 138,214 for Willkie (Rep.). Peter G. Gerry (Dem.) was re-elected U.S. Senator, defeating Lieutenant Governor James O. McManus (Rep.). J. Howard McGrath (Dem.) was elected Governor, defeating Governor William H. Vanderbilt (Rep.).

**Officers.** Rhode Island's chief officers, serving in 1940, were: Governor, William H. Vanderbilt (Rep.); Lieutenant Governor, James O. McManus; Secretary of State, J. Hector Paquin; Attorney General, Louis V. Jackvony; General Treasurer, Thomas P. Hazard; Comptroller, Samuel A. Place; Director of the Department of Education, James F. Rockett.

**RHODES.** See AEGEAN ISLANDS, ITALIAN.

**RHODESIA, Northern.** A British protectorate in Africa. Area, 290,320 square miles; population (1938), 1,379,962, including 1,366,425 Africans, 13,000 Europeans, and 537 Asiatics. Chief towns: Lusaka (capital), Livingstone, Broken Hill, Fort Jameson, Mazabuka. Education (1938): 122,065 students enrolled in schools of all kinds.

**Production and Trade.** Chief agricultural products: maize, wheat, tobacco, coffee, oilseeds, citrus fruits, teakwood. Mineral output (1939) was valued at £11,511,370, including copper (211,668 tons), cobalt alloy (3830 tons), zinc (12,695 tons), silver (61,183 fine oz.), gold (4643 fine oz.). Trade (1939): imports, £4,512,000; exports, £10,176,000.

**Government.** Budget (1940): revenue, £1,900,786; expenditure, £1,598,530. Northern Rhodesia is administered by a governor, assisted by an executive council. There is a legislative council of 17 members, including the governor as president. Governor, Sir John Maybin (appointed Jan. 27, 1938).

**History.** Northern Rhodesia made an important contribution to the British Empire's war effort during 1940. In January the 1st Battalion of the Northern Rhodesia Regiment and the Northern Rhodesia Army Service Corps arrived in Kenya. When Italy entered the war in June, they participated in the campaign along the Kenya-Italian East Africa frontier (see EUROPEAN WAR under *Campaigns in Africa*). Conscription of all male British subjects in Northern Rhodesia between 18 and 45 years of age was introduced June 12, and additional troops were sent to aid the British forces in East and North Africa.

The Northern Rhodesian copper mines continued to supply Great Britain with this vital war metal. The contract entered into by the British Government in 1939 to purchase 265,000 short tons of copper was renewed in 1940 for the same amount

at the same prices. A strike of skilled European workers in the Mufulira and Nkana mines in March threatened to curtail production. Most of their demands were granted and they returned to work on March 27. About 15,000 of the 26,000 native workers in the copper mines meanwhile struck for higher pay. On April 3, while non-strikers at the Nkana mine were drawing their pay, the mine compound was attacked by about 3000 strikers. After 31 policemen and soldiers guarding the mine had been injured by rocks and other missiles, the troops fired on the strikers, killing 13 and wounding 71, of whom 4 died. Shortly afterwards the strikers returned to work at the increased pay offered them before the strike began.

A commission of inquiry headed by Sir John Forster investigated the clash. Later the government ordered compulsory arbitration of industrial disputes that could not be adjusted by conciliation procedures. The Chief Justice of Northern Rhodesia was named chairman of the permanent arbitration tribunal.

**RHODESIA, Southern.** A British self-governing colony in Africa. Area, 150,333 square miles; population (1939), 1,385,560, including 1,319,000 natives, and 60,720 Europeans. Chief towns: Salisbury, the capital (32,846 inhabitants in 1936), Bulawayo (29,126), Umtali, Gwelo, Gatooma, Que Que, Eiffel Flats, Shabani. Education (1938): 121,219 pupils enrolled in schools of all kinds.

**Production and Trade.** Chief agricultural products: maize, wheat, cotton, tobacco, groundnuts, fruits, and dairy products. Livestock (1938): 2,295,675 cattle, 310,537 sheep, 121,777 swine. Mineral production (1939) was valued at £8,137,682, including gold (795,613 fine oz.) £6,227,282, asbestos (58,313 short tons) £1,088,782, chrome ore (153,313 short tons) £186,577, tin concentrates (721 short tons) £86,188, tungsten (274 short tons) £40,296, nickel ore (2696 short tons) £26,431, silver, iron, etc. Trade (1939): imports, £9,054,359; exports, £10,168,152.

**Communications.** A total of 1356 route miles of railway was in operation in the colony during 1938 and this was supplemented by a road motor service which aggregated 1588 route miles. There is an airways network which links the important towns and includes a service to Beira, Mozambique, the whole system totaled 2769 route miles in 1940.

**Government.** Finance (1938-39): revenue, £3,320,000; expenditure, £4,865,471; public debt, £12,367,224. The government is administered by a governor, aided by an executive council. There is a legislature which consists of a legislative assembly of 30 members elected for a five-year term by popular franchise. At the election held on Apr. 14, 1939, the standing of the political parties was: United Party 23, Labor Party 7. Governor, Sir H. J. Stanley (appointed in 1934); Premier, G. M. Huggins (United Party).

**History.** Southern Rhodesia was organized for full military and economic participation in the British Empire's war effort during 1940. In April the first contingent of Southern Rhodesian troops joined the British forces in Egypt. It included artillery, engineer, signal corps, armored car, infantry, and machine-gun units. A part of this force was sent on to England. When the Legislative Assembly convened in Salisbury late in April, the Governor announced that a compulsory non-military service system would be combined with the existing voluntary military recruiting system in order to maintain essential economic activities.

The Legislative Assembly not only approved a contribution of £1,500,000 to the Empire's war chest but established an expanded air-training system comprising seven training centers and designed to attract student pilots and other personnel from various parts of the Empire. A contingent of Rhodesian airmen arrived in Britain in August for service with the R.A.F. All-Rhodesian bomber and fighter squadrons were established in England. Others served with the British forces in North Africa. See **EUROPEAN WAR** under *Campaigns in Africa*.

To finance its military and other war activities, Southern Rhodesia on June 28 imposed higher income and excess profits taxes. Supplementary budget appropriations of £1,178,336 were requested October 24 to cover ordinary and war expenditures for 1940-41. This brought the total expenditure for the year to £8,500,000, of which £2,750,000 was to be met from loans. Early in 1940 the Bank of England, acting for the British Treasury, arranged for the direct purchase of Rhodesian gold for the duration of the war. On March 1 the colony's first national currency notes were issued; they were gradually to replace the existing currency, consisting of notes of the Standard Bank of South Africa and Barclays Bank. The 50th anniversary of the hoisting of the British flag over Rhodesia was celebrated on September 12.

See **SOUTH AFRICA** under *History*.

**RICE.** The rice crop in the United States in 1940 was estimated by the U.S. Department of Agriculture to total 52,754,000 bu. from 1,051,000 acres versus 53,722,000 bu. in 1939 from 1,040,000 acres, and compared with the 1929-38 average of 44,254,000 bu. and 924,000 acres. The smaller production, despite the increased acreage, was due largely to lower production in Louisiana caused by the August, 1940, storm. Acre yields averaged 50.2 bu. in 1940, 51.7 bu. in 1939, and 47.9 bu. over the 10-year period. Yields in producing states were: For Louisiana 18,040,000 bu., Texas 16,005,000, Arkansas 9,741,000, and California 8,968,000 bu. The season average price per bu. (preliminary) received by farmers was 70.2 cents and the value of production was estimated at \$37,052,000 compared to 72.8 cents and \$39,095,000 in 1939.

The 1940-41 crop of rough rice in other countries was for China 2,440,000,000 bu., Japan 549,968,000, Burma 405,490,000, Korea (Chosen) 192,766,000, Formosa (Taiwan) 84,894,000, Manchuria 34,588,000, Italy 41,185,000, Spain 11,758,000, and Mexico 4,409,000 bu. The 1939-40 crop of Thailand (Siam) was 225,152,000 bu., Philippine Islands 116,000,000, British India, 1,887,711,000, Egypt 43,493,000, Argentina 4,752,000, Chile 2,595,000, and Uruguay 1,088,000 bu. Total world production in 1940-41 was estimated at 6,888,000,000 bu. versus 7,106,000,000 bu. in 1939-40. See *Production* under individual countries.

**RIOM TRIALS.** See **FRANCE** under *History*.

**RIOUW-LINGGA.** See **NETHERLANDS** under *Area and Population*.

**RIVERS.** See **ENGINEERS**, **CORPS OF**; **FLOOD CONTROL**; **MISSOURI**; **WATERWAYS**, **INLAND**.

**ROADS AND STREETS.** Federal-State cooperation in highway construction during the fiscal year ending June 30, resulted in the completion of 11,397 miles of roads, elimination of 414 railroad-highway grade crossings, protection of 1201 crossings, and reconstruction of 87 obsolete grade separation structures. Of the \$296,932,000 cost the Federal Government provided \$172,952,000. Improvements were made to 7612 miles of the Fed-

eral-aid highway system in rural areas, 3281 miles of secondary roads, and 504 miles of city streets. Work approved or under construction on June 30 included 13,884 miles of highway, 412 crossing eliminations, 96 grade crossing reconstructions, and 741 crossing protection projects, all at an estimated cost of \$394,000,000.

New York City's 33-mile Belt Parkway (Brooklyn borough) was opened to traffic June 29. It extends from Owl's Head Park in Brooklyn to the Bronx-Whitestone Bridge in northern Queens where it connects with existing parkways in the Bronx. The Brooklyn-Battery Tunnel, put under construction late in the year, will connect the Belt Parkway with the West Side Express Highway along the Hudson River in Manhattan, an important part of which is in use. The East River Express Highway in Manhattan extends from the Battery at the south end of the island northward to the Triborough Bridge at 125th St., a distance of nine miles. The proposed Harlem River Drive will complete a belt line encircling Manhattan. Completion late in the year of the Midtown Tunnel gave vehicular connection between Manhattan and Queens boroughs, as had already been provided from Manhattan beneath the Hudson to New Jersey by the Holland and Lincoln tunnels. (For maps and other details of these projects, see *Engineering News-Record*, March 21, May 9, July 11, and Nov. 31, 1940.)

The Pennsylvania Turnpike, a 161-mile express toll-road between the outskirts of Harrisburg and Pittsburgh, was opened September 30. It is a four-lane highway, by-passing all towns and without highway or railroad crossings at grades. It was built by the Pennsylvania Turnpike Commission which will operate it until its cost is met by tolls and by revenue from the ten privately-owned service stations along the road, after which the road will become a part of the state highway system.

In Florida the New Everglades Highway is under construction from South Bay to roads entering Miami and Fort Lauderdale, 69 miles. In building this road across marsh land, floating drag-line excavators are used and drillboats for blasting the rock underlying the muck. The trench thus excavated is filled with rock rolled in layers. On this the roadbed, also of stone, finished with a tar primer, is built. (For map, construction methods, and equipment, see *Engineering News-Record*, Aug. 29, 1940.)

In Canada 73 of the 91 miles of the Queen Elizabeth Way, between Toronto and Niagara Falls, was put in service on August 29. It was built by the Ontario Department of Highways.

**World Highways.** The annual survey of highways of the world, brought as nearly as possible to the close of 1940 by the U.S. Bureau of Foreign and Domestic Commerce, shows 9,910,578 miles of road, an average of 5.1 square miles to each mile of road, and 45,459,557 "automobiles." Figures for the leading countries are given in the accompanying table.

See AUTOMOBILES; BRIDGES; ELECTRICAL ILLUMINATION; NATIONAL PARK SERVICE; RAPID TRANSIT; TUNNELS; CONNECTICUT, GEORGIA, and PENNSYLVANIA under *History*; countries under *Transportation*.

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## HIGHWAYS OF THE WORLD—1940

Continent or Country	Road mileage	Area to 1 mile of road	Automobiles
<b>AMERICA—Total</b> .....	4,140,168	3.8	33,350,828
Argentina.....	253,115	4.6	273,500
Brazil.....	129,057	25.4	181,000
Canada.....	495,738	7.6	1,420,924
Chile.....	22,613	12.4	48,954
Colombia.....	14,336	34.7	33,143
Cuba.....	2,214	19.9	45,212
Ecuador.....	3,311	52.7	3,602
Guatemala.....	3,786	11.2	4,241
Jamaica.....	6,914	0.6	11,629
Mexico.....	56,923	13.5	105,420
Newfoundland.....	6,159	6.9	5,459
Nicaragua.....	1,550	31.7	805
Panama & Canal Zone.....	870	37.2	12,081
Peru.....	16,559	31.6	22,216
Puerto Rico.....	1,441	2.4	22,500
Salvador, El.....	3,709	3.5	3,407
United States.....	3,065,000	10	31,009,870
Uruguay.....	22,487	3.2	64,766
Venezuela.....	5,882	67.0	33,024
<b>EUROPE—Total</b> .....	3,528,170	3.0	9,534,690
Belgium.....	20,244	0.6	225,440
Bulgaria.....	19,605	2.0	4,811
Denmark.....	32,212	0.5	164,350
Eire (Ireland).....	48,550	0.6	67,110
France.....	393,761	0.5	2,398,500
Germany.....	263,267	0.8	1,959,200
Greece.....	8,440	6.0	15,500
Hungary.....	51,049	0.7	25,200
Italy.....	127,104	0.9	498,500
Netherlands.....	16,031	0.8	156,150
Norway.....	26,155	4.8	99,777
Portugal.....	19,476	1.8	49,320
Spain.....	70,760	2.7	70,000
Sweden.....	54,707	3.2	221,667
Switzerland.....	10,291	1.5	76,400
United Kingdom.....	180,527	0.5	2,429,580
U S S R (with U S S R in Asia).....	1,682,000	4.9	801,000
Yugoslavia.....	26,534	3.6	21,873
Czecho-Slovakia*.....	43,719	1.2	73,168
Estonia*.....	13,416	1.4	6,549
Finland*.....	39,826	3.3	7,968
Latvia*.....	59,268	0.4	7,265
Luxemburg*.....	2,558	0.4	10,751
Poland*.....	208,617	0.7	44,320
Rumania*.....	67,330	1.8	29,000
<b>AFRICA—Total</b> .....	466,761	23.7	675,421
Algeria.....	43,239	19.6	35,500
Anglo-Egyptian Sudan.....	14,240	70.8	4,850
Belgian Congo.....	47,583	19.4	7,304
Br. South Africa.....	44,964	23.5	39,549
Egypt.....	6,838	60.7	33,787
Fr. Equatorial Africa.....	14,713	62.2	5,293
Fr. W. Africa.....	33,565	55.2	15,803
Italian East Africa.....	12,083	48.2	30,000
Kenya Colony.....	16,537	13.6	11,723
Madagascar & Réunion.....	15,534	14.1	9,500
Morocco (Fr.).....	4,842	33.3	37,750
Mozambique.....	17,545	17.0	7,057
Nigeria.....	21,277	17.5	7,814
South Africa (Union of).....	92,143	5.1	370,641
Tanganyika.....	22,356	16.1	4,552
Tunisia.....	7,887	6.1	20,616
<b>ASIA—Total</b> .....	1,214,351	8.4	712,542
Br. India.....	319,131	3.5	114,977
Br. Malaya.....	7,873	6.7	45,061
Burma.....	12,138	16.7	18,051
Ceylon.....	18,660	1.4	27,996
China.....	61,430	70.0	67,193
Chosen.....	19,043	4.5	8,250
French Indo-China.....	22,658	12.6	16,970
Iran (Persia).....	15,043	41.7	11,622
Iraq.....	6,543	21.9	7,125
Japan.....	591,766	0.2	185,920
Manchuria.....	25,049	20.1	13,350
Netherlands Indies.....	42,546	12.5	75,015
Palestine.....	3,889	2.3	13,936
Philippine Islands.....	13,746	8.3	53,642
Syria & Lebanon.....	6,569	11.3	11,594
Thailand (Siam).....	5,574	35.9	12,065
Turkey.....	25,274	11.6	12,872
<b>AUSTRALASIA—Total</b> .....	561,128	5.8	1,186,076
Australia.....	488,749	6.1	837,164
Hawaii.....	2,040	3.1	66,767
New Zealand.....	65,157	1.6	276,145

\* Data not changed to new alignment of the several countries of Europe.



cago); Highway Research Board and American Society of State Highway Officials, *Highway Research, 1920-40*, a bibliography (Washington, D.C.); National Highway Users' Conference, *Our Highways and the Nation's Defense* (Washington); Runner, *Geology for Civil Engineers as Applied to Highway Engineering* (Chicago).  
M. N. BAKER.

**ROANOKE COLONY.** See NORTH CAROLINA under *History*.

**ROCKEFELLER FOUNDATION, The.** An organization chartered in 1913 for the permanent purpose of promoting the well-being of mankind throughout the world. Its program is concerned with certain definite problems in the fields of the medical, natural, and social sciences, the humanities, and public health. For work in these fields the Foundation during 1940 appropriated approximately \$9,800,000. A statement of the major grants follows.

**Medical Sciences.** In the field of medicine the Foundation's interest is centered on mental and nervous diseases and its contributions are largely for the furtherance of research and teaching in psychiatry and allied subjects. Appropriations made in 1940 for the various projects were \$21,000 to Leland Stanford Junior University School of Medicine for researches in kidney diseases; \$23,000 to Johns Hopkins University for continuing support to subdepartment of neurology; \$175,000 to Duke University for establishment and development of a division of psychiatry and mental hygiene in the school of medicine; \$57,000 to Harvard Medical School for research in epilepsy; \$106,000 to Harvard Medical School and Massachusetts General Hospital for teaching and research in psychiatry; \$30,000 to Harvard University for research in industrial hazards; \$25,000 to Tufts College for research in neurology; \$30,000 to Tufts College Medical School for research in brain chemistry; \$42,000 to Columbia University for researches in endocrinology in the department of anatomy; \$18,250 to the University of Edinburgh for research in psychiatry, neurology, and neurosurgery; \$14,000 to the University of Brussels for teaching and research in social medicine; \$10,000 to West China Union University for the public health practice field to be administered by the universities' public health council; \$37,000 to Worcester State Hospital for research on dementia praecox; \$10,800 to University of Manitoba for teaching of preventive medicine; \$12,500 to American Psychiatric Association for expenses of teaching conferences for professional personnel of state mental hospitals; \$70,000 to National Research Council for fellowships in the medical sciences; \$9000 to Yale University School of Medicine for teaching of public health and preventive medicine.

**Natural Sciences.** The Foundation's work in the natural sciences is centered almost entirely on experimental biology and appropriations during 1940 were made to further projects in this branch. They included: \$1,150,000 to the University of California for the construction, housing, and installation of a giant cyclotron; \$24,000 to the State University of Iowa for research in cellular biology; \$20,000 to Indiana University for research in cytogenetics; \$55,000 to the University of Chicago for research in spectroscopic biology; \$110,400 to the Marine Biological Laboratory, Woods Hole, for the construction and furnishing of an addition to the library; \$200,000 to the Massachusetts Institute of Technology, for the development of biological engineering; \$40,000 to Princeton University for research in organic chemistry; \$28,000 to the Catholic University of America for research

on the decomposition and synthesis of certain polynuclear ring systems; \$15,000 to the University of Texas for research on growth-promoting substances; \$22,500 to the University of Wisconsin for research in the biochemistry of symbiotic nitrogen fixation; \$57,000 to the California Institute of Technology for research in serological genetics and for the development of chemistry in its relation to biological problems; \$17,000 to Cornell University for research in molecular structure; \$13,500 to Roscoe B. Jackson Memorial Laboratory for special research in genetics; \$11,800 to Columbia University for research on the biochemistry and genetics of cystinuria in dogs; \$11,250 to the University of Uppsala for research on the physical-chemical properties of proteins and other substances; \$11,000 to McGill University for research in cytology and genetics; \$21,000 to Iowa State College for research in genetics; \$20,000 to the American Institute of Physics for its publication program; and \$15,000 to the National Research Council for the establishment of a revolving fund for the publication of mathematical tables and aids to computation and bibliography of such tables.

**Social Sciences.** In the field of the social sciences, the Foundation's interest at the present time is in the spheres of social security, public administration, and international relations. The appropriations made during 1940 were as follows: \$105,000 to the University of Pennsylvania toward support of the Industrial Research Department of the Wharton School; \$105,000 to the Institute for Advanced Studies at Princeton toward support of its work in economics; \$15,000 to the Social Science Research Council for use by its Committee on Social Security, and \$15,000 for use by its Public Administration Committee; \$7500 to the Pacific Northwest Council of Education, Planning, and Public Administration for research and publication; to the University of Minnesota, \$39,000 for its public service training program and \$11,500 for a study of employment and unemployment in St. Paul; \$60,000 to Leland Stanford Junior University toward support of the research program of the Food Research Institute; \$10,000 to the New School for Social Research for its Graduate Faculty of Political and Social Science; \$10,000 to the Bureau of Business Research of the University of Alabama for a study of commodity production in the Southeast; \$20,000 to the National Bureau of Economic Research for research in fiscal policy; \$24,000 to the University of Oxford for its Social Studies Research Committee for a continuation of previous activities and new war-time research program; \$105,000 to the National Institute of Public Affairs for experimentation in recruiting and training personnel for the Federal Services.

**The Humanities.** The program in the humanities is concerned with the techniques, such as museums, motion pictures, radio, drama, and libraries by which cultural levels of contemporary society are being influenced, and with the promotion of better international understanding through cultural interchanges. Appropriations in 1940 included \$50,000 to the Folger Shakespeare Library toward the purchase and cataloguing of books and manuscripts; \$20,160 to the New School for Social Research for experimental demonstrations of music in film production; \$35,400 to Columbia University for studies in radio listening; \$34,000 to Cornell University for a state-wide program in music and drama and for the development of Russian studies; \$18,500 to the Rocky Mountain Radio Council toward expenses; \$25,000 to Leland Stanford Junior

University for work in drama; \$60,000 to the Museum of Modern Art for general support of the Film Library; \$19,500 to Yale University for expenses of developing and testing equipment in theater lighting; \$25,000 to Duke University for the purchase of books and other documentation in the field of Latin-American studies; \$18,000 to Tulane University for the purchase of Latin-American books; \$25,000 to the University of North Carolina for the purchase of Latin-American books; \$20,000 to the Payne Fund for expenses of preparing materials for the teaching of English to foreign-born residents of the United States; \$25,000 to the American Library in Paris, Inc., for general expenses of operation; \$25,000 to Princeton University toward work of the Listening Center of its School of Public and International Affairs; \$52,000 to the American Council of Learned Societies for support of activities of the Committee on Latin-American Studies and for general expenses of the Council; \$35,000 to Brown University toward collections of material on early American history and Hispanic culture; and \$15,000 to the Argentine-North American Cultural Institute of Buenos Aires for development of its program of teaching English, drama, and the creative arts.

**Public Health.** The Foundation appropriated \$2,000,000 for the work of its International Health Division during 1940. This work included research on a number of selected diseases, among them yellow fever, malaria, tuberculosis, influenza, the common cold, rabies, syphilis, and intestinal parasitism; demonstrations in the control of certain of these diseases in their environment, co-operation with governments in the organization or improvement of important services of central or local health departments; and the development of public health education. Fellowships in public health were provided and public health personnel were given opportunities for training in connection with the health demonstrations and through travel.

**Officers.** The executive officers of the Foundation in 1940 were Walter W. Stewart, chairman of the board of trustees; Raymond B. Fosdick, president; Thomas B. Appleget and Selskar M. Gunn, vice-presidents; Alan Gregg, M.D., director for the medical sciences; Warren Weaver, director for the natural sciences; Joseph H. Willits, director for the social sciences; David H. Stevens, director for the humanities; Wilbur A. Sawyer, M.D., director of the International Health Division; Norma S. Thompson, secretary; Edward Robinson, treasurer; George J. Beal, comptroller; Thomas M. Debevoise, counsel; and Chauncey Belknap, associate counsel. The offices of the Foundation are located at 49 West 49th Street, New York City. See **LIBRARY PROGRESS**.

**ROMAN CATHOLIC CHURCH.** The spread of the war, with Italy an active participant, cast a pall over Vatican City, curtailed many of its public activities in 1940, and stemmed news emanating from that source. *Osservatore Romano*, the official newspaper of the Vatican, published in Rome itself, came under censor control and, in the first half of 1940 the only source for many Italians of world news, was allowed to report only religious events. No public consistories were held, although normally the appointment of Cardinals would have been announced. On Candlemas Day, receiving representatives of the 174 ecclesiastical bodies in Rome, Pope Pius XII enumerated the five duties of a parish priest, saying he must be an apostle, a pastor and father to the people, a mediator between God and man, a preacher, and a good shepherd re-

lieving corporal needs. To students of the North American College in May, he spoke of the fruits the sacerdotal ministry is called to produce. Because of the war this college was later closed, for the first time since its foundation in 1859. Attending the Requiem Mass in St. Peter's on the first anniversary of the death of Pius XI, the Pope recalled the great efforts for peace of his predecessor and re-emphasized his own desire for the pacification of the world. On the occasion of an audience accorded members of the Spanish Naval Mission, the Holy Father praised the Spanish people for their heroic defense of their "Catholic faith from the very grave danger that threatened it."

A secret consistory was held March 7 for the purpose of naming new bishops. Peace was the subject of the Pope's discourse on Easter Sunday, at which time he bestowed his blessing on the assembly in St. Peter's Square and on other millions listening by radio. Asking that Catholics throughout the world, and particularly the children, pray for peace during May, he wrote: "We desire . . . that all should interweave their prayers with Ours that the merciful God, by His powerful command, may hasten the end of this calamitous storm." Solemn festivities in honor of St. Francis of Assisi and St. Catherine of Siena, chief patrons of Italy, were brought to a close May 5 with a pontifical Mass in Santa Maria sopra Minerva, the Pontiff's titular church. On arriving there he was received with military honors by Italian troops. During the months of May and June the following canonizations and beatifications took place with impressive ceremonies: May 2, the canonization of Bl. Mary of St. Euphrasia Pelletier, foundress of the Sisters of the Good Shepherd, and Bl. Gemma Galgani, Passionist tertiary of Lucca; May 12, beatification of Ven. Rose Phillipine Duchesne, who introduced the Religious of the Sacred Heart into America; May 19, beatification of Ven. Gioacchina de Vedruna de Mas, of Spain, foundress of the Institute of the Carmelites of Charity; May 26, beatification of Ven. Mary of the Crucified di Rosa, foundress of the Congregation of the Handmaids of Charity; July 2, beatification of Ven. Maria Wilhelmina Emily de Rodat, foundress of the Sisters of the Holy Family; June 9, beatification of Ven. Ignatius of Laconi, lay Capuchin.

On May 7, a Concordat with Portugal, an agreement relating to missions in Portuguese colonies, was signed at the Vatican, and Antonio Pacheco, newly appointed Ambassador from Portugal, presented his credentials. The new Ambassador of Italy to the Holy See, Bernard Attilico, was received on May 29; Wladimir d'Ormesson, the new Ambassador of France, on June 9; and Gen. Carlos Quintanilla, the new Ambassador of Bolivia, on August 11. In commemoration of the 4th centenary of the Society of Jesus, Pius XII addressed a letter to the Society's superior general, Very Rev. Vladimir Ledochowski, praising the notable achievements of the Jesuits in the service of the Church and the Holy See, their great scholars, educators, missionaries, and saints. Because of the war, the celebration of this centenary was postponed.

The Pontiff on October 13, addressed by radio the closing session of the 3d National Eucharistic Congress of Argentina, in Santa Fé, calling upon the pilgrims to pray earnestly for peace among all mankind. On October 27, he delivered a discourse by radio to the National Eucharistic Congress held in Peru. In a special Mission Sunday broadcast, October 19, he appealed to the Catholics in the

United States for aid to the missions and said their "large-souled liberality" gives honor to their name "in the harvest fields of the Gospel and among the tillers of Christ." On November 15, he received the credentials of Rumania's new Ambassador to the Holy See, Basil Grigorcea. A Motu Proprio designated November 24 as a "day of public prayer that all those who had died as a result of the war might obtain eternal rest, that all those who suffered or mourned as a result of the war might be comforted, and that true peace might be restored in justice and all peoples united as brothers." In another Motu Proprio issued in December he expressed the hope that the warring nations would declare a truce at Christmas and gave permission for the celebration of Mass in the afternoon of Christmas Eve in those countries where blackouts are in force, thus "overlooking nothing that can bring at least spiritual comfort to those who are bearing sorrows and distress of all kinds because of war."

During the year preparations to meet war conditions were quietly made at the Vatican which, like all Rome, observed the blackout. Special bomb-proof shelters were constructed for the Pope and the inhabitants of Vatican City, and special protection from explosives was given many of the buildings. As always, the Vatican witnessed intense diplomatic activities but obviously little information of these were given publicly. The diplomatic corps at the Vatican during 1940 was composed of representatives from Argentina, Belgium, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, France, Germany, Great Britain, Guatemala, Haiti, Honduras, Hungary, Ireland, Italy, Yugoslavia, Liberia, Luxemburg, Monaco, Nicaragua, Panama, Peru, Poland, Portugal, Rumania, Salvador, San Marino, Dominican Republic, Slovakia, Spain, Uruguay, Venezuela.

**The Cardinals.** No new Cardinals were created in 1940 and deaths reduced the Sacred College to 55, 15 short of its full complement. Emanuel Celestine Cardinal Suhard, Archbishop of Reims, was named to succeed Cardinal Verdier (q.v. under *NECROLOGY*) as Archbishop of Paris. Isidro Cardinal Gomá y Tomás, Primate of Spain and Archbishop of Madrid, died in August (q.v. under *NECROLOGY*).

**The Hierarchy:** The following episcopal appointments were made during the year: Most Rev. Guiseppe Beltrami was named Papal Nuncio to El Salvador and Guatemala, and titular Bishop of Damascus; Most Rev. Samuel A. Stritch, Archbishop of Milwaukee was made Archbishop of Chicago; Most Rev. Christian Winkelmänn, Auxiliary Bishop of St. Louis, Bishop of Wichita; Most Rev. Moses E. Kiley, Bishop of Trenton, Archbishop of Milwaukee; Very Rev. Sidney M. Metzger, titular Bishop of Birta and Auxiliary Bishop of Santa Fe; Rt. Rev. Msgr. Louis La Ravoire Morrow, Bishop of Krishnagar, India; Very Rev. Msgr. Joseph M. Corrigan, titular Bishop of Birta and Rector of Catholic University, D.C.; Rt. Rev. Msgr. Vincent J. Ryan, Bishop of Bismarck, N.D.; Rt. Rev. Msgr. George J. Donnelly, titular Bishop of Coela and Auxiliary Bishop of St. Louis; Rev. Henry J. O'Brien, titular Bishop of Silta and Auxiliary Bishop of Hartford; Most Rev. William A. Griffin, titular Bishop of Savanus and Auxiliary Bishop of Newark, Bishop of Trenton; Rev. Thomas A. Boland, titular Bishop of Hirana and Auxiliary Bishop of Newark; Rev. Bernard Theodore Espelage, O.F.M., first Bishop of Gallup, N.M.; Rt. Rev.

Msgr. Joseph P. Hurley, Bishop of St. Augustine; Most Rev. Joseph Charbonneau, Coadjutor Bishop of Montreal, Archbishop of Montreal; Most Rev. Joseph G. Pinten, retired Bishop of Grand Rapids, titular Bishop of Sela; Rt. Rev. Msgr. J. Francis A. McIntyre, Auxiliary Bishop of New York.

The following bishops died: Most Rev. Patrick Barry, Bishop of St. Augustine; Most Rev. Arthur Jerome Drossaerts, Archbishop of San Antonio; Most Rev. Thomas F. Hickey, retired Bishop of Rochester; Most Rev. John Henry Tihen, retired Bishop of Denver; Most Rev. Manuel Ruiz y Rodriguez, Archbishop of Havana; Most Rev. John March, Bishop of Harbor Grace, Newfoundland; Most Rev. Charles A. Lamarche, Bishop of Chicoutimi, Quebec; Most Rev. Edward J. Byrne, Archbishop of Dublin; Most Rev. Paulin Ladeuze, titular Bishop of Tiberius and Rector of the University of Louvain; Most Rev. Michael Kelly, Archbishop of Sydney, Australia; Most Rev. Justino Guitart y Villardero, Bishop of Urel, Spain; Most Rev. Casimir Michalkiewicz, Auxiliary Bishop of Wilno, Poland; Most Rev. Joseph G. Forbes, Archbishop of Ottawa; Most Rev. Alphonse E. Deschamps, Auxiliary Bishop of Montreal; Most Rev. Georges Gauthier, Archbishop of Montreal; Most Rev. Sylvester Espelage, O.F.M., Vicar Apostolic of Wuchang, China, and titular Bishop of Oreo; Most Rev. Stephen Alencastre, S.S.C.C., Vicar Apostolic of Hawaii.

**Statistics.** The total Catholic World population is approximately 350,000,000 or about 19 per cent of all. Figures compiled by the official Catholic Directory for 1940 lists the Catholic population of the United States at 21,403,136, a decrease from 1939 of 2371. The number of converts was 73,677 or 7734 more than in the previous year. The Hierarchy numbers 22 Archbishops, two of whom are Cardinals, and 114 Bishops. The secular priests number 22,450, a decrease of 119, and the priests of religious orders number 11,462, an increase of 491. The churches total 18,733, a decrease of 24, and include 13,132 with resident pastors and 5601 missions with churches. The number of seminaries decreased by 7, the total being 202; and the seminarians increased by 341, the total being 17,087. There are 143 colleges for boys, a decrease of 38. Colleges and academies for girls total 683, an increase of 6. There are 1411 high schools, 49 more than in 1939, with a total attendance of 480,483, a gain of 39,210. The number of parochial schools is 7597, an increase of 36, and an attendance of 2,108,892, an increase of 1922. The number of orphanages is 303, a decrease of 8; and the number of orphans cared for was 33,624, or 2582 less than previously. There are 171 homes for the aged poor, an increase of 4; and 703 hospitals, an increase of 24. There were at the end of 1939, 34 commissioned chaplains in the U.S. Army, 19 in the Navy, 66 chaplains in Veteran Hospitals and 21 auxiliaries, 164 military reserve chaplains, and 63 chaplains in the National Guard. See *CATHOLIC WELFARE CONFERENCE*; *FRANCE, GERMANY, HUNGARY, and POLAND under History*; *VATICAN CITY*.

JOHN G. BRUNINI.

**ROOSEVELT, Franklin D.** See *ELECTIONS, U.S. NATIONAL; UNITED STATES*.

**ROOSEVELT LIBRARY.** See *NEW YORK*.

**ROSE ISLAND.** An island of the central Pacific (approximately 14½° S. and 168° W.), included in American Samoa. The U.S. Naval Appropriations Bill of 1939 provided for the establishment of a naval air base on the island.

**ROSENWALD FUND.** See **BENEFACTIONS.**  
**ROSS DEPENDENCY.** See **NEW ZEALAND.**  
**ROTATION, High-Speed.** See **PHYSICS.**  
**ROUMANIA.** See **RUMANIA.**

**ROWING.** Among college boat crews, Washington and Cornell were pre-eminent during 1940. The former triumphed over California in its annual April regatta and then came east to win the Intercollegiate Rowing Association title on the Poughkeepsie in June. The Cornell team won the Carnegie Cup race from Yale by the margin of two-tenths of a second, one of the closest races in history, but finished second to California in the Poughkeepsie classic. The latter competition was marred by bad weather and confusion. In one event, the varsity crews were dispatched in waters that were so turbulent that most of the boats were swamped and the race called off. It was later conducted under cover of darkness, after the varsity race had run its course.

In the main event, after Washington and Cornell, the order at the finish was as follows: Syracuse, third, Navy fourth, California fifth, and Columbia sixth. The Washington jayvee aggregation won their event, followed by Navy, second, and Cornell freshmen, third.

It was a big season for lightweight crews. The Joseph Wright Cup, the trophy for 150-lb. oarsmen, was taken by Harvard at the American Henley. The National Association of Amateur Oarsmen staged its annual competition on the Shrewsbury at Red Bank, N. J., and here Joe Burk, the world's best-known sculler, won the national championship by outdistancing Theofeld Duboise, of Winnipeg, by 15 lengths.

The Penn A. C. of Philadelphia annexed the team title with a total of 98 points and won the Julius H. Barnes trophy. The eight-oared senior crew event was also taken by the Penn A. C.

At the New London regatta, the Harvard crew of Tom Bolles was easily supreme over Yale.

**RUANDA-URUNDI.** See under **CONGO, BELGIAN.**

**RUBBER.** For the first time in its history the American rubber manufacturing industry was faced last year with the possibility of having its basic raw material—crude rubber—cut off. The threat hinged on the international situation, and was heightened by Japan's joining the Axis powers in a tripartite agreement. There were veiled intimations from Japan that if the United States saw fit to consider that country as an aggressor nation and limit exports of strategic war materials, Japan, in turn, might be obliged to retaliate by cutting off

shipments of crude rubber from the Far East, from which the United States receives about 98 per cent of its rubber supplies.

That the Government recognized the difficulties which might accrue if crude rubber shipments were blocked, even temporarily, was evident by the action which followed. The Reconstruction Finance Corporation was authorized to create the Rubber Reserve Company, capitalized for \$5,000,000, half of which was subscribed by the government and the other half by independent rubber manufacturers, for the purpose of creating a stockpile of crude rubber to be used for "emergency" purposes only. The Rubber Reserve Company shortly after its organization concluded two separate agreements with the International Rubber Regulation Committee, the governing body of the current restriction plan, calling for the purchase of 150,000 tons in 1940 and 180,000 tons in 1941. By the end of 1940, it had accumulated in excess of 56,000 tons of stockpile rubber.

#### CRUDE RUBBER CONSUMED IN PRODUCTS MANUFACTURED IN THE UNITED STATES

[All Figures in Long Tons]

	First Nine Months 1940	1939
Passenger Car, Truck & Bus Casings	209,393	204,649
Passenger Car, Truck & Bus Inner Tubes	30,513	30,038
Agricultural (Farm) Casings and Tubes	8,152	(A)
Airplane Casings and Tubes	431	191
Motorcycle Casings and Tubes	232	(A)
Bicycle Tires and Tubes*	1,956	1,917
Solid and Cushion Tires	162	168
Industrial Pneumatic & Solid Truck Tires	7,351	238
Tire Accessories & Repair Materials	7,149	7,793
Mechanical Rubber Goods	31,141	27,381
Boots and Shoes	10,758	11,365
Insulated Wire & Cable Compounds	5,358	3,871
Drug Sundries & Surgical Goods	2,655	2,786
Stationers' Rubber Goods	1,604	1,569
Bathing Apparel	479	494
Miscellaneous Rubber Sundries	1,686	2,519
Rubber Clothing	317	409
Automobile Fabrics	276	190
Other Rubberized Fabrics	2,791	2,965
Hard Rubber Goods	2,607	1,877
Heels and Soles	8,024	9,694
Rubber Flooring	1,022	821
Industrial Sponge Rubber	6,463	3,126
Foamed Latex	1,701	1,658
Sporting Goods, Toys & Novelties		
Grand Total	335,221	315,719

\* Including single tubes and juvenile pneumatic tires and tubes.  
 (A) Previously included with Passenger Car, Truck and Bus Casings and Inner Tubes Source: Rubber Manufacturers Association. The grand totals are estimated to be approximately 75% correct with regard to completeness.

The recognized danger of shortages of crude rubber due to an attempted blockade of shipping centers also led, indirectly, to the announcement of a new group of synthetic rubbers. The Standard Oil Company of New Jersey first announced that it had acquired the American manufacturing rights to Buna from I. G. Farbenindustrie, the chemical trust in Germany. Subsequently, Standard Oil licensed both Firestone and U.S. Rubber to produce Buna for their own requirements. Standard Oil later announced Butyl Rubber, a co-polymer of olefin and diolefin.

Other companies joining the synthetic rubber parade included Goodrich, with Ameripol, and Goodyear, with Chemigum. Later, the Goodrich company joined forces with the Phillips Petroleum Company to organize the Hydrocarbon Chemical and Rubber Company, in Akron, with the patents of both companies at the disposal of the new concern. Hydrocarbon Chemical calls its synthetic Hycar. Although it was not publicly announced,

#### WORLD'S RUBBER SHIPMENTS—1940

[All Figures in Long Tons]

Month	British Malaya	Nether- lands Indies	Other Plan- tation	Total Plan- tation	Total Other	Grand Total
Jan.	26,073	54,336	24,008	104,417	2,985	107,402
Feb.	45,507	37,283	26,860	109,650	3,065	112,715
Mar.	48,064	43,385	18,895	110,344	3,710	114,054
Apr.	25,324	44,407	16,548	86,279	3,830	90,109
May	57,746	40,310	20,450	118,496	3,530	122,026
June	45,285	44,798	19,319	109,402	4,160	112,732
July	42,735	60,500	19,450	122,685	4,160	126,845
Aug.	45,704	45,100	25,936	116,740	2,670	119,410
Sept.	58,697	44,000	27,920	130,617	2,800	133,417
Oct.	52,580	50,100	24,950	127,630	2,815	130,445
Nov.	35,926	37,400	17,400	90,726	2,940	93,666
Dec.	40,000	45,000	20,000	105,000	3,000	108,000
Total	523,631	546,619	261,736	1,331,986	98,835	1,370,821

Source: W. H. Rickinson & Son. Note: Totals for December and for the year were estimated by the author.

U.S. Rubber was also understood to have a new synthetic rubber ready for exploitation. It is believed, although secrecy surrounds the actual compositions, that all of these new synthetic rubbers, which will compete with DuPont's neoprene and Thiokol, made by Dow Chemical for the Thiokol Corporation, are based on butadiene.

**RECLAIMED RUBBER IN THE UNITED STATES—1940**  
[All Quantities in Long Tons]

Month	Production	Consumption Tons	% to Crude	Stocks*
Jan	19,297	16,070	29.2	27,418
Feb	17,992	15,370	30.8	28,603
Mar	17,234	15,931	31.7	28,488
Apr	16,568	16,298	32.5	27,558
May	17,552	15,719	30.5	28,397
June	16,631	14,912	32.1	29,260
July	14,342	14,298	30.4	28,053
Aug	17,213	14,224	28.3	29,786
Sept	16,428	14,589	29.1	30,287
Oct.	19,358	16,528	29.3	32,118
Nov	17,689	16,042	29.4	33,143
Dec	19,297	17,109	30.3	34,701
Total	209,601	187,090	30.3	34,701

\* At end of month or year Source Rubber Manufacturers Association

The domestic rubber manufacturing industry as a whole enjoyed a successful year. The larger organizations were busy on military orders from England and France in the first part of the year and then both large and small companies benefited from orders issued by the Government later in the year under the National Defense Program. By the year-end, defense orders placed with the industry, ranging from gas masks to new types of bullet-resisting inner tubes, were estimated at \$50,000,000. Due to these conditions, employment in the industry improved steadily, both with respect to numbers employed and man-hours of work provided.

**WORLD CONSUMPTION OF CRUDE RUBBER—1940**  
[All Figures in Long Tons]

Month	United States	United Kingdom	All Other	Total
Jan	54,978	11,148	25,374	91,500
Feb	49,832	11,027	24,341	85,200
Mar	50,192	12,215	31,893	94,300
Apr	50,103	12,546	26,451	89,100
May	51,619	12,303	21,478	85,400
June	46,506	12,000	28,194	86,700
July	47,011	14,000	23,589	84,600
Aug.	50,234	13,000	33,966	97,200
Sept	50,206	14,000	19,094	83,300
Oct	56,477	12,000	9,623	78,100
Nov	54,652	13,500	19,048	87,200
Dec	56,539	14,000	19,461	90,000
Total	618,349	151,739	292,512	1,062,600

Sources Rubber Manufacturers Association; W. H. Rickinson & Son. Note: Consumption in the United Kingdom is estimated since June, 1940. World Totals are completely estimated

Commercially, the rubber industry continued to expand. Goodyear finished the installation of the world's largest conveyor belt, carrying aggregate from gravel pits at Redding to the Shasta Dam at Caram, Calif., a distance of 96 miles. Uses of Pliofilm, the rubber hydrochloride material, were widened to include the packing of foods, meat-stuffs, etc. Bullet-resisting tires and bullet-sealing gasoline tanks for airplanes and military vehicles were developed. Armor plate of rubber and steel for military aircraft was introduced. A self-heating aviator's suit made its appearance. Advances in the casting of latex in plaster and other molds were recorded. Rubber dies were used for stamping out sheet metal parts for airplanes and other

uses. A new type of cotton tire cord, highly heat resistant, was developed by the National Cotton Council in co-operation with Firestone. Fiber-latex developments, of special interest to the textile trade, were announced.

Developments were achieved technically. Rubber compounded with acetylene black was found to be electrically conductive. Depolymerized rubber, prepared by the use of chlorostannic acid, was used in making thermoplastic resins. It was determined that latex could be sterilized in the presence of buffer solutions. Chlorinated rubber was employed for the manufacture of hard types of lacquer resistant to the action of sea water. Vulcanization of rubber plates without any forms was begun. Colloidal lead stabilized with 0.25 per cent rubber was found to impart anti-knock properties to gasoline.

The use of Meehanite and other new alloys, possessing increased tensile, good transverse, and high compression strength, combined with excellent corrosion resistance, marked the progress in rubber machinery and equipment. A new type press for curing sponge or blown goods, a constant control rubber thread covering machine, and equipment for producing rubber-insulated conductors by continuous vulcanization were included among the new equipment made commercially available. A tester for foamed latex sponge rubber, a V-belt measuring machine, a plastograph for measuring the consistency of rubber, and a fluoroscopic device for x-raying tires were among laboratory apparatus made available.

The big news within the industry itself was the acquisition of both the Fisk Rubber Corporation and the Gillette Rubber Company by U.S. Rubber. During the year, the Bata Shoe Company began operations at its new and first factory in the United States at Belcamp, Md. Goodyear constructed another factory at St. Mary's, Ohio. Goodrich began the construction of a plant at Niagara Falls, N.Y., for the manufacture of Koroseal. DuPont began work on its Deepwater, N.J., plant, to double the production of neoprene.

See CHEMISTRY, INDUSTRIAL; FLORIDA under History; SHOE INDUSTRY.

M. E. LERNER

**RUMANIA.** A monarchy of southeastern Europe. Capital, Bucharest. King, Carol II (abdicated Sept. 6, 1940) and Michael V (successor).

**Area and Population.** As a result of successive territorial cessions made during 1940, the area of Rumania was reduced from 113,884 square miles to about 88,714 and the population from an estimated 19,422,600 to about 12,958,269. Details of the ceded areas are given in the accompanying table and map.

**RUMANIAN TERRITORIES CEDED IN 1940**

Territories	Ceded to	Date	Area sq. miles	Estimated population
Bessarabia	USSR	June 28	17,151	3,200,000
Northern Bukovina	USSR	June 28	1,717	500,000
Northern Transylvania	Hungary	Aug. 30	19,300*	2,185,987*
Southern Dobruja	Bulgaria	Sept. 7	2,982	378,344
Total			25,170	6,464,331

\* Rumanian estimates. According to Hungarian estimates, the area ceded was 17,000 square miles and the population 2,370,000.

It was estimated that about half of the population lost by Rumania through these territorial transfers was Rumanian. Over 1,800,000 Rumanians were annexed by the Soviet Union, about 1,150,-

000 by Hungary and 78,000 by Bulgaria. Of the non-Rumanian nationalities in the ceded districts, about 1,875,000 were estimated to have been transferred to the Soviet Union, 1,200,000 to Hungary, and 300,000 to Bulgaria.

Populations (estimated, Jan. 1, 1939) of chief cities. (1) not ceded in 1940—Bucharest 648,162, Iasi (Jassy) 104,471, Galati (Galatz) 102,232, Timisoara (Temesvar) 89,872, Ploesti 77,376, Arad 75,725, Braila 68,561; (2) ceded in 1940—Chisinau (Kishenev) 112,500, Cernauti (Czernowitz) 109,698, Cluj (Klausenburg) 100,272, Oradea-Mare (Grosswardein) 80,872.

**National Defense.** The strength of the army in the latter part of 1940 was uncertain. The force was reportedly to be reorganized, on a reduced scale, in accordance with German design. On Nov. 1, 1939, according to the U.S.A. Adjutant General's office, the Rumanian army, prior to the territorial dismemberment of 1940, had 800,000 men in active service and 1,000,000 trained members of the reserve. In the air force were 15,472 men, equipped with over 800 aircraft. The navy maintained in the Black Sea 4 destroyers, 1 submarine, 3 torpedo boats (formerly Austrian), 4 motor-driven gunboats, and a depot ship. Patrol boats were maintained on the Danube River.

**Education and Religion.** Attendance at school is obligatory for those of proper age and is free in the public schools. In the academic year 1938-39 schools for infants and for elementary pupils, mainly public schools but others included, numbered 19,394 and had 2,623,000 pupils. In the year 1937-38, secondary schools, mainly public, numbered 925 and had 204,254 pupils. In the year 1938-39, other than elementary pupils above, 669,187 adults were instructed in elementary schools. Four universities were maintained, at Bucharest, Iasi, Cluj (in Transylvania), and Cernauti (in Bukovina), prior to the territorial cessions of 1940. By religious affiliation 13,200,000 of the population were reckoned in 1938 as connected with the Orthodox Church; 1,426,813 with the Greek Catholic; 1,200,000 Roman Catholic; 1,500,000 Jews (but after the cession, about 700,000); and smaller numbers in other groups, including 260,000 Moslems.

**Production.** Three-fourths of the population before the territorial cession were engaged in farming. The arable land totaled (1937) 34,448,000 acres, or 47.3 per cent of the territory. Production of cereals in 1939, by metric tons: Wheat, 4,452,800; barley, 816,400; rye, 431,500; oats, 487,000; maize, 6,051,200; potatoes, 1,988,400; the production of sugar from beets totaled 127,900 metric tons. The year's production of wine approximated 11,542,000 hectoliters, that of tobacco, 14,400 metric tons. The farms' live stock included in 1938, 2,024,540 horses, 4,170,640 cattle, 11,808,780 sheep, and 3,030,306 swine. Agriculture normally produced cereals, animals, and some animal products well in excess of domestic needs.

The chief mineral production, that of petroleum, attained 6,239,000 metric tons for 1939 and 6,601,000 for 1938; after Russia's it was the main part of Europe's production. Much of it was refined in Rumania; production of gasoline attained 1,529,000 metric tons for 1938. Wells delivered (1938) 1,725,000,000 cubic meters of natural gas. Mines produced (1939) 289,000 metric tons of coal and 2,183,000 of lignite. Salt mines (in the lower Carpathian area) produced 370,000 metric tons in 1938. Other mineral products were iron ore, pyrites, lead, zinc, and copper, all secondary as to quantity. Manufacturing employed (1937) 278,919 persons

in 3512 establishments; among the chief sorts of manufacture were flour-milling, brewing, and distilling.

**Foreign Trade.** For 1939, in millions of lei, imports 22,846; exports, 26,809. For 1938, imports 18,768 and exports 21,533. Petroleum products and cereals accounted for most of the amount of exports: in 1938, petroleum products for 9313 millions of lei and cereals for 5257. Chief imports of 1938 in millions of lei; iron and steel, 4060; machinery, 3578; textiles, 2848. Germany took, of the exports of 1938, 5707 millions of lei and sent, of the imports, 6908; the United Kingdom took 2386, sent 1529; Czecho-Slovakia took 2059, sent 2465; France took 1006, sent 1444.

**Finance.** Monetary unit, the lei; quoted nominally in 1939 around 0.71 cent in U.S. money at New York; officially rated value in U.S. money, December, 1940, 0.46 cents. The budget for the year 1939-40 estimated ordinary revenue and expenditure, alike, at 32,229 millions of lei; for 1938-39, at 30,550. For 1939-40 a special budget for national defense carried an additional 6000 millions. Public debt, Apr. 1, 1939, 104,127.4 millions. The National Bank's gold, 21,028 million lei, was revalued in May, 1940, at 31,542 million.

**Government.** The Constitution of Feb. 27, 1938 (see YEAR BOOK, 1939) was suspended and Parliament dissolved on Sept. 5, 1940. By royal decrees of September 5-6, all of the governing powers, except command of the army and the rights to issue currency and grant decorations and amnesty, were transferred to Gen. Ion Antonescu, Head of the State and Premier. The Crown Council created in 1938 likewise was abolished. King Carol's Front of National Regeneration, which in 1938 replaced all political parties, was replaced by the Iron Guard in September, 1940. The cabinet appointed Sept. 14, 1940, was composed of Iron Guard leaders, army officers, and non-party technicians.

## HISTORY

Rumania gave up to Russia, to Hungary, and to Bulgaria in 1940, without attempting a blow in defense, nearly one-fourth of its area and one-third of its inhabitants; and its ruler, King Carol II, abdicated and went into exile. These changes marked the failure of the country's attempt to retain territory that it had gained by the downfall of Germany and her partners in the previous European war; about two-thirds of the territory then acquired was now given up. The failure also of the monarchy's policy of courting one strong protector after another, standing by none, became manifest.

**Events Leading to the Partition.** The demands of Russia, of Hungary, and of Bulgaria on Rumania were of long standing. Russia had begun its efforts to recover Bessarabia soon after the full establishment of the U.S.S.R. The irredentist movement in Hungary was as old as the existing Hungarian government. The new European war, breaking out in 1939, brought on an open season for territorial seizures outside the main field of struggle. The downfall of the resistance to Germany in western part of the European continent made it simple for Germany to reach out a hand toward the Rumanian resources and necessary for Russia to gather its intended share of that country's territory quickly. The situation for which the seekers of Rumanian territory had long waited thus came about in June.

**Steps in the Partition.** Russia brought into



Courtesy of New York Times

#### THE PARTITION OF RUMANIA

Bessarabia and Northern Bukovina were ceded to Soviet Russia on June 28. Half of Transylvania was annexed to Hungary under the "arbitral award" announced by the German and Italian Foreign Ministers at Vienna on August 30. Southern Dobruja was ceded to Bulgaria by a Rumanian-Bulgarian treaty signed September 7.

position in May a force for crossing the Dniester River into Bessarabia. In the middle of June conferences between Russia and the Axis powers were reported as preparing an agreement on the approaching partition. The first noteworthy encounters of Russian and Rumanian troops along the Dniester were reported on the 24th. On the 26th Russia demanded of Rumania the return of Bessarabia to Russia and the transfer of Northern Bukovina; Rumania was told to agree within 24 hours. It agreed to the cession on the following day and on June 28 details of the transfer were completed.

Hungarian troops began skirmishing with Rumanian forces on the Transylvanian border on July 2. On July 24, Hitler summoned members of the Rumanian ministry to a conference, July 26, at Salzburg. There followed conferences between the Hungarian and Rumanian governments and, in August, the submission of the Hungarian demands to arbitration by both the Hungarian and Rumanian governments. The Foreign Ministers of Germany and of Italy, Ribbentrop and Ciano, acting as an arbitral court, issued, August 30, an award delivering to Hungary the more northerly part of its former Transylvanian territory. The Rumanian Government accepted the award. The Bulgarian claims, which had also been pressed in July, were settled by a treaty between Bulgaria and Rumania, signed September 7, Rumania ceding the southern part of Dobruja. See BULGARIA and HUNGARY under History.

**Rumanian Diplomacy.** The government of Rumania used diplomacy to avert if possible, or

diminish the severity of its neighbors' territorial demands. It avoided any effort at adequate military resistance; but as far as offering the semblance of a determined military front might discourage aggression, it did what it could. The forces on the frontiers were repeatedly augmented early in the year, and King Carol in a public address declared the readiness of the people to die in the nation's defense.

No apparent effort was made to win help from opponents of the Axis, despite the conditional 1939 Anglo-French guarantee of Rumania's territorial integrity. Great Britain was for the moment overburdened with its own difficulties and France was prostrate. Members of the Balkan entente were quite inadequate to take on the protection of other territory than their own. Rumanian readiness to submit to German-Italian arbitration in Hungary's favor was due partly to fear of further Russian penetration; partly also, to dread of the Iron Guard, of which Germany had at the critical moment sent back a formidable number, refugees in Germany, to their own land. The award to Hungary, indeed, did leave to Rumania the southern part, somewhat less than half, of the territory originally taken from Hungary. The policy of favoring Germany had the drawback of affording free ingress to the German agents of economic penetration and, especially, to German troops, which first entered in the guise of protectors against further Russian inroads. The discredit that these calamities brought on the government impelled King Carol to make repeated changes in the ministry.



**Fall of King Carol.** Whatever the merit of the policy of seeking German good will, it did not serve to save Carol II's crown. German influence was not used to support him. Threatened with an uprising by his bitterest enemies—the Iron Guards, of whom his government had executed a great number after their assassination of Premier Calinescu in 1939—he was forced to leave the country. He wrote his abdication, September 6, designating his 18-year-old son Michael as his successor. After fleeing to Switzerland, he made his way to Portugal. The reins of government were left in the hands of General Ion Antonescu, a former political opponent, whom Carol as a last resort had released from confinement and vested with broad powers.

**Uprisings under Antonescu.** The state of the country, as Antonescu carried on the government after Carol's departure, invited civil war. The throne stood in discredit as having failed to prevent the year's national disasters. The new sovereign was familiar to the people—he had been a child king during the years of Carol's exclusion from the succession, and his father had supplanted him. He was not a figure to command loyalty as the evident possessor of personal powers adequate to his station. The Iron Guards, re-established in the country since spring, had a sympathizer or agent in the ministry, in the person of Vice Premier Horia Sima. Divided among themselves, they could not well unite even to the point of coming to an agreement with the government. Sima was believed to stand with the most influential of their factions. The Russian occupation of Bessarabia had meanwhile helped bring into Rumania the Communist propaganda, and it had made progress amid the disordered state of the nation. Nor could the government proceed easily against either Communists or Iron Guards, since in either case it would risk offending one of the powers from which it had most to fear, Germany and Russia.

Late in November occurred a number of assassinations of persons of note who had incurred the resentment of the Iron Guards. Sixty-four officials who had served under Carol II were reportedly killed on November 27 alone. The "executions" were regarded as having been carried out to avenge that of the Iron Guard leader Codreanu in 1938. A number of Rumanian intellectuals were among those killed. The question how far the German authorities had sympathized with or promoted this retribution made it difficult for the government to take steps against the perpetrators. In the absence of such steps persons apprehending a like fate took alarm and fled from the country in considerable numbers. The Russian authorities protested to Antonescu against his failure to repress the Iron Guards' acts against Communists.

**The Rumanian Earthquake.** On November 11 an earthquake said to be the most destructive in Rumanian records killed a great number of persons (388 deaths reported), did widespread damage to buildings in Bucharest and other cities, and caused fires and other damage among the oil wells. Ploesti, in the oil region, was reported to have suffered heavily. See EARTHQUAKES.

Interruption of the operations of damaged oil refineries deprived Germany for some weeks of their output of liquid fuels, important to German warfare since Rumania was the chief source of such fuels under German control.

**Subservience to Germany.** Antonescu's government, facing the risk of violent opposition from either or both the German-minded Iron Guard and

the Russian-minded Communists, had no choice but to yield to Germany a broad economic mastery of Rumania. An economic agreement with Germany (reported in December) allowed German supervision of virtually all Rumanian industry under what was termed a co-operative plan for reconstructing the country's business. Antonescu promptly furthered the agreement by expropriating the private interests, largely British, that owned and operated properties for the production and refining of petroleum. The question of the treatment of the Rumanian Jews remained in doubt at the end of the year; the government published, November 25, some results of an investigation of their number and status; 662,244 had been questioned, and their total number was supposedly about 700,000.

Also see GERMANY and UNION of SOVIET SOCIALIST REPUBLICS under *History*; BALKAN ENTENTE; COMMUNISM; EUROPEAN WAR under *Italo-Greek War*, etc.; JEWS; LABOR CONDITIONS; LEAGUE OF NATIONS; REPARATIONS and WAR DEBTS.

**RURAL ELECTRIFICATION ADMINISTRATION (REA).** See CO-OPERATIVE MOVEMENT; ELECTRIC LIGHT and POWER.

**RUSSELL, Bertrand.** See EDUCATION.

**RUSSELL SAGE FOUNDATION.** See BENEFACTIONS.

**RUSSIAN LITERATURE.** Judging by preliminary reports, over 26,000 books, from fiction and poetry to scientific works, were published in the Soviet Union in 1940; that marks a decrease of about 5000 items in comparison with 1939.

**Fiction.** In rather poor literary quality, choice of subjects, and prevailing atmosphere, the year's fiction differed but little from that of 1939. Among the best artistic achievements, *The Dark Morning* (*Khmuroe utro*), by A. Tolstoy, and the last volume of M. Sholokhov's *Quiet Flows the Don* (*Tikhii Don*) stand out. Tolstoy is a distant relative of L. Tolstoy and an uncrowned king of Soviet authors. *The Dark Morning* is the continuation of his much earlier work entitled *The Road to Calvary* (*Khozhdenie po mukam*). Together, they form a very powerful, swiftly moving panorama of pre-revolutionary and revolutionary Russia, replete with color and "life-sap." The present work covers the momentous year 1918. The last volume of Sholokhov's panoramic novel brings to conclusion the chronicle of a Cossack family which the author has traced all through the First World War and the Soviet revolution. Although at places unnecessarily long, the steady epic narrative has substantial literary merits.

Of the novels devoted to contemporary Soviet life, *Warm Mountains* (*Tyopliya gory*), by S. Krushinsky, must be noted. It portrays truthfully, if not artistically, the life of "collectivized" Russian peasants, the daily struggle of their individualistic instinct against "the rural Socialism," and the activities of the persecuted, but still surviving, Church. In *By the Blue Sea* (*U sinevo moria*), Vladimir Ivanov draws, in major key, a picture of an industrial community and the milieu of new "Soviet-type" intellectuals. Much attention was attracted by R. Fraerman's *Dingo, the Wild Dog* (*Dikaia sobaka Dingo*), a romanticized story of "return to nature," of "primitive life" in the woods and of a first love; some of its pages are written remarkably well. M. Zoschenko, the famous humorist, wrote a new volume of *Short Stories* (*Rasskazy*), among which there are excellent, subtle satires of Soviet life told in his inimitable manner of a shrewd simpleton. Of the numerous his-

torical novels, *The Great Mouravi (Velikiy Mouravi)*, by Miss A. Antonovsky, deserves mention for a very detailed portrayal of the colorful Georgian (Caucasian) life in the 16th century which it contains.

The present war found but little reflection in the year's fiction. As a general European phenomenon, it is treated in hardly any book. It is to the localized Russian end of it alone, that is, to the absorption (or "liberation") of parts of eastern Europe by the Soviets, to the Russo-Finnish War and the like, that a few works were devoted. Among the most readable of them is *The Road to the West (Doroga na zapad)*, a collection of short stories by V. Lidin, depicting the sweep of the Red Army into Poland. That reticence on the European aspect of the war is in line with the policy of the Soviets which have maintained all along that it has no bearing to speak of on the life of Soviet citizens.

In 1940, some Moscow writers for the first time spoke frankly of the deplorably low level of literary skill prevailing in Soviet fiction. Thus, A. Kozachinsky published, in the *Literary Gazette*, an article entitled *In Defence of the Amusing (V zaschitu zanimatelnosti)*. Most Soviet fiction works, he asserted, were so unamusing that, if numerous Government-controlled libraries did not buy them, they would not sell at all.

**Autobiography, Biography, and History.** In this branch of literature, the year was not rich in important items. *From the Shovel to Stalin's Plane (Ot motygui k stalinskomu samolyotu)*, which is a posthumously published autobiography by Mrs P. Ossipenko, a noted aviatrix who had perished in an accident, received much praise. *Lermontov's Creative Path (Tvorcheskii put Lermontova)*, by L. Ginsburg, is a well-documented and, on the whole, interesting work. In the mass of historical writings, *Highlights of the Historical Development of the Western Ukraine and Byelorussia (Osnovnyye momenty istorii razvitiia zapadnoy Ukrainy i Belorussii)*, by V. Picheta, a noted authority on the subject, deserves notice. From M. Levchenko's pen came an informative *History of Byzantium (Istoria Vizantii)*.

**Drama and Poetry.** Among the new plays, *The Snow Storm (Metel)*, by the talented L. Leonov, stands out. It is a forceful story of a petty-bourgeois family of Old Russia which has fully adapted itself to Soviet conditions. Communist critics condemned it for its "unhealthy political tendencies." Typical of the Soviet Union's new nationalistic tendencies is the amusing *Kremlin's Chimes (Kremlyovskie kuranty)*, by N. Pogodin, in which Lenin is pictured as far more of a Russian nationalist than he had ever been. A Prokofiev's *In Defence of those in Love (V zaschitu vlyublyonnykh)* is probably the best volume of the year's lyrical poems.

**Literatures of Non-Russian Peoples of the Soviet Union.** In late years, the Soviets have been stimulating with increasing energy the development of the cultures and literatures of various non-Russian peoples comprised in the Soviet Union, from Georgians to Moldavs, Tartars, etc. Huge sums are being spent on the publication of their works in their native tongues and also on their translation into Russian. In 1940, such translated works held a place of great importance in the publishers' lists in Moscow. Among the most important of such works was the Russian version of *Djangan*, a long cycle of remarkable heroic poems composed in the 15-17th centuries by the peo-

ples of Mongolia. Much attention was also given to the *Works (Proisvedeniia)* of A. Tzereteli, a Georgian poet-revolutionist of the 19th century.

**Émigré Literature.** War conditions and, especially, the collapse of France put an end, at least for the time being, to the activity of Russian émigré writers most of whom lived in Paris. The only émigré work of importance that appeared in 1940 prior to June was *Solus Rex*, a highly original semi-fantastic novel by the brilliant V. Sirin-Nabokov.

ALEXANDER I. NAZAROFF.

**RUSSIAN ORTHODOX CHURCH.** See RELIGIOUS ORGANIZATIONS.

**RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC.** See UNION OF SOVIET SOCIALIST REPUBLICS under *Area and Population*. **RYAN COLLECTION.** See ART under *Art Sales*.

**RYE.** The United States rye crop in 1940 was estimated at 40,601,000 bu by the U.S. Department of Agriculture compared with the 1939 crop of 39,049,000 bu and the 1929-38 average production of 38,095,000 bu. The 1940 production was obtained largely from smaller acreages sown in six north-central states which accounted for two-thirds of the U.S. rye production. Although the area harvested, 3,192,000 acres, was 17 per cent below the 1939 acreage and 2 per cent below the 10-year average, yields per acre were above average in most of the principal rye states. Acre yields averaged 12.7 bu in 1940 and 10.2 bu. in 1939. Major rye states were: North Dakota with 9,776,000 bu, Minnesota with 5,958,000 bu, South Dakota 5,640,000, Nebraska 2,608,000, Wisconsin 2,509,000, Indiana 1,785,000, and Ohio 1,683,000 bu. The season average price per bu. (preliminary) received by farmers was 40.6 cents and the value of production was estimated at \$16,498,000 in 1940 compared to 44.0 cents and \$17,163,000 in 1939. See AGRICULTURE,—*Crop Production Table, Imports and Exports*.

**SAARLAND.** See GERMANY under *Area and Population*.

**SABOTAGE.** See FEDERAL BUREAU OF INVESTIGATION; FIRE PROTECTION; LABOR CONDITIONS; BELGIUM, BOHEMIA AND MORAVIA, CANADA, FRANCE, GREAT BRITAIN, HUNGARY, IRELAND, NETHERLANDS, NORWAY, POLAND, and RUMANIA under *History*.

**ST. CHRISTOPHER.** See LEEWARD ISLANDS.

**ST. HELENA.** See BRITISH EMPIRE.

**ST. KITTS.** See LEEWARD ISLANDS.

**ST. LAWRENCE SEAWAY.** See CANADA under *History*; DAMS; POWER PLANTS; WATERWAYS, INLAND.

**ST. LUCIA.** A British insular colony in the Windward Islands group of the West Indies. Area, 233 square miles; population (1939), 69,084. Chief towns: Castries (capital), 12,000 inhabitants; Soufriere, 7309. Education (1938): 45 schools and 10,210 pupils enrolled. Chief products: sugar, copra, limes, cacao, and bananas. Trade (1938): imports, £189,303; exports, £169,907, including re-exports of £43,267. Sugar accounted for over 47 per cent of the total domestic export trade.

**Government.** Finance (1939): estimated revenue, £82,371; estimated expenditure, £95,498. The colony is governed by an administrator (subordinate to the governor of the Windward Islands), aided by an executive council. There is a legislative council of 12 members, including the gover-

nor as president. Administrator, Arthur Alban Wright (appointed June 10, 1938).

**History.** The "western coast" of St. Lucia was one of the sites in which the U.S. Government was authorized to establish naval and air bases in the Anglo-American notes exchanged Sept. 2, 1940. The exact sites selected were announced in November as follows: (a) a seaplane base of approximately 120 acres at Gros Islet Bay on the north coast and (b) a larger area at Vieuxfort at the southern end of the island for a heavy bomber base. Surveys and other preliminary work for the construction of these bases were reported under way at the year end. See *BRITISH WEST INDIES* and *GREAT BRITAIN* under *History*.

**ST. PIERRE AND MIQUELON.** A French colony named after the main islands in two small groups, near the south shore of Newfoundland Area of St. Pierre group, 10 square miles; Miquelon group, 83 square miles. Total population, 4175. Capital, St. Pierre. Cod fishing is the chief industry. Trade (1938): imports, 27,-709,000 francs; exports, 19,240,000 francs (franc averaged \$0.0288 for 1938; \$0.0251 for 1939). The various governmental departments were under the control of an administrator who was assisted by a consultative council of administration.

**ST. VINCENT.** See *WINDWARD ISLANDS*.

**SAKHALIN.** An island north of Japan Area, 28,597 square miles. The northern part (14,662 sq. mi.) belongs to the U.S.S.R.; the southern part (13,934 sq. mi.), called KARAFUTO, belongs to Japan.

**SALVADOR, EL.** A republic of Central America. Capital, San Salvador.

**Area and Population.** The smallest and most densely populated of the Central American states, El Salvador has an area of 13,176 square miles and a population estimated at 1,744,535 on Jan. 1, 1940. Indians and mestizos constitute the vast bulk of the population, but the small ruling class is largely of Spanish descent. Populations of the chief cities: San Salvador, 102,316 (1937); Santa Ana, 83,302; San Miguel, 44,793; Santa Tecla, 33,331; Ahuachapán, 31,245; San Vicente, 28,760; Zatecoluca, 26,676; Sonsonate, 21,138.

**Defense.** The active army as of Nov. 1, 1940, numbered about 4500 men. Military service is compulsory in wartime.

**Education and Religion.** Illiteracy remains widespread. Of 12,674 persons married in 1937, 55 per cent of the men and 64 per cent of the women could not read or write. The 1940 budget allotted 2,228,000 colones for education. The latest educational statistics showed 63,387 primary and 1216 secondary students and 395 enrolled in the National University. Roman Catholicism is the dominant religion.

**Production.** Coffee exports (55,792,000 kilos of 22 lb. in 1939) accounted for 84 per cent of the value of all exports. A census ended May, 1939, showed 139,940,727 coffee trees on 11,545 fincas (estates) owned by 10,921 proprietors and aggregating 202,432 acres. Gold and silver, sugar, balsam, and henequen were the other main exports. Rice, corn, tobacco, etc., are other crops. Cattle and hog raising are important local industries. The forests yield indigo and cabinet woods. A factory makes henequen bags for shipping coffee.

**Foreign Trade.** Imports in 1939 totaled 22,100,-000 colones (22,866,700 in 1938); exports, 31,875,-700 (27,365,000). Coffee exports, 1939, were 26,-641,900 colones. The United States purchased 60

per cent of the 1939 exports; Germany, 9.0; Norway, 7.2. The United States supplied 53 per cent of the imports in 1939; Germany, 17.5, United Kingdom, 6.9 per cent. See *TRADE, FOREIGN*.

**Finance.** Effective Jan. 1, 1940, the budget was changed to the calendar year basis. For the interim period (July 1-Dec. 31, 1939) revenues were 9,995,000 colones and expenditures 10,103,000 colones. The 1940 budget estimates were: Revenues, 24,267,000 colones (22,047,000 in 1941); expenditures, 24,258,000 (22,044,000 in 1941). Public debt on July 31, 1940: 39,973,000 colones (external, 36,-561,000; internal, 3,412,000). The exchange value of the colon remained stable at about \$0.40 during 1940 and preceding years.

**Transportation.** In 1940 there were about 378 miles of railways; 3691 miles of national and municipal roads (1640 miles improved); and air lines connecting San Salvador with other Central American cities and all points on the inter-American air network. The chief ports are La Unión, La Libertad, and Acajutla, entered by 698 ships in 1938.

**Government.** The Constitution of Jan. 20, 1939, vests executive power in a President elected for six years and ineligible to succeed himself. Legislative power rests in the unicameral National Assembly of 42 members elected for one year by universal suffrage. President Maximiliano H. Martínez seized power through a military coup Dec. 2, 1931. After serving out his predecessor's term, he was selected for a four-year term beginning Mar. 1, 1935, and on Jan. 21, 1939, his term was extended for six years to Jan. 1, 1945, by a hand-picked Constituent Assembly (see 1939 *YEAR BOOK*, p. 693).

**History.** The political situation in El Salvador remained relatively quiescent during 1940 but economic conditions deteriorated as a result of the spread of the European War to Scandinavia. This eliminated markets that normally absorbed 35 per cent of the republic's coffee exports. The immediate result was a fall in coffee prices to the approximate level of production costs and the depression of all other business activities except construction of small private residences, regarded as the safest investment under existing conditions. The financial position of the government remained strong, however, and it proceeded actively with the construction of highways and other public works. Negotiations were in progress for government purchase of the pier at La Libertad, seaport of the capital. In his message of Feb. 15, 1940, to the National Assembly, President Martínez said that the effects of the war upon Salvadorean economy "obliged us to continue the suspension of the debt service." Interest and amortization payments on the foreign (dollar) debt had been in default since Nov. 27, 1937.

El Salvador joined with the other Central American republics in supporting United States and inter-American policies of hemisphere defense. In May President Martínez co-operated in the inter-American protest against the German invasion of Belgium, Luxemburg, and the Netherlands. When Italy declared war on France, the government permitted 300 Black Shirt members of the local Italian colony to parade through San Salvador, but immediately afterwards a law was adopted banning foreign political propaganda. On June 16 students in the capital held a pro-French demonstration before the French Legation. President Martínez condemned the European dictatorships in an address on October 18. Baron Wilhelm von Hundelhausen, former German manager of the

government-owned mortgage bank, was expelled from the country in December.

See **PAN AMERICANISM**.

**SALVATION ARMY, The.** A world-wide organization with international headquarters at 101 Queen Victoria St., London, England, whose purpose is the salvation of mankind from all forms of distress—spiritual, moral, temporal. The movement was first organized as The Christian Mission in the East End of London in 1865 by William Booth, and, in 1880, was extended to the United States. The government is military in character with Gen. George L. Carpenter as international head. The doctrine of The Salvation Army is a simple evangelical creed based on the Methodism from whence it came.

The Salvation Army is now active in 97 countries and colonies, carrying on its work in 104 languages. There were in its service in 1939, 27,417 officers and cadets; 11,003 persons without rank wholly employed; 160,203 honorary local officers and bandmen; 84,961 songsters; 34,219 corps cadets; and 17,816 corps and outposts in operation. Social welfare institutions and agencies numbered 1684, free day schools 1132, and Naval and Military Homes 35. It published 126 periodicals, with a total average circulation of 1,441,783 copies per issue.

There were in the United States in 1939, 1638 corps and outposts, 4 Training Colleges, 4821 officers and cadets, and 44,247 honorary local officers and bandmen. Converts during the year numbered 68,031. Social Welfare institutions included 125 men's hotels and 16 residential hotels for young women, accommodating a total of 10,580. Men's Social Service Centers numbered 112 with accommodation for 5373; 9 children's homes and hospitals with accommodations for 846; 36 women's homes and hospitals with accommodations for 2184; and 2 dispensaries and 5 clinics which treated 20,503. At Thanksgiving and Christmas free dinners were given to 530,556 persons and toys to 363,703 children. During 1939, 9847 prisoners on discharge were assisted by The Salvation Army; 82,989 mothers and children were given summer outings; 76,000 men and women were given employment through the Army's 61 free employment bureaus; and 867 missing persons found.

The National Headquarters of The Salvation Army in the United States are at 120 West 14th Street, New York City. National Secretary, Commissioner Edward J. Parker.

**SAMOA.** A group of 14 islands in the Southern Pacific, about 4000 miles southwest of San Francisco. The islands of the group east of 171° W. longitude belong to the United States; those west of that line are administered by New Zealand under a mandate of the League of Nations.

**American Samoa.** American Samoa comprises the islands of Tutuila, Tau, Olosega, Ofu, Annuu, and Rose Island. Swains Island is included in the administrative district of American Samoa. The total area is 76 square miles and the estimated population on July 1, 1940, was 12,962, mostly Polynesians and half-castes. The Naval Station at Pago Pago is the seat of government. The population of the town was approximately 1000. The harbor is one of the best in the South Seas. The average school enrollment in 1939-40 was about 3260. Instruction is in English. Copra produced and exported in the fiscal year 1939-40 was 766 tons valued at \$28,473. The value of imports during the same year was \$76,741; exports, \$75,729. Governmental revenues in 1939-40 were \$110,027; expend-

itures, \$114,341. The islands are under the jurisdiction of the U.S. Navy Department and are administered by the commandant of the naval station at Pago Pago. There is a native advisory council called the Fono, which meets annually. Governor, Capt. Lawrence Wild, U.S. Navy (assumed office, Aug. 8, 1940).

**SAN FRANCISCO GOLDEN GATE EXPOSITION.** See **FAIRS, EXPOSITIONS, AND CELEBRATIONS**.

**SANITATION.** See **GARBAGE AND REFUSE DISPOSAL; SEWERAGE AND SEWAGE PURIFICATION; WATER WORKS AND WATER PURIFICATION**.

**SAN MARINO.** An independent republic in Italy, near the town of Rimini. Area, 38 square miles; population (1939), 14,545. Capital, San Marino. Chief exports: cattle, wine, building stone. Financial estimates (1939-40) were balanced at 6,009,919 lire (lira averaged \$0.0520 in 1939). The legislative power is in the hands of the grand council of 60 members elected by popular vote. Two are appointed from this council every six months to act as regents.

The government continued San Marino's neutrality after Italy's entrance into the European War on June 10, 1940, according to a statement issued Dec. 13, 1940, by the consul general of the republic in New York.

**SANTA CRUZ DE TENERIFE.** See **CANARY ISLANDS**.

**SANTO DOMINGO.** See **DOMINICAN REPUBLIC**.

**SÃO THOMÉ AND PRINCEPE.** See **PORTUGAL** under *Colonial Empire*.

**SARAWAK.** See **BRITISH MALAYA**.

**SASKATCHEWAN.** A prairie province of Canada. Area, 251,700 square miles; population (1939 estimate), 949,000, as against (1936 census) 930,893. Vital statistics (1939): 18,019 living births, 6018 deaths, 7307 marriages. Chief cities (1936 census): Regina, the capital (53,354), Saskatoon (41,734), Moose Jaw (19,805), Prince Albert (11,049), Swift Current (5074). Education (1937-38): 234,139 students enrolled in schools of all kinds, including 5901 in schools of higher education.

**Production.** The gross value of agricultural production for 1939 was \$213,412,000. Field crops, sown to a total of 20,749,200 acres in 1939, were valued at \$166,633,000. Chief field crops (1939): Wheat 250,000,000 bu., oats 112,000,000 bu., barley 26,000,000 bu., rye 9,300,000 bu., flaxseed 1,200,000 bu., potatoes 86,050 tons, hay and clover 445,000 tons, alfalfa 57,000 tons, fodder corn 38,000 tons. Livestock (1939): 1,170,000 cattle (including 490,000 milch cows), 800,000 horses, 470,000 swine, 341,000 sheep, 9,512,000 poultry. Fur production (1938-39) was worth \$983,400 (\$852,147 in 1937-38). Forest production (1938) was equal to 81,443 M cu. ft. and valued at \$2,252,936.

**Mineral production (1939)** was valued at \$8,794,090, including gold (77,120 fine oz.) \$2,787,194, copper (18,143,149 lb.) \$1,829,997, zinc (37,278,001 lb.) \$1,144,062, coal (959,595 tons) \$1,255,142, silver (1,141,600 fine oz.) \$462,211. Manufacturing (1938): 678 factories, 6123 employees, \$16,143,335 net value of products.

**Government.** Financial estimates (year ended Apr. 30, 1940): Revenue, \$23,325,439; expenditure, \$23,656,200. The King is represented by a lieutenant governor (appointed by the governor general in council) who is assisted by a ministry which is responsible to the legislature and resigns office when it fails to retain the confidence of that

body. In the legislative assembly there are 52 members elected by popular vote. Six senators and 21 commoners represent the province in the Dominion parliament at Ottawa. Lieutenant Governor, A. P. McNab (appointed Oct. 1, 1936); Premier, W. J. Patterson (Liberal). See CANADA.

**SAUDI ARABIA.** See under ARABIA.

**SAXONY.** See GERMANY under *Area and Population*.

**SCALISE, George.** See LABOR CONDITIONS under *Union Movements*.

**SCANDINAVIAN LITERATURE.** Norwegian. Freedom of expression was abolished when the Nazis invaded Norway on Apr. 9, 1940. The press was placed under rigid censorship; the broadcasting system was taken over by the invaders, and no public statement involving the new regime was permitted. Norwegian authors' answer to official decrees forbidding the printing of free thought emerged in anonymity. Prose and poetry, magnificent in their manifestation of the true spirit of Norway, has flowed from attics and cellars where mimeograph machines have replaced the smooth-running presses of other days. Passed by hand from man to man this nameless literature has fed Norse contempt for the invader, and crystallized his determination to resist nazification at all cost. This is the important literary production in Norway of 1940, and some day names may be mentioned—but not now.

The publishing houses of Oslo can claim no great books for the seasons of 1940. Some of the better known names appear, but others are missing. Whatever Sigrid Undset had to say she has said from lecture platforms in the United States. Knut Hamsun turned Nazi. The Tiden Norsk Forlag, liberal publishing house closely identified with the labor party, issued no list at all. Not a single book deals with the tragedy of Norway. Aksel Sandemose, stormy petrel of pre-invasion literary Norway, authored a timid collection of short stories *Fortellinger Fra Andre Tider* (Tales from other Days). Arthur Omre produced a novel with the sinister title *Det Onde Øie* (The Evil Eye). Barbra Ring escaped from the realism of Nazidom to the nostalgic yearnings for yesteryear, naming her book *Saam er Norge* (Such is Norway), a potpourri of eulogies of the scenic grandeur of the land. Nils Johan Rud has approached the Nazi danger zone in his novel *Godt Mot, Menneske* (Heads High, Men) in which the horrors of the 1940 springtime are woven into a backdrop for the theme of his book. Arnulf Overland, the great poet, presented the people of Norway with a volume of verse *Ord I Alvor til det Norske Folk* (Words in Earnest to the Norwegians). From Gyldendal publishing house came a remarkable book, a compilation of excerpts from literary masterpieces of bygone days, showing how the Norwegian people weathered other crises, *Haarde Tider Har Vi Døiet* (We have lived through Hardships Before). Herman Wildenvey adds another chapter to his autobiography, and probably had his tongue in his cheek when he named it *En Lykkelig Tid* (Days of Joy). Magnhild Haalkes's facile pen and keen understanding of plain people resulted in a story of a country teacher's struggle against prejudice. Her novel *Trine Torgersen* won first prize in a literary contest. Gabriel Scott wrote *En Drom om en Drom* (A Dream of a Dream), a novel about a young author who leaves his laurels to meet the world.

**Danish.** Danish writers of 1940 have detoured around the European war and the Nazi invasion of their country. The great novelist, Johannes V.

Jensen, added a new collection of myths to his famed cyclus, now numbering eight volumes; he calls his current work *Mariehønen*; it spans the glacier period in Denmark and a six day indoor bicycle race in America. Thit Jensen wrote a historical novel based on the life of *King Valdemar Atterdag*. Johannes Wulf presents the case history of an office clerk versus complete freedom; his book is called *Fast Ansatt* (Steady Job). Cai M. Woel is another author who has dipped into past history, coming up with *Riget af Evighed* (The Eternal Kingdom), a book about Canute the Holy and his dramatic escape from the peasants of Jutland. The bitter struggle of the unemployed is vividly portrayed by a new writer, Eigil Jensen; his novel is named *Hoer Var Der Ikke en Som Lo* (Wasn't That Someone Laughing). Jorgen Nielsen reappears on the literary scene after an absence of several years; his novel *Dyb et* (From the Depths) is a fine study in child psychology. Erik Bertelsen depicts the hardships of Danish fishermen on the west coast in the latter part of the eighteenth century, *Kvinder ved Stranden* (Women of the Coast). Karen Aabye tackles the problems of bachelor girls: if the self-supporting woman of today can retain her primitive instincts, she will do all right. The title of her novel is *En Kvinde Har Alt*. Aage Krarup-Nielsen has written a historical thriller, *Hans Falk Fra Maketu*, a story of a Danish soldier of fortune from Napoleonic days. Tom Kristensen has opened the drawers of his writing desk and blown the dust off poems at random, calling them *Digte I Dugnet* (Poems of yesterday). Kristensen thinks it is good for the soul to do a little retrospecting in these terrible times. Hakon Stangerup reviews living Danish literature from Saxo to Jacob Paludan, *Levende Dansk Literatur*.

**Swedish.** Of the three Scandinavian countries Sweden is the only one to escape invasion and attempted nazification; freedom of expression still prevails, and the literary production in 1940 in Sweden is rich and full with a noticeable stress on informative literature and current cultural trends. There is also poetry, such as the glorious *Saang och Strid* (Song and Struggle) by Par Lagerkvist, including poems on the tragedy brought on by the invasion of Norway and Denmark. Marika Stiernstedt appears with a voluminous novel, *Man Glömmmer Ingenting* (Nothing is Forgotten); it is an able presentation of the problems of art and love between two artists, the male species of whom is encumbered with a lawful wife. Sigfrid Siwertz has written a fascinating book on dreams, *Mer Än Skuggor* (More than Shadows). In the experimental vein it is a promising addition to contemporary Swedish literature. Another berth for the fantastic is provided by Karin Boye whose brilliant book *Kallosan* leads the reader into the State of the future. Albert Olsson has gone to 16th century Sweden for some excellent material for his work *Sand*, the story of a proud landowner with a social conscience. K. G. Ossiannilsson offers a challenge to the meek in his novel *Livet Maaste Levas* (Life Must Go On); the moral of the book is that it will never do to resign to the fact that this is an evil world, but rather that one should fight it. One of the most significant literary works of the year in Sweden is Eyvind Johnson's *Soldatens Återkomst* (Return of the Soldier). It has the blood and bones and sinews of the present conflict between freedom and totalitarianism. The Soldier is the soldier of the North, the young man who left his safe haven to carry arms for Loyalist

Spain, Fighting Finland, and Invaded Norway. Truly a classic of our tragic era. Fritiof Nilsson Piraten has enriched the field of short stories with a magnificent collection called *Historier fraan Fars* (Tales from Fars). Fredrik Böök traces the making of a man back to the conditioning he received in school; his book is called *Storskolan* (The Big Class). A towering contribution to the understanding of the greatest conflict of modern times is Harry Martinson's *Verklighet till Döds* (Realism unto Death). Martinson hates the clichés of life, the ready-made pattern handed to millions by dictatorial decree. To him might never will be right. In *Josefine Eller Säg Det Med Blommor* (Josephine—or, Say it with Flowers), Olle Hedberg ably cuts a slice from the so-called solid middle-class and presents it slightly spiced to the reader; it is the story of a spinster who gets in trouble with her snooty relatives. Erik Hornborg has written the history of Sweden, *Sveriges Historia*, from the earliest days of the kingdom down to the present. "Sweden," says Hornborg, "has built itself a fine house, it has much to defend."

HANS OLAV

**SCHAUMBURG-LIPPE.** See GERMANY under *Area and Population*.

**SCHIZOPHRENIA.** See PSYCHIATRY

**SCHOOL LUNCH PROGRAM.** See SURPLUS MARKETING ADMINISTRATION.

**SCHOOLS.** The U S Office of Education estimated that 32,285,000 pupils were enrolled in schools of all types in the United States for the school year 1940-41. The enrollments were distributed as follows:

Elementary	21,550,000
Secondary	7,160,000
Higher	1,425,000
Nurse-training	75,000
Business colleges	75,000
Subtotal	(30,285,000)
Evening and part-time schools	1,950,000
Miscellaneous schools, trade, etc	50,000
Grand Total	32,285,000

Private schools accounted for 2,225,000 pupils of the total elementary enrollment and 510,000 of the total secondary enrollment (four years of high school). Forty thousand of the 680,000 kindergarten pupils were enrolled in private kindergartens. Entering the first grade for the first time were 2,100,000 pupils—200,000 in private schools and 1,900,000 in public schools. The estimated number of graduates for both public and private schools

was as follows: Eighth grade, 1,900,000; high school, 1,250,000; college, 177,000.

Teachers in elementary schools totaled 725,000 for the school year (650,000 in public schools and 75,000 in private schools); high school teachers numbered 315,000 (280,000 public and 35,000 private). There were 122,000 one-teacher schools having an estimated 2,680,000 pupils. The number of pupils to be transported at public expense was 4,500,000.

Latest information on school expenditures for the country as a whole apply to the school year 1937-38 and are shown in the accompanying table. Later information by States appears in the section on *Education* in the articles on the States. See also EDUCATION; EDUCATION, OFFICE OF; UNIVERSITIES AND COLLEGES. For school buildings, see ARCHITECTURE. For foreign statistics, see the articles on the various countries.

**SCIENCES, National Academy of.** See ACADEMY OF SCIENCES.

**SCOTLAND.** See GREAT BRITAIN under *Area and Population*.

**SCOTTSBORO CASE.** See ALABAMA.

**SCULPTURE.** Not many monumental works in sculpture were executed in 1940, but general activity in the field seemed to increase and a greater variety in materials used was observed,—wood and stone taking precedence over bronze and marble. See ART.

Sculpture in glass, made in Sweden and in the United States, attracted wide attention, finding favor with connoisseurs of art, art museum directors, and sculptors of outstanding reputation. Carl Milles did work for the Orrefors Glass Company in this medium, and twenty-seven world-renowned sculptors of this and other countries co-operated in like manner with the Corning Glass Company in the production of sculpture in Steuben Glass.

Sculpture in pottery was also seen to advance in popularity. In fact in 1940 it found its way into almost all the leading exhibitions. Especially notable was the representation in the Syracuse Museum's Ceramic Exhibition, in which sculpture in this medium carried off three prizes and three honorable mentions. The prize and honor winners were residents of California, Ohio, and Connecticut, indicating the widespread interest in this art.

In order to increase interest in sculpture and get more examples of the work of American sculptors in American homes, an organization was formed to issue reductions of such in "Limited Editions" which might be purchased at small cost. The materials used were imitation stone, concrete, and lead;

#### EXPENDITURES FOR SCHOOLS REPORTING, 1937-38

[Includes capital outlay]

Type of school	Public	Private	Total
Elementary schools (including kindergartens) <sup>a</sup>	\$1,333,376,527	\$151,288,688	\$1,484,665,215
High schools and academies	899,733,527	64,564,177	964,297,704
Universities, colleges, and professional schools (including preparatory departments) <sup>b</sup>	279,832,761	265,824,539	545,657,300
Schools for delinquents <sup>c</sup>	2,103,052	224,326	2,327,378
Schools for the deaf <sup>c</sup>	870,190	1,992,321	2,862,511
Schools for the blind <sup>c</sup>	1,020,706	352,218	1,372,924
Schools for the mentally deficient <sup>c</sup>	3,683,919	283,318	3,967,237
Government schools for Indians <sup>c</sup> . . .	8,923,814		8,923,814
Total . . .	2,529,544,496	484,529,587	3,014,074,083

<sup>a</sup> Estimated.

<sup>b</sup> Does not include \$51,475,945 public, \$87,717,562 private, and \$139,193,507 total expenditures for auxiliary enterprises and activities and for other noneducational expenditures.

<sup>c</sup> 1936 data for State and private residential schools; city public schools not included.

<sup>d</sup> Includes expenditures for instructional purposes and capital outlay for schools reporting these items.

<sup>e</sup> Not including amount spent for tuition in public schools—\$650,712.

prices ranged from five to two hundred fifty dollars. The guarantors paid first costs of casting.

Two medals were struck and distributed by the Society of Medalists to its members in 1940. They were by Edmond Amateis and Walker Hancock, both setting forth timely and thought-provoking themes. An equestrian statue in bronze, representing Theodore Roosevelt as explorer, the work of James Earle Fraser, was erected in New York City on a site adjacent to the Museum of Natural History. A bronze portrait bust of Ernest Schelling by Malvina Hoffman was presented by friends of the musician to, and permanently placed in Carnegie Music Hall, New York. The Jefferson nickel, designed by Felix Schlag of Chicago, was minted and put in circulation in 1940.

Under a Commission, specially appointed by Congress, a competition was held for a statue of Thomas Jefferson to be placed under the dome in the Jefferson Memorial, in process of erection in Washington, D. C. One hundred one sculptors competed, from whom six were selected to restudy and resubmit their models. One of these was in turn chosen to make further submission and upon his failure to meet requirements, two of the other competitors were given like opportunity. Up to the close of the year none had been successful in satisfying the Commissioners.

Three sculpture competitions were conducted by the Federal Government through its Section of Fine Arts during 1940 with the purpose of obtaining sculpture for the decoration of new Federal buildings. Five hundred seventy-three sculptors competed, making one thousand ninety entries. One of these competitions was for two eight-foot statues to be placed on either side of the auditorium of the new Social Security Building at Washington, and was won by Robert M. Cronbach of New York. Another was for three attached sculptures in the round to go over the three entrances to the new War Department Building and was won by Henry Kreis of Connecticut.

Two alabaster statuettes of mourners from the tomb of Philip the Bold and his son, John the Fearless, in a monastery near Dijon which was destroyed in the French Revolution, were purchased by the Cleveland Art Museum from the Clarence Mackay estate; also statues of two Gothic Kings, Clovis and Clothar, carved in stone, standing for many, many years on pedestals on either side of a doorway of the famous French abbey of Moutiers-Saint-Jean, but likewise victims of the Revolution which swept all France, were restored to their original setting, now incorporated in the Cloisters, New York, through the acquisition and gift of Mr. John D. Rockefeller, Jr.

Epstein's statue of Adam, a bestial monster in pink alabaster weighing three tons, was brought to this country in the spring of 1940 and exhibited in New York for a few weeks, an admission fee was charged, but so little interest was shown that its proposed tour of the States was apparently abandoned. The sculptor himself protested against the showing.

LEILA MECHLIN.

**SECOND INTERNATIONAL.** See SOCIALISM.

**SECRET SERVICE, U.S.** The U.S. Secret Service, a division of the Treasury Department, is one of the oldest Federal law-enforcement agencies. It was established during the Civil War and has as its chief duties the protection of the President of the United States, his family, and the Pres-

ident-elect; the policing of the White House and its grounds; the suppression of the counterfeiting and alteration of all Government obligations, and the protection of Treasury buildings, money, and securities.

"Know Your Money" became the keynote of an intensive educational campaign of education against crime, inaugurated by the Secret Service in January, 1940, to teach the Nation the difference between genuine and counterfeit currency, and to remove from the youth of the country the temptation to engage in criminal careers through the so-called "easy money" counterfeiting route. Educational motion pictures were shown to more than 4,500,000 persons, and approximately 6,000,000 educational pamphlets were distributed by Secret Service personnel.

That the campaign has been effective is clearly evident. During the fiscal year the Secret Service made 3281 arrests, or 704 fewer than in the previous year. These included makers and passers of counterfeit notes and coins, forgers of Government checks, violators of the Gold Reserve Act and the Federal Farm Loan Act, and others who stole Government property, presented false claims or committed miscellaneous offenses over which the Secret Service has jurisdiction.

Counterfeit and altered notes representing \$237,-335 were seized by or surrendered to the Secret Service, constituting a reduction of \$186,759, or 44.03 per cent, as compared to 1939. The total loss to the public through acceptance of counterfeit notes and coins amounted to \$197,381, as compared to losses of \$344,382 in 1939. This reduction of \$147,001 is a distinct dividend of the "Know Your Money" campaign.

In cases brought to trial, 3005 persons were convicted and 89 were acquitted. The convictions represent 97.1 per cent of the cases brought to trial, a slight increase over the 1939 high of 97 per cent.

During the year Congress enacted legislation to permit the appointment of 20 additional men to the White House Police Force, which now consists of 80 well-trained officers who guard the Executive Mansion and its grounds, under the direction of Frank J. Wilson, Chief of the Secret Service.

FRANK J. WILSON.

**SECURITIES AND EXCHANGE COMMISSION.** See BUSINESS REVIEW, ELECTRIC LIGHT AND POWER; FINANCIAL REVIEW under *Financial Regulation*.

**SECURITY MARKETS.** See FINANCIAL REVIEW.

**SEISMOLOGY.** During the year Landsberg published a summary of the seismological stations of the world which brings out in a striking manner their unequal distribution and the need of more observatories. Landsberg lists 478 stations which is an approximate average of one station per one million square kilometers of the earth's surface. The present distribution by continents is as follows: Europe has 159 observatories or 14 per million square kilometers, Asia 156 or 3.7 per million square kilometers, North and South America 110 or 2.7 per million, Australia and New Zealand 22 or 2.6 per million, Africa 9 or 0.3 per million. Countries with the largest number of observatories are Japan with 127, United States with 59, and Italy with 39. Countries with the greatest density of stations are Japan with 322 per million square kilometers, Switzerland with 145 and Italy with 126. It is to be specially noted that Japan has nearly



all the observatories in the continent of Asia and that the United States has more than half of the observatories in the two American continents. See EARTHQUAKES.

RICHMOND T. ZOCH.

**SELANGOR.** See BRITISH MALAYA.  
**SELECTIVE SERVICE ACT AND SYSTEM.** See DRAFT, MILITARY.

**SENATE, U.S.** The membership of the U.S. Senate at its assembly on Jan. 3, 1941, is shown in the accompanying list. Political affiliation is shown in each case after the name, by a D (Democrat), R (Republican), P (Progressive), FL (Farmer Labor), AL (American Labor), or I (Independent).

<b>ALABAMA</b>	<b>ARIZONA</b>
John H. Bankhead, 2d., D	Ernest W. McFarland, D
Lister Hill, D	Carl Hayden, D
<b>ARKANSAS</b>	<b>CALIFORNIA</b>
Hattie W. Caraway, D	Hiram W. Johnson, R
John E. Miller, D	Sheridan Downey, D
<b>COLORADO</b>	<b>CONNECTICUT</b>
Alva B. Adams, D	Francis T. Maloney, D
Edwin C. Johnson, D	John A. Danaher, R
<b>DELAWARE</b>	<b>FLORIDA</b>
James M. Tunnell, D	Charles O. Andrews, D
James H. Hughes, D	Claude Pepper, D
<b>GEORGIA</b>	<b>IDAHO</b>
Walter F. George, D	John Thomas, R
Richard B. Russell, Jr., D	D. Worth Clark, D
<b>ILLINOIS</b>	<b>INDIANA</b>
C. Wayland Brooks, R	Frederick Van Nuys, D
Scott W. Lucas, D	Raymond E. Willis, R
<b>IOWA</b>	<b>KANSAS</b>
Guy M. Gillette, D	Arthur Capper, R
Clyde L. Herring, D	Clyde M. Reed, R
<b>KENTUCKY</b>	<b>LOUISIANA</b>
Alben W. Barkley, D	John H. Overton, D
Albert B. Chandler, D	Allen J. Ellender, D
<b>MAINE</b>	<b>MARYLAND</b>
Ralph O. Brewster, R	Millard E. Tydings, D
Wallace H. White, R	George L. Radcliffe, D
<b>MASSACHUSETTS</b>	<b>MICHIGAN</b>
David I. Walsh, D	Arthur H. Vandenberg, R
Henry Cabot Lodge, Jr., R	Prentiss M. Brown, D
<b>MINNESOTA</b>	<b>MISSISSIPPI</b>
Henrik Shipstead, R	Pat Harrison, D
Joseph H. Ball, R	Theodore G. Bilbo, D
<b>MISSOURI</b>	<b>MONTANA</b>
Bennett Champ Clark, D	Burton K. Wheeler, D
Harry S. Truman, D	James E. Murray, D
<b>NEBRASKA</b>	<b>NEVADA</b>
George W. Norris, I	Berkeley L. Bunker, D
Hugh A. Butler, R	Pat McCarran, D
<b>NEW HAMPSHIRE</b>	<b>NEW JERSEY</b>
H. Styles Bridges, R	William H. Smathers, D
Charles W. Tobey, R	W. Warren Barbour, R
<b>NEW MEXICO</b>	<b>NEW YORK</b>
Carl A. Hatch, D	Robert F. Wagner, D
Dennis Chavez, D	James M. Mead, D
<b>NORTH CAROLINA</b>	<b>NORTH DAKOTA</b>
Josiah W. Bailey, D	William Langer, R
Robert R. Reynolds, D	Gerald P. Nye, R
<b>OHIO</b>	<b>OKLAHOMA</b>
Harold H. Burton, R	Elmer Thomas, D
Robert A. Taft, R	Josh Lee, D
<b>OREGON</b>	<b>PENNSYLVANIA</b>
Charles L. McNary, R	James J. Davis, R
Rufus C. Holman, R	Joseph F. Guffey, D
<b>RHODE ISLAND</b>	<b>SOUTH CAROLINA</b>
Peter G. Gerry, D	Ellison D. Smith, D
Theodore F. Green, D	James F. Byrnes, D
<b>SOUTH DAKOTA</b>	<b>TENNESSEE</b>
William J. Bulow, D	Kenneth McKellar, D
Chan Gurney, R	Tom Stewart, D

**TEXAS**  
Morris Sheppard, D  
Tom Connally, D

**VERMONT**  
Warren R. Austin, R  
George D. Aiken, R

**WASHINGTON**  
Homer T. Bone, D  
Monrad C. Wallgren, D

**WISCONSIN**  
Robert M. La Follette, Jr., P  
Alexander Wiley, R

**UTAH**  
Elbert D. Thomas, D  
Abe Murdock, D

**VIRGINIA**  
Carter Glass, D  
Harry Flood Byrd, D

**WEST VIRGINIA**  
Matthew M. Neely, D  
Harley M. Kilgore, D

**WYOMING**  
Joseph C. O'Mahoney, D  
H. H. Schwartz, D

**SENEGAL.** See FRENCH WEST AFRICA.

**SENESCENCE,** Studies of. See PSYCHIATRY; PUBLIC HEALTH SERVICE.

**SERBIAN ORTHODOX CHURCH.** See RELIGIOUS ORGANIZATIONS

**SEVENTH DAY ADVENTISTS.** See ADVENT MOVEMENT.

**SEWERAGE AND SEWAGE TREATMENT.** The Southwest activated-sludge plant of the Chicago Sanitary District, the largest sewage treatment plant of its type if not of any type in the world, is being enlarged from a capacity of 500 million gallons today to an ultimate 900 million gallons. A suit brought against the district for infringement of activated-sludge patents was decided in favor of the patentees some time ago, but is pending on appeal. The latest patent involved in the suit expired Nov. 25, 1935. During the year the Milwaukee Sewerage Commission finished paying \$818,000 royalties for the use of the activated-sludge process. Up to 1936, a total of \$635,000 royalties had been paid by a hundred municipalities.

Cities that completed sewage treatment works or had them under construction in 1940 included Springfield, Mass.; New Haven, Conn.; New York (several plants); Gary, Ind.; Chicago (already mentioned); Rock Island, Ill.; South St. Paul, Minn., to serve the city, stockyards, and packing plants. Large sewage collection or disposal projects in the planning stage include Boston, sewage treatment works at Nut Island, to serve the South Metropolitan District; extension of North Metropolitan District relief sewer from East Boston to Deer Island, the whole estimated to cost \$15,000,000; Philadelphia, extensive sewage treatment works, financing method in abeyance since State Supreme Court held \$42,000,000 bond issue proposal unconstitutional; Louisville, \$4,100,000 for Ohio River intercepting sewer and \$1,600,000 for sewage treatment works; Los Angeles, relief and trunk sewers, additional sewage treatment works and ocean outfall, \$32,000,000; Toronto, Ont., first stage of activated-sludge plant, \$6,000,000; U.S. War Department, sewage disposal works for National Defense projects

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M. N. BAKER.

**SEX DETERMINATION.** See ZOOLOGY.

**SEYCHELLES.** See BRITISH EMPIRE.

**SHAN STATES.** See BURMA

**SHASTADAM.** See RECLAMATION, BUREAU OF.

**SHEEP.** See LIVESTOCK.

**SHIPBUILDING.** Both merchant and warship building in the United States during 1940 has been very active, in fact several private and Federal yards have been operating at peak capacity. The large number of orders that have been placed can be laid directly to the war in Europe and to

the necessity for the United States to be prepared for any situation which might arise.

With the seizing by Germany of Norway, Denmark, Holland, Belgium, and France accurate accounts of shipbuilding in these countries are not available. War pressure has doubtless caused German yards to devote most of their time to the building of submarines and small fast torpedo boats, the former for destroying merchant and warships and the latter for harassing convoys of merchant ships. From reports of the proposed invasion of England, Germany is believed to have built a large number of barges for carrying soldiers and war equipment. Italy, it may be assumed, because of her lack of iron, steel, coal, and oil has built only a few ships, and these perhaps submarines and small craft. France since being overrun by Germany has practically ceased to be a shipping and shipbuilding nation. Late in December, 1940, the British government awarded an order for 60 cargo vessels to yards in the United States.

Many cargo, and cargo and passenger vessels built in 1940 for the account of the U.S. Maritime Commission have been so designed that they can be changed into auxiliaries for the Navy, or transports for the Army. During the year notable advances were made in improved construction which has given increased carrying capacity, safety, and speed. Welded ships are no longer a novelty, nor is the use of low alloy steels, for ships of welded alloy steel are lighter, stronger, and have a greater carrying capacity than equivalent ones of carbon steel. Improvements have been made in marine Diesel engines, boilers, turbines, and auxiliaries, resulting in improved operating economy. (See POWER PLANTS.) Safety in ship design and construction has been given much study by Federal agencies. These studies include, better subdivision of the hull into compartments, improved radio equipment, use on the weather deck of steel hatch covers instead of wood, together with advanced designs and the selecting of materials that tend to prevent and stop fires. For vessels built for the Maritime Commission, Senate Report No. 184 is followed; a vessel being divided by vertical fire-resisting bulkheads so, should fire break out, practically all that can burn is the particular product.

The Maritime Commission (see also SHIPPING) has continued to be an important Federal agency in shipbuilding and shipping. For it not only has the authority to place contracts with shipyards, but also to allocate the ships built to different operators. Of the ships built under the supervision of the Maritime Commission since it was established by the Merchant Marine Act of 1936, to Dec. 1, 1940, contracts have been awarded for 179, of which 49 have been delivered. The following table gives data on different types.

Type	Displacement tons	Designed for
C-1 cargo . . . . .	12,875	Efficient handling of small cargoes
C-2 cargo . . . . .	13,900	Economical operation.
C-3 cargo . . . . .	17,600	Fast freight
C-3 cargo & passenger	17,600	For Pacific ocean service.
Cargo-passenger . . . .	14,210	For South American trade.
Cargo . . . . .	14,450	Fast freight.
Cargo . . . . .	15,200	Cargo.
Tankers . . . . .	23,320	High speed, large capacity.
Passenger	35,400	Luxury liners, for service on the Atlantic and to the Orient

Several of the cargo ships have accommodations for eight or more passengers; others have defense features making them adaptable for war service.

Some of the tankers have twin screws giving a speed of 19 knots.

The largest and finest merchant ship completed in 1940, was the trans-Atlantic liner *America* built for the United States Lines by the Newport News Shipbuilding Co. She has a striking general appearance, and her interior design, passenger accommodations, and appointments are second to no foreign-built liner. Among the engineering features are elaborate fire detecting and extinguishing systems, automatic fire-protection doors in fire-screen bulkheads, and the largest air-conditioning plant installed to date on a merchant ship. General dimensions: length overall 723 ft.; beam molded 93 ft. 3 ins.; draft loaded 32 ft. 8 ins.; displacement loaded 35,400 tons; accommodations for 543 cabin passengers, 418 tourist, 241 third class, crew 643. Propelling machinery consists of six water-tube boilers furnishing steam to turbines that drive the propellers through reduction gears. On official trials a speed of 25.3 knots was obtained.

Another outstanding passenger vessel designed for around the world service was completed in October, 1940. This vessel, the *President Jackson*, is one of six C-3 Maritime Commission passenger and cargo liners built for the American President Lines. All are of fireproof construction throughout, with the passenger quarters amidships. The public rooms, hall, recreation space, and state-rooms are attractively decorated, and are located on the promenade deck, while below are the dining room, galley, and pantry. General dimensions: length overall 492 ft.; beam molded 69 ft. 6 ins.; draft loaded 26 ft. 6 ins.; displacement 16,190 tons; passengers 97; crew 135; driven by turbines at a speed of 16½ knots. A sister ship, the *President Monroe*, was completed in December, 1940. Somewhat similar to the *President Jackson* is the *Sea Fox*, delivered in March, 1940, to the Moore & McCormack Lines, but the *Sea Fox* was not built for passenger service and had accommodations for only twelve passengers.

Other ships have been put in service for carrying passengers and freight. Of these is the *Del-brasil*, completed in May, 1940, embodying the latest requirements of various Federal agencies and incorporating features recommended by the Navy Department to facilitate conversion to a naval auxiliary in time of war. The passenger quarters are amidships, and the arrangement, decorations, comfort, and convenience compare favorably with many pre-war trans-Atlantic liners. General dimensions: length overall 492 ft.; beam molded 65 ft. 6 ins.; draft loaded 25 ft. 6 ins.; displacement 14,210 tons; passengers 67; crew 78; speed loaded 16½ knots.

The ships mentioned above are steam turbine driven but several cargo motorships were also completed. Representative of these is the *Sea Witch* of the American Pioneer Line, built primarily for carrying cargo. She is of the Maritime Commission C-2 type, length overall 459 ft., beam molded 63 ft., draft loaded 25 ft. 10 ins., displacement 13,900 tons. Main propelling machinery consists of two 3000 hp direct reversible Diesel engines. Service speed 15½ knots.

The importance of oil in modern warfare is well shown in the present European war. To meet war and commercial needs, several large tankers have been built in the United States. One of the largest, the *Ohio*, was turned over by the builders to the Texas Co. in June, 1940. The *Ohio* is 513 ft. 10 ins. overall, beam molded 68 ft., turbine driven,

speed 16 knots, and can carry about 100,000 bbl. of oil.

Of the unique ships built in the past year is the *Seatrain Texas*, operated by Seatrain Lines, a line engaged in carrying completely loaded freight cars from New York to Cuba. Other interesting vessels are: the electric ferry boat *E. G. Diefenback*; United States lighthouse tender *Junsper*; survey ship *Explorer* of the U.S. Coast & Geodetic Survey, and the Diesel engine towboat *Twin Cities*, built for towing oil barges from St. Paul, Minn. to St. Louis, Mo. A rather exceptional vessel under construction at Manitowoc, Wis. is a large car ferry (*City of Midland*), 406 ft. long, designed to carry 34 freight cars, 50 automobiles, and 376 passengers. The *City of Midland* will be put in service early in 1941 on a 65 mile run from Ludington, Mich. across Lake Michigan.

According to the American Bureau of Shipping Bulletin covering shipbuilding activities of 1940 to December 1st, including Maritime Commission and private companies in the United States, 314 vessels aggregating 1,591,540 gross tons were under construction or contracted for. Of these, 96 were cargo vessels totaling 708,880 tons, 23 passenger-cargo of 211,400, 64 tankers of 601,400, the remaining tonnage consisting of tugs, ferries, and barges.

CHAS. H. HUGHES.

**SHIPPING.** The war in Europe, and the treaty of Japan with Germany and Italy, with its implied warnings to the United States and the Soviet Union, still further disrupted all former shipping routes. Overseas operation of German and Italian merchant ships with North and South America, Africa, Japan, and the Far East were practically stopped by the British blockade. Passenger and cargo vessels flying the flags of Germany, Italy, Norway, Denmark, Belgium, Holland, and France were unable to reach their home ports and were tied up in neutral countries. Of the well known trans-Atlantic liners not willing to leave the United States for fear of seizure by the British is the *Normandie* of the French Line, besides several Italian, Belgian, Dutch, French, and German cargo vessels.

Sailings of United States' vessels to Europe were curtailed by the U.S. Neutrality Act and further phases of the war. Lines previously operating to Europe diverted their ships to safer routes, and to excursions from New York and North Atlantic ports to West Indies, Bermuda, Caribbean Sea, and, via the Panama Canal, to Pacific coast ports. Among the popular excursion ships were the *America*, *Manhattan*, and *Washington* of the United States Lines. The *America* is the largest passenger vessel ever built in the United States.

Shipping losses by England, Germany, Italy, France, and other countries from submarines, mines, and aircraft are difficult to determine, for reports published by the countries at war differ widely. Some German raiders were able to get free in the Atlantic and Pacific oceans to destroy ships, but German merchant vessels attempting to leave neutral ports were seized by the British. Despite convoys protected by warships and aircraft, British losses continued through the last months of 1940 at a serious rate. (See also EUROPEAN WAR.) Among the large well known passenger vessels sunk in 1940 by submarines, mines, or bombs are those listed in the next column.

Shipping on the Great Lakes was very active.

Name	Tons	When sunk in 1940
<i>President Harding</i> . .	14,000	May
<i>Oryma</i> . . . . .	20,000	June
<i>Caladonia</i> . . . . .	17,000	"
<i>Lancastria</i> . . . . .	16,000	"
<i>Carinthia</i> . . . . .	20,000	"
<i>Champlain</i> . . . . .	28,000	July
<i>Arandora Star</i> . . . . .	15,000	"
<i>Transylvania</i> . . . . .	17,000	August
<i>Volendam</i> . . . . .	15,000	"
<i>Empress of Britain</i> . . . . .	42,000	October
<i>Laurentic</i> . . . . .	19,000	November
<i>Oslofjord</i> . . . . .	18,000	December

The movement of ore in bulk freighters was estimated as between 62,500,000 and 63,500,000 tons at the close of navigation. At Sault Ste. Marie officials considered the traffic during 1940 to be 50 per cent higher than in 1939. During the season more than 20,000 vessels passed through the Detroit River. Shipments of iron and other ores, coal, and steel through the Welland Canal was heavy, and showed an increase of about 1,000,000 tons over 1939. The Canadian ports of Owen Sound, Hamilton, and Port Arthur had a busy year. Shipments from Lake Ontario eastward into the St. Lawrence River were the highest for several years, while those from Montreal and other ports on the St. Lawrence to England were exceptionally heavy.

See COAST GUARD; EUROPEAN WAR; INSURANCE; NEUTRALITY; SHIPBUILDING.

**Maritime Commission.** Established under the Merchant Marine Act of 1936, this Commission is an important Federal agency in shipbuilding and shipping. In shipping, it passes on charters of United States' vessels to engage in foreign trade; its consent must be secured before a vessel is sold, it approves or disapproves of foreign trade routes, and, furthermore, contracts for the building of ships and allocates them to operators. From information obtainable, the list of companies operating vessels under the general supervision of the Maritime Commission in 1940 was as follows:

Companies	Routes
American Mail Line	Puget Sound ports to Japan, China, and Philippine Islands.
American Pioneer Line	Far east service, U.S. Atlantic ports via The Panama Canal to Philippine Islands, China, and Japan.
	Australia service, U.S. Atlantic ports via The Panama Canal to Australia and New Zealand.
American Republics Line	Passenger and freight service from New York to Rio de Janeiro, Santos, Montevideo, and Buenos Aires
	Freight, U.S. North and South Atlantic ports to Brazil and River Plate
Grace Line	U.S. North Atlantic to West Coast South America
	U.S. Pacific Coast ports to West Coast South America
Orion Lines	U.S. North Atlantic to Spanish ports.
N.Y. & Cuba Mail	U.S. North Atlantic to Mexican ports
Pacific Republics Line	U.S. West Coast ports to East Coast South America.

The Commission's approval was given to a \$20,000,000 program for nine new ships for an expanded Pacific Northwest-Orient run of the American Mail Line. The first of the new vessels is scheduled for delivery to the line in January, 1941; all of the nine will be in service by 1942, replacing the six older ones now being used. The

importance of the Maritime Commission's building program is shown by the fact that the Navy Department took over for its own use seven large high speed tankers, and three C-2 and two C-3 cargo vessels. The Army, for troop transports, has obtained several ships previously owned or operated by the Commission.

**Maritime Labor Board.** The activities of the Maritime Labor Board are of much interest to shipping men. On Mar. 1, 1940, the Board submitted to the President and Congress its report on a permanent Federal policy for the amicable adjustment of all disputes between maritime employers and employees, and for the stabilization of maritime labor relations.

The Board assembled, studied, and analyzed available data bearing upon labor relations in the maritime industry. From such studies, plus experience with the administration of Title X of the Merchant Marine Act of 1936, the Board concluded that the present declared policy of the United States with respect to labor relations in waterborne commerce, as embodied in Section 1001 of Title X, should be continued. The experience of the Board pointed clearly to the need of amending certain provisions of Title X in order to make it more effective as a means of encouraging the practice and procedure of collective bargaining in the maritime industry.

The recommendations of the Board fall into two main categories: (1) specific amendments to Title X regarding measures necessary to strengthen existing facilities for making and maintaining collective agreements, and for the amicable adjustment of disputes; and (2) a general recommendation intended to encourage the development of collective bargaining in the maritime industry by removing existing impediments to its growth.

CHAS. H. HUGHES.

**SHOCK TREATMENTS.** See MEDICINE AND SURGERY; PSYCHIATRY

**SHOE INDUSTRY.** World Events had a disturbing influence on markets, production, and operation of the shoe and leather industries in 1940. Thus far, for the United States at least, the shoe industry has retained a good sense of balance, but the whole continent of Europe has been lifted completely out of the economic structure of the world by the blockades and shoe production for a war rather than a peace economy. World trade in shoes has been impeded or blocked. In Europe shoe production for war use is first, for regulated civilian demand second. In the United States civilian demands are still paramount, but military requirements are noticed; 6,000,000 pairs of shoes were ordered for United States army, navy, and CCC use in 1940—a sharp increase over the yearly average governmental purchase of 1,600,000 pairs between 1937-39. The shoe industry has handled all government orders without "bottle-necks."

Leather footwear production in the United States lagged behind 1939, with a total of approximately 398,065,000 pairs for the year as compared to 424,136,000 in 1939 (a peak year). But production of fabric and part fabric footwear increased 26.6 and 25.4 per cent over 1939's figures of 5 and 7 million pairs respectively.

Rubber footwear (rubbers, overshoes, sandals) reported peak production in 1940. War demands, restrictions on international trade, development of national self-sufficiency have all contributed to world-wide development of cheap rubber footwear, with footwear manufactured with moulded rubber soles showing a large increase in 1940. Usage of rubber footwear has increased greatly in China, India, Africa, and South America, drawing on nearby supplies of rubber and displacing imported leather.

The decade 1930 to 1940 showed many technical developments in the shoe industry: new lasts, new processes, new materials, unlined shoes, elasticized shoes, and now plastic shoes—the softy, the wedge, the casual group. The United States now produces shoes comparable with the world's finest. Wholesale prices were steady at the close of 1940, new novelty styles at a minimum. See LEATHER.

JOHN F. W. ANDERSON.

**SHOOTING.** Rifle and Pistol. High marks were the exception rather than the regular thing in shooting contests during 1940, and the winners of the various events at the national tournament at Camp Perry, O., were almost consistently less accurate than the champions of other years.

Because of field maneuvers of Regular Army and reserve units, the national matches were postponed, and the change of date not only reduced the number of competitors but made it impossible for many of the top-notchers to attend.

The scores were consistently low in almost every one of the major events. At the Wimbledon Cup match, the score was 100-24 as against 100-27 in 1939. At the President's match, the 1940 score of 146 was one point below that of the previous year. The small-bore championship was awarded to the man with a score of 3187, where the winner in 1939 rolled up 3192 points. The Dewar team amassed only 7898 points, as compared with 7954 in 1939.

In capturing the national pistol title, Harry Reeves made a score that was 10 points under last year's mark. However, in the national pistol team event, the United States infantry team boosted the score to 1343 points as against a championship total of 1315 in 1939. Individual members of the Detroit Police Department made some excellent scores, but the team was not impressive as a whole.

**Skeet.** In the national tournament at the Onondago Skeet Club Field, Syracuse, N.Y., Richard Shaughnessy of Dedham, Mass., was the undisputed ruler of the realm. He strolled off with the national all-gauge and the national small-gauge crowns, and still unsatisfied he afterward dropped in at Lordship and captured the North American titles in the all-bore contest, emerging with 12-gauge, 20-gauge, and .410-gauge honors.

Miss Patricia Laursen of Akron, O., was supreme in the feminine division. She made a perfect 100 straight to win the woman's crown.

**Trapshooting.** E. H. Wolfe of Charleston, W.Va., won the Grand American championship which was held at Vandalia, O. He exhibited remarkable proficiency in the face of disconcerting gales that swept over the traps throughout the match. Mrs. Lela Hall of Strasburg, Mo., once

UNITED STATES PRODUCTION & CONSUMPTION OF LEATHER SHOES IN 1940 (000 OMITTED)

	Women's	Men's	Misses & Children's	Youths' & Boys'	Infants'	All Other	Total
Production . . .	165,877	101,845	39,799	14,801	21,723	54,020	398,065
Consumption . . .	175,329	102,418	41,654	15,780	22,905	54,213	412,299

more carried off the women's honors. She broke 95 out of 100 birds from the 22-yard line, which is a sensational record in any sex.

**SHORE AND BEACH PROTECTION.** See GEOLOGY.

**SIAM.** See THAILAND.

**SIDI BARRANI.** See EUROPEAN WAR under *British Victories in Africa*.

**SIERRA LEONE.** A British West African colony and protectorate. Total area, 27,925 square miles, of which the parts administered as colony (Sierra Leone peninsula, the Tasso, Banana, and York islands, and the town of Bonthe on Sherbro island) equaled 256 square miles. Total population (1931 census), 1,768,480, including 96,422 in the colony. Capital, Freetown (63,572 inhabitants in 1938).

**Production and Trade.** Chief products: kola nuts, palm kernels, ginger, rice, groundnuts, piassava, cassava, hides, diamonds, gold, iron ore, platinum, and chromite. Trade (1938): imports, £1,500,342; exports, including re-exports, £2,388,929 of which diamonds accounted for £858,055, iron ore £646,421, palm kernels £457,031, gold £207,940, ginger £60,680. Shipping entered during 1938 aggregated 2,712,979 tons.

**Government.** Finance (1939): revenue, £1,131,357; expenditure, £1,165,062; public debt (Dec. 31, 1938), £1,288,259. The colony and protectorate are administered by a governor, assisted by an executive council. There is a legislative council of 23 members (including the governor as president) which legislates for both the colony and the protectorate. Governor and Commander-in-Chief, Sir Douglas Jardine (appointed May 21, 1940).

**History.** The diversion of British merchant shipping around the Cape of Good Hope following Italy's entrance into the European War and the extension of hostilities to the near-by French colonies greatly increased the commercial and strategic importance of the Freetown harbor and naval base during the latter half of 1940. The colony's military defenses were strengthened. In mid-year the Governor was authorized to enroll all males between the ages of 18 and 45 in the Defense Reserve force.

The colony was hard hit by lower prices for its export products caused by the war. However, substantial progress was reported in social and economic matters. A law authorizing and regulating trade unions went into effect January 1. A workmen's compensation bill was adopted by the Legislative Council. In the Sierra Leone Protectorate, the system of native administration introduced from Nigeria on an experimental basis was extended at the request of the native chiefs. A slum clearance scheme for the poorer sections of Freetown was initiated through a commission appointed by the Governor.

**SILK.** See TEXTILES.

**SILK SCREEN PROCESS.** See PRINTS.

**SILVER.** With minor fluctuations in May and June, the price of silver was stable at 34.75¢ per fine oz., New York. This was slightly lower than in 1939 when the price ranged from 42.75¢ to 34.75 and averaged 39.082¢. Newly mined domestic silver was purchased by the Government at 70%¢ per oz.

In London the price rose slightly during the year from 21.892 pence per oz. in January to 23.015 in December, with an average for the year of 22.281 compared with 20.57 pence in 1939. The world silver market was again dominated by the purchase policy of the U.S. Treasury. Mexico was the principal beneficiary of this policy and sold silver to

the United States at the rate of about \$3,000,000 a month. Strong efforts were made in the U.S. Senate to repeal that part of the Silver Purchase Act relating to foreign silver, but the opposition to the measure was unable to marshal a majority vote. Despite continued buying by the Treasury, the goal of a 75-25 gold-silver ratio in the metal backing of the currency receded still further from attainment. The Treasury still lacked more than 2 billion oz. of reaching the legal ratio.

The American Silver Producers Research Project for extending the uses of silver in industry completed a three-year program with headquarters at the Bureau of Standards at Washington, and transferred its activities to the plant of Handy and Harman at Bridgeport, Conn. The future work of the project will be confined to commercializing the uses of silver explored since 1937.

The value of United States silver production in 1940 exceeded that of any previous year, under the administration's silver buying program. The production of 71,688,150 oz., valued at \$50,977,440 compares with the 1939 production of 65,119,513 oz. valued at \$44,202,279. The production in 1915 was 74,961,075 oz. but the value was only \$37,397,300.

World silver production in 1940 was estimated at 278,000,000 oz., compared with 264,200,000 oz. in 1939, according to Handy & Harman. Gains in consumption of silver occurred in sterling silverware, jewelry, and in the industrial field. The arts and industry of the United States and Canada used 41,000,000 oz. of silver in 1940.

H. C. PARMELEE.

**SINGAPORE.** See BRITISH MALAYA.

**SINKIANG.** See CHINA under *Area and Population*.

**SIRUP.** See SUGAR.

**SIXTH COLUMN.** See FIFTH COLUMN.

**SKATING.** Speed. Principal honors in the 1940 world of speed skating went to Miss Madeline (Maddy) Horn of Beaver Dam, Wis., and Leo Freisinger of Chicago. The former successfully defended the women's senior North American and national outdoor titles, at LaCrosse, Wis., and Schenectady, N.Y., respectively.

Freisinger replaced Charles Leighton and Kenneth Bartholomew, both of Minneapolis, as North American and national ruler.

**Figure.** Four ice revues were staged at Madison Square Garden during the 1939-40 season. They were the Ice Follies, Miss Sonja Henie's Hollywood Ice Revue, the European Ice Revue, and the yearly charity carnival of the Skating Club of New York. Approximately 250,000 persons were attracted to the spectacles.

At the national amateur championships in Cleveland, O., Gene Turner, 19 years old of Los Angeles, Calif., was crowned champion. His nearest rival was Ollie Haupt, Jr., of St. Louis, Mo. Turner succeeded Robin Lee of St. Paul, Minn., who deserted the amateur ranks to become a professional instructor.

The women's national title was won for the third successive year by Miss Joan Tozzer, with Miss Hedy Stenut, former European star, now of Rochester, N.Y., finishing second. With Bernard Fox of Boston, Mass., as her partner, Miss Tozzer also shared in the pair championship. The national fours title was captured by Miss Jannette Ahrens, Miss Mary Louise Premer, Robert Uppgren, and Lyman E. Wakefield, Jr., of the St. Paul Figure Skating Club.

**SKIING.** The tremendous interest in skiing as

one of America's foremost winter sports assumed unparalleled proportions during 1940. The number of persons who took up the game as a purely recreational adventure was somewhere in the hundreds of thousands. More and more Norwegian rules and terminology were introduced into the American variety of the sport, notably the slalom or flag turn regulation designed to make the runs safer by interposing turns and breaks.

Outstanding competitive events of the season drew more than 4000 entrants. The national jumping championship among the Class A skiers was captured by Alf Engen of Sun Valley, Calif.; the collegiate title was awarded to Eddie Gignac of Middlebury College. In the international jump at Brattleboro, Vt., first honors were taken by Toger Tokle, the young Norwegian. At Sun Valley, Dick Durrance was the pre-eminent amateur in downhill and slalom racing. Among women skiers, Miss Nancy Reynolds of Montclair, N.J., and Mrs. Grace Carter Lindley of Minneapolis were outstanding performers. Miss Marilyn Shaw of Stowe, Vt., a high school girl, captured the women's national open and closed combined downhill and slalom titles.

**SLOAN FOUNDATION.** See **BENEFAC-TIONS.**

**SLOVAKIA.** A former province of the Czecho-Slovak republic, proclaimed an independent republic by the provincial parliament on Mar. 14, 1939, and taken under German protection by a treaty signed Mar. 18, 1939. Capital, Bratislava (Lemberg). See **CZECHO-SLOVAKIA**.

**Area, Population, etc.** Exclusive of territories ceded to Hungary and including areas transferred to the republic by Germany from Poland, Slovakia has an area of approximately 14,390 square miles and a population of 2,414,163 (1939 estimate). There are nearly 2,000,000 Slovaks, about 100,000 Germans, 180,000 Jews, 80,000 Hungarians, and 20,000 Ruthenians (Ukrainians). The population of Bratislava, capital and chief city, was 170,668 (estimated) in 1935. Roman Catholicism is the predominant religion.

Agriculture and forestry are chief sources of livelihood. Industry, mining, and commerce are of secondary importance. Production of wheat in 1939 was 321,600 metric tons; rye, 200,800 metric tons. Barley, oats, sugar-beets, and corn are other leading crops. Lead and copper are the principal minerals.

**Government.** The Slovak People's party, led by Josef Tiso, a Roman Catholic priest, adopted fascism of the Nazi variety as its ruling principle and imposed it upon Slovakia when the province obtained regional autonomy within the Czecho-Slovak republic in November, 1938 (see 1938 **YEAR BOOK**, p. 201). Following the declaration of independence and the acceptance of German protection, a new constitution making Slovakia an authoritarian "Christian National Republic" was adopted by the one-party parliament on June 21, 1939. The Constitution provided for a parliament of 80 members elected by the people for five years from a one-party list; a President elected by Parliament; and a National Council of 22 members exercising wide executive and legislative powers through its chairman, acting as Premier.

The National Council is composed of 6 representatives appointed by the President, 10 of the Slovak People's party, and 6 of the corporative civil service, labor, and commerce organizations. The Premier has power to summon or dismiss Parliament at his discretion, veto any of its measures,

and with the approval of the National Council legislate by decree without ratification by Parliament. President in 1940, Josef Tiso (elected Oct. 26, 1939); Premier, Bela Tuka. The Constitution recognized the Slovak National party (successor to the Slovak People's party) as the sole legal political party. Minority rights and religious liberty was granted to all Slovak citizens. The former national minority parties were given the status of subdivisions of the Slovak National party.

Under the Slovak-German treaty of Mar. 18, 1939, Slovakia agreed to permit German military occupation of its frontier districts along the Polish border, to "organize its own military forces in close collaboration with the German armed force," and to "conduct its policy in close collaboration with the German Government." A German-Slovak military agreement ratified Aug. 18, 1939, placed the Slovak military forces under German command and authorized German military occupation of the entire country (see 1939 **YEAR BOOK**, p. 182 f.). For 1940 developments, see *History*.

**History.** The difficulties that harassed the new Slovak state during 1939 increased throughout the following year. The republic fell more and more under German control. Its army was reorganized in January and many German officers were reported to have been placed in Slovak regiments. The gearing of the Slovak economy into that of the Reich had further adverse results. Large-scale exportation of foodstuffs to Germany and the cutting off of former trade relations with Bohemia and Moravia and other Central European countries produced a food crisis in Slovakia during the spring months.

As in Bohemia and Moravia (q.v.), Nazi Germany employed the willing German minority and the unwilling Jewish minority in Slovakia as instruments for riveting German control upon the country. Backed by Berlin, the German minority leader, Franz Karmasin, pressed the Tiso regime for greater privileges and autonomous rights for Germans, for closer Slovak co-operation with the Reich, and for the elimination of Jews from all fields of activity. Germans frequently occupied the places of influence vacated by Jews under pressure.

Seeking to retain some measure of independence, the Slovak Government resisted the more extreme German demands. Premier Tuka admitted on February 13 that German military and police officers were in Slovakia "by invitation." Early in March it was reported that all-German regiments were being formed among the German minority. But the Tiso regime delayed application of the full Nazi anti-Jewish program as long as possible in an effort to prevent further German infiltration into Slovak economic life. It was disturbed by evidence of growing popular distrust of both Germany and of Slovak leaders co-operating with the Reich.

The issue of German domination led to a split between the moderate Slovak National party leaders and the strongly pro-German leader of the party's Hlinka Guard (Storm Troop) organization, Alexander (Sano) Mach. After a tour of the Reich, Mach resigned as Hlinka Guard commander February 21 to prod the government into closer conformity with the Hitler program. Interior Minister F. Durbansky, on the other hand, urged closer contact with Soviet Russia as a counterweight to Germany.

The great German victory over France in June forced the government to give way and accept Berlin's complete plans for the "new order" in South-eastern Europe. Mach resumed command of the

Hlinka Guard and was taken into the government as Minister of Propaganda. On July 28 President Tiso, Premier Tuka, and Mach conferred with Hitler at Berchtesgaden. Immediately after their return to Bratislava, Mach replaced the allegedly pro-Soviet Durchansky as Minister of Interior. Later he was named Vice Premier, but retained the Interior portfolio and Hlinka Guard leadership.

As Minister of Interior, Mach launched a vigorous drive against the underground Communist movement, which had been secretly disseminating Pan-Slav propaganda. He approved Karmasin's formal request for extensive autonomous privileges for the German minority (August 3). The elimination of Jews from Slovakia's economic, social, and cultural life was pressed as rapidly as economic conditions permitted under authority granted the government by Parliament early in September. This new course, initiated at the conference with Hitler in July, culminated November 24 in Slovakia's formal adherence to the German-Italian-Japanese agreement for a new world order.

Friction between the Slovak Government and Hungary over the treatment of the Hungarian minority in Slovakia and the Slovak minority in Hungary became more intense early in 1940. In February the Slovak Government, in response to vigorous protests, withdrew its decree forbidding the Hungarian minority press to use Hungarian names in referring to places in Slovakia. But the Slovak agitation against the Hungarian minority continued, led by the Hlinka Guard. Late in April there were anti-Hungarian demonstrations in Bratislava. Demands were made for restoration of the districts ceded to Hungary under threat of invasion in 1938 and 1939. On April 30 the Hungarian Foreign Minister publicly warned Slovakia that Hungary would retaliate, despite German protection of the republic, if the treatment of the Magyar minority was not improved.

**SLUM CLEARANCE.** See HOUSING AUTHORITY, U.S.

**SMITHSONIAN INSTITUTION.** An organization founded in 1846 according to the terms of the will of James Smithson of England, who in 1826 bequeathed his property to the United States of America "to found in Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men." The purposes of the Institution are carried out by scientific research, exploration, and publication. It also administers the following bureaus which are supported by Congressional appropriations: The United States National Museum, National Collection of Fine Arts, Bureau of American Ethnology, International Exchange Service, National Zoological Park, and Astrophysical Observatory. It also administers the Freer Gallery of Art and the Division of Radiation and Organisms. The new National Gallery of Art was established as a bureau of the Institution but is administered by the Board of Trustees of the Gallery.

The expendable income of the Institution for 1940, consisting of income from investments, income from miscellaneous sources, and gifts for special objects (excluding income from the Freer endowment) was approximately \$200,000. Its endowment funds (exclusive of the Freer endowment) totaled \$2,197,622. The Institution and the government bureaus under its direction published 78 volumes and pamphlets, of which 146,156 copies were distributed to libraries, educational institu-

tions, and individuals. The secretary is Charles G. Abbot, D.Sc.; the assistant secretary, Alexander Wetmore, Ph.D.

**SMOKING, Effect of.** See MEDICINE AND SURGERY.

**SMUGGLING.** See CUSTOMS, BUREAU OF under *Enforcement of Customs Laws*; NARCOTIC DRUGS CONTROL; PHOTOGRAPHY under *Applied Photography*.

**SOAP INDUSTRY.** See CHEMISTRY, INDUSTRIAL.

**SOCIALISM.** For organized Socialism 1940 on the European continent was a year of tragedy. At the end of the year, Socialist Parties maintained a fearful and cautious existence under the German protective occupation of Denmark and under the constant threat of it in Sweden. Socialism is in similar condition in Finland, where the great threat is still Russia. There is still a Socialist Party in Switzerland. In every other country in which it existed at the beginning of the year, it has been crushed by the German occupation; its leaders killed, imprisoned, or driven to flight to Great Britain or America. The once mighty Second International, with which all the Democratic Socialist Parties were affiliated, is no more. Its secretary, Dr. Friedrich Adler, now in the United States, believes that it will be impossible to reorganize the International during the war. Such parties as survive on the continent are not free agents. An International organization composed mostly of exiles might be reassembled in Great Britain, but necessarily it would have to be subordinated to the plans of the British government for the winning of the war. Nothing would be gained by setting up a limited debating society in the United States.

The outstanding exception to this story of tragedy is the great increase in the strength of the British Labor Party. Its leaders now sit, not only in the large British cabinet, but in the Prime Minister's smaller war cabinet. They, especially Ernest Bevin, leader of the Transport Workers, the largest union in Britain, now Minister of Labor, are next to the Prime Minister, the strongest men in the cabinet and in the country. The exigencies of war have compelled the British economy to take long strides in collectivism. It will be impossible for a postwar England, whatever the military results of the war, to restore so much of private capitalism as there was prior to the beginning of the war, and it is unlikely that the old British caste system can emerge relatively as unscathed as after the First World War.

The war has the enthusiastic support of the British Labor Party, and, since the blitzkrieg, the critical support of the Independent Labor Party, which, however, opposed labor participation in the cabinet and introduced, near the end of the year, a resolution asking for a clarification of British war aims and an effort to begin peace negotiations. The resolution was overwhelmingly defeated. Later Herbert Morrison of the British Labor Party, Minister of Home Security in the cabinet, in replying to Hitler's speech to the German workers, avowed war aims that were genuinely Socialist in contradistinction to Hitler's national Socialism. They were not, however, clear and explicit, either with regard to Europe or to the future development of democracy within the British Empire.

It is too early to judge with certainty the future power of the British Labor Party, with its non-Marxist type of Socialism. Great Britain is, however, the one country in which the present revolu-



tion toward collectivism may most probably follow Socialist lines, and, after the strain of war is over, develop democratic control rather than fascist. Everywhere the gulf between democratic Socialist Parties and the Communist Party widens. While Socialists do not believe that the partial alliance between Hitler and Stalin will be permanent, they see in it a major source of Hitler's power for aggression. There has been, however, some difference of opinion in Socialist ranks concerning the degree of probability that the British and French governments might have reached a satisfactory understanding with Stalin under a wiser diplomacy. There was no difference of opinion but that Stalin was responsible for the final success of his long efforts to silence Trotsky who was assassinated during the summer in Mexico City.

In the United States division of socialist opinion on the proper policy for the American government to follow concerning the war, was sharpened by the success of the German blitzkrieg. The organized Socialist Party, however, held to its position that to put this country into war would end democracy here for an indefinite period without compensating benefits to other lands; that it would strengthen Churchill and the British imperialists, as against the development of British socialism, and that it would not even guarantee complete military victory in a war that would have to be fought on two oceans and two continents.

The Socialist Party Convention was held the first week of April in Washington, D.C. To the Convention the National Executive Committee reported that careful inquiry had revealed no sign of a nationwide Labor, Farmer Labor, or Progressive Party. The Convention decided, by an overwhelming majority, that to carry on for Socialism required it to nominate a national ticket. Norman Thomas, the Party candidate in 1928, 1932, and 1936, was nominated for President, and Maynard Krueger, Assistant Professor of Economics in Chicago University, for Vice-President.

The Party platform asserted that immediate democratic socialization was the only alternative to a drift to fascism, imperialism, and war. Effective democracy, economic as well as political, it held, requires a great increase in production and a more equitable division of it. This, in turn, requires social control of money, banking, and credit, socialization of the great natural resources, and socialization of those industries and services in which private ownership restrains production. The platform emphasized the necessity of the preservation of civil liberty.

Later in the campaign, when conscription became an issue, the Party and its candidates vigorously opposed it as unnecessary in peace time for military defense, and in itself an invitation to militarism and imperialism and an undemocratic revolution in the American way of life at its best.

Legislation and the interpretation of legislation in various states made it harder for new or minority parties to get on the ballot than ever before. The Socialist Party was not a direct object of attack but suffered somewhat indirectly because of the efforts to exclude the Communist Party.

It succeeded in placing its Presidential ticket and in some cases State or local tickets on the ballots in 29 States, containing about 75 per cent of the population. In other States attempts were made to write in votes, which attempts were ignored in the final official reports except in Oregon. The total vote officially reported was 116,796. This was the largest vote of any of the minority parties, but

the smallest vote in the Party's history since 1900. The course of the election confirmed the tendency of the United States to be a two-party or almost a two-leader country, in which even socialists—in the broad sense of the word—and progressives are concerned for the selection of what they regard as the less of two evils.

After the election the Party decided to try to increase its educational activity through the publication of an official handbook outlining its economic policies, the enlargement of its weekly, the *Call*, and, if possible, a fuller and better use of the radio. It also decided to champion a more generous treatment of refugees in America and to push the democratization of the processes by which the President and vice-president are elected.

In terms of the fulfillment of its own prophecies, Socialism universally found itself in a strange position. It was clear enough by the end of 1940 that the world was caught, not only in war, but revolution. The revolution, however, was of an ugly pattern which did not conform to Socialist expectations. It was collectivist but predominantly totalitarian. Hitler talked of "the world of labor" against "the world of gold," but he remained the worst enemy of democratic Socialism.

Even in the United States a Socialist Party, which had never been inherently a strong force in the national life, saw what it had been accustomed to call its immediate demands appropriated by the Old Parties and especially by President Roosevelt under the New Deal. This fact was strikingly evident from a consideration of the campaign conducted by Wendell L. Willkie, the Republican candidate for President. He regarded himself, and was regarded by many of his followers, almost as a religious crusader for a return to an economy of freedom and abundance, free from autocratic government control. Yet, so far was he from indorsing laissez faire economics, that he felt obliged specifically to list and approve all President Roosevelt's major reforms. Under Mr. Roosevelt, Mr. Willkie evidently felt that those reforms led to destruction but under him they would mean salvation! The fact worth emphasis is that all these reforms were an application of Socialist immediate demands—demands which were ignored or almost contemptuously rejected by both the old parties in 1928 and barely discussed even as late as 1932.

No Socialist of any school would argue that these reforms have achieved Socialism. On the contrary, socialists argue the necessity of Socialism on the basis of the failure of these reforms to work a major cure in our unnecessary poverty and insecurity. Nevertheless, they are completely inconsistent with the theory of "the automatic equilibrium of markets," that self adjustment which was the heart of the theoretical system that Mr. Willkie desired to defend.

The year 1940 saw the emergence of no great Socialist theoretical restatement, but there was much activity of discussion. Socialists who had thought that they were firmly opposed to all conceivable nationalist wars found themselves compelled to justify in socialist terms their ardent support of the British war against Hitler. Socialists who had believed that the "final conflict" would be between private finance capital, largely monopolistic, and working-class socialism, found that the march of collectivism tended to make the struggle one between totalitarianism and democratic socialism. Socialists who had felt it possible to derive all needed wisdom by deduction from the writings of Marx, discovered problems on which the great

theoretician of modern socialism had shed little direct light.

Even the word "socialism" now raises in the minds of the public the most blurred confused picture since the rise of modern socialism. Stalin says that the U.S.S.R. has achieved socialism; Hitler that Germany has achieved national socialism. Besides the Socialist Party in America there is the old Socialist Labor Party, to say nothing of a Social Democratic Federation and at least two Trotskyist groups. Yet so rich is the socialist tradition and so vital its hope that one may expect a theoretical and organizational renaissance of effective world socialism.

See AUSTRALIA, NEW ZEALAND, SWEDEN, and WISCONSIN under *History*.

NORMAN THOMAS.

**SOCIALIST LABOR PARTY.** See ELECTIONS, U.S. NATIONAL.

**SOCIALIST PARTY.** See ELECTIONS, U.S. NATIONAL; SOCIALISM.

**SOCIAL SECURITY BOARD (SSB).** The Social Security Board has administrative responsibility for three Nation-wide programs, designed to bring greater security to the American people. These are old-age and survivors insurance, employment security, and public assistance, as established under the Social Security Act. The first two of these are insurance systems designed to protect wage earners against future want; the third provides immediate cash aid on the basis of need for three groups who are unable to support themselves—the aged, the blind, and dependent children.

During 1940, major developments under these social security programs included: The beginning of monthly benefit payments under the old-age and survivors insurance system on Jan. 1, 1940; the naming of the Bureau of Employment Security as a national defense agency charged with mobilizing qualified workers through the U.S. Employment Service for national defense industries; the acceptance of merit principles and establishment of merit systems for the selection and promotion of personnel in all State employment-security and public-assistance agencies; and effective Jan. 1, 1940, matching by Federal funds of a higher level of public-assistance payments by States to the needy aged, blind, and dependent children.

These developments, together with continuing progress in the day-by-day administration of the social security programs, made 1940 an outstanding milepost in the American advance toward greater social security.

Amendments passed in 1939 had laid the basis for the extension and strengthening of social security programs which marked 1940. These amendments completely altered the structure of the old-age insurance program, adding benefits for dependents and survivors of insured workers to its original retirement features. Payment of monthly benefits to retired workers over 65 and their families and to the survivors of insured workers became payable Jan. 1, 1940, two years earlier than provided in the original act. Claims awards during the first 12 months of benefit payments were made to some 255,000 individuals, calling for monthly payments at a rate of \$4,700,000. The number of individuals receiving these monthly benefits and the amount payable to them will, of course, increase markedly with each month that passes. Within this over-all figure of 255,000 beneficiaries are encompassed retired workers over 65 who have been engaged in employment covered by old-age

and survivors insurance, their wives over 65, and their dependent children under 18, and the survivors of insured workers who died after 1939—widows over 65, widows regardless of age who are caring for their young dependent children, the children themselves, and aged dependent parents.

The amendments of 1939 included workers over 65 in the system, thus making it possible for many who were already old to acquire sufficient wage credits for benefits. Under this program, which applies to all workers in commercial and industrial employment, individual social security accounts have already been set up for some 52,000,000 people. In these accounts are recorded wages from covered employment which serve as the basis for determining eligibility for benefits and the amount of benefit payments.

These benefits are paid for by taxes on employees in jobs covered by the program and on their employers. The tax rate is 1 per cent for each on wages paid until 1943. Thereafter, it increases  $\frac{1}{2}$  per cent every three years until it reaches a maximum of 3 per cent each in 1949. The tax applies only to the first \$3000 a year in wages paid to an employee. This tax money goes into an Old-Age and Survivors Insurance Trust Fund in the U.S. Treasury, from which all benefits are paid.

Field offices have been established in central towns and cities throughout the country to serve workers and their employers in all matters relating to old-age and survivors insurance. At the close of 1940, 475 of these field offices were in operation.

Protection against want for jobless workers during periods of unemployment was also strengthened through the unification of two services—job insurance and job employment—to form the employment security program. This program, which is a joint Federal-State enterprise, was the result of the President's Reorganization Plan No. 1, effective July 1, 1939, which provided for the transfer of the U.S. Employment Service to the Social Security Board and its co-ordination with the Board's Bureau of Unemployment Compensation. This same integration of employment-service and unemployment-compensation activities is also true in the States. Every State has its own unemployment-compensation law under which jobless workers who are insured receive weekly out-of-work benefits and its own employment service with local offices which register the unemployed and help them to find new jobs.

Federal co-operation encouraged the States to enact unemployment-compensation laws. States with laws approved by the Social Security Board receive Federal grants covering the administrative expenses of their employment-security program, including employment-service operations. A Federal pay-roll tax of 3 per cent is levied on employers of eight or more in all but a few specifically excluded occupations, but up to 90 per cent of this tax may be offset by contributions made by employers in States, with approved laws, to the State unemployment fund.

Every State, Alaska, Hawaii, and the District of Columbia is receiving grants for administration of its employment-security program from the Federal Government. Over 28,000,000 workers in the United States are insured under their State unemployment-compensation laws, and unemployment benefits have been payable in all the States since July 1, 1939. During 1940, weekly benefits totaling about \$520,000,000 were paid to over 5,500,000 jobless workers by the various States. There are now in operation in all the States over 1500 local em-

ployment offices and 3000 additional part-time offices. During 1940, placement of workers in jobs in private industry reached a new high, because of the unusual demand for labor from defense industries. All told, some 3,800,000 jobs were filled, 3,200,000 of them in private industry.

The U.S. Employment Service, as part of its responsibility under the defense program, instituted a special study of workers registered with the local employment offices to find those who had previous work experience that was suitable for defense needs, and to determine which workers who were no longer engaged in their former trade could refurbish their "rusty" skills, which would qualify them for defense jobs, by being given "refresher" courses. To facilitate the movement of workers to areas where there was a demand for their services, a system of regional labor transfer offices, working closely with the State employment services, was established.

Another development during the year had important bearing upon the efficiency with which State social security programs were operating. This was the organization and institution of plans for the selection and promotion on a merit basis of personnel in State employment-security and public-assistance agencies. The amendments of 1939 had included a requirement that all States, in the interests of proper administration, must adopt a merit system for such personnel, effective Jan. 1, 1940.

Federal co-operation and aid to the States has also played an important part in the Nation-wide development of public-assistance programs for the needy aged, the needy blind, and dependent children. The Federal Government matches, dollar for dollar, within certain limits, State payments to needy individuals under public-assistance plans approved by the Social Security Board. For aid to the aged and the blind the act provides Federal money may be used to share in payments to individuals up to a combined Federal-State total of \$40 a month; for dependent children the limit set for Federal matching is \$18 for the first dependent child and \$12 for every other dependent child in the same home.

By the end of 1940, every State, Alaska, Hawaii, and the District of Columbia was participating in the old-age assistance program; 43 of these jurisdictions had approved plans for aid to the blind; and a like number for aid to dependent children. A total of some 3,000,000 needy men, women, and children were receiving monthly cash payments under these plans, including 2,000,000 aged, 50,000 blind, and 845,000 dependent children in 350,000 families.

Federal grants to States for public assistance from Feb. 1, 1936, when Federal funds first became available, through Dec. 31, 1940, totaled \$1,066,120,000. Of this amount, \$891,755,000 represented grants for old-age assistance; \$25,809,000 for aid to the blind; and \$148,556,000 for aid to dependent children. Grants made for 1940 totaled \$310,769,000. Of this amount, \$245,327,000 represented grants for old-age assistance; \$6,880,000 for aid to the blind; and \$58,562,000 for aid to dependent children. See RELIEF.

ARTHUR J. ALTMAYER.

#### SOCIAL STUDIES. See EDUCATION.

**SOCIETIES AND ASSOCIATIONS.** The following is a list of leading national and international organizations, with their officially proclaimed objectives and a concise report of their activities during the year 1940.

They are listed alphabetically according to the first specific word in each title. Certain classifications have been omitted in this list because they are presented fully elsewhere in this volume. The reader is, therefore, referred to the following articles as a supplement: for accrediting associations, to the article on **UNIVERSITIES AND COLLEGES**, also, **EDUCATION**; for labor organizations, to **AMERICAN FEDERATION OF LABOR**, **CONGRESS OF INDUSTRIAL ORGANIZATIONS**, and **LABOR CONDITIONS**; for political parties and groups, to **ELECTION**, **U.S. NATIONAL**; for religious bodies, to the table of **RELIGIOUS ORGANIZATIONS**, as well as to interdenominational groups listed below; for sport organizations, to articles on various sports and *Amateur Athletic Union*, below; for foundations, trusts, etc., to **BENEFACTIONS** and the articles there referred to; for war relief agencies, to **WAR RELIEF IN THE UNITED STATES**, also, **RED CROSS** and **REFUGEES**. For government agencies, learned academies, and institutes see separate articles

**Accountants, National Association of Cost**, listed under *Cost*

**Actors' Fund of America**, founded in 1882 to care for the impoverished, aged, and infirm members of the theatrical profession. Membership (1939): 2120. President: Daniel Frohman. Secretary: Robert Campbell. Headquarters: 1619 Broadway, New York City. The Fund, supported by donations, benefit performances, and a limited endowment, spends \$140,000 and \$180,000 a year. A home for retired actors is maintained in Englewood, NJ.

**Adult Education, American Association** for, founded in 1926 to serve as a clearing house for information, initiate activities and assist enterprises already in operation, and to aid and advise individuals who, although occupied with some vocation or interest, desire to continue their education. Membership: 1400. President: Harry A. Overstreet. Director: Morse A. Cartwright. Headquarters: 60 East 42 Street, New York City. The 1940 meeting, held in New York with an attendance of 2023, had as its theme "The Democratic Way and the Educational Process." During the year an active program of adult education for democracy was conducted, and another relating adult education to the defense programs was inaugurated, resulting in the publication of three periodicals, *Defense Papers*, *Defense Digests*, and *Community Councils in Action*.

**Advancement of Colored People, National Association** for the, founded in 1909 to combat the spirit of persecution which confronts colored people in the United States, safeguard their rights, and secure for them equal opportunity with all other citizens. Membership: 100,000. President: Arthur B. Spingarn. Executive Secretary: Walter White. Headquarters: 69 Fifth Avenue, New York City. The Spingarn Medal for 1940 was awarded to Dr. Louis T. Wright of New York. The 32d Annual Conference will be held in Houston, Texas, June, 1941. See **LYNCING**; **NEGROES**.

**Advancement of Music, National Bureau** for the, founded in 1916 to promote musical interest and activities and to aid those interested in them. It has no membership other than the ten members of the Board of Control. President and Managing Director: C. M. Tremaine. Secretary: Osbourne McConathy. Headquarters: 45 West 45 Street, New York City. The Bureau co-ordinates existing agencies in the field of music and promotes, also, **National Music Week** (beginning the first Sunday in May), school music contests and festivals, and group instruction in applied music.

**Advancement of Science, American Association** for the, founded in 1848, a democratic and representative organization devoted to the whole field of science. Organized in 15 sections, it has over 20,000 members and 174 associated societies. President: Dr. Irving Langmuir. Permanent Secretary: Dr. F. R. Moulton. Headquarters: Smithsonian Institution Building, Washington, D.C. In 1940 a paper by Dr. Herald R. Cox, Rocky Mountain Laboratory, U.S. Public Health Service, was selected for the Theobald Smith Award in the Medical Sciences; it was entitled "Cultivation of Rickettsiae of the Rocky Mountain Spotted Fever, Typhus, and Q Fever Groups in the Embryonic Tissues of Developing Chicks." The Thousand Dollar Prize was awarded to D. R. Hoagland and D. I. Arnon, University of California, for the paper entitled "Availability of Nutrients with Special Reference to Physiological Aspects," presented at the meeting in Philadelphia, Dec. 27, 1940, to Jan. 2, 1941. Scheduled meetings: Durham, N.H., week of June 23, 1941; Chicago, Ill., week of Sept. 22, 1941; Dallas, Tex., Dec. 29, 1941, to Jan. 3, 1942. See **PSYCHIATRY**.

**Advancement of Sciences, British Association** for the, founded in York, England, in 1831. President: Sir Richard

Gregory; Secretary, O. J. R. Howarth. Headquarters: Burlington House, London, W. 1. The Association holds an annual meeting at which papers are read (subsequently published) and sets aside an annual sum for scientific researches. In lieu of the appointed 1940 meeting, a short Conference was arranged, July 25-27, in the University of Reading, which dealt in general terms with Science in National and International Aspects. It was decided that the 13 sections of the Association would not meet individually unless cause should arise, and no new sectional officers were appointed. The April issue of the official journal, *The Advancement of Science*, was reduced in bulk, owing to the rationing of paper, but publication was expected to continue.

**Advertising Federation of America**, founded in 1905 to advance the interests of all who create, sell, or use advertising, and to increase its usefulness to the consuming public. Membership: 10,000. President: Elton G. Borton. Secretary: May O. Vander Pyl. Headquarters: 330 West 42 Street, New York City. The 37th annual convention and exposition will be held at the Hotel Statler, Boston, Mass., May 25-29, 1941.

**Aeronautic Association, National**, founded in 1922, a non-profit and non-partisan organization representing the public interest in aviation and interested in every phase of aviation. Membership: over 10,000. President: Gill Robb Wilson. General Manager: G. deFreest Lerner. Headquarters: Willard Hotel, Washington, D.C. Activities of 1940 included the National Aviation Forum held at Washington, D.C., in May and the Denver Air Congress, July 7-10. The Mackay Trophy for 1939 was awarded in 1940 to the Second Bombardment Corps, U.S. Army Air Corps, for a hazardous flight made to Chile, Feb. 4, 1939, to carry medical supplies to the earthquake area. The Collier Trophy for 1939 was awarded to the domestic airlines of the United States for their high record of safety, with special recognition to Mrs. Walter M. Boothby and William R. Lovelace, II, of the Mayo Foundation and to Capt. Harry C. Armstrong of the U.S. Army Medical Corps, for their work in aviation medicine in general and pilot fatigue in particular. The 1941 meeting is tentatively scheduled for July at Louisville, Ky.

**Alcoholism, World League against**, founded in 1919 to attain by means of education the total suppression of alcoholism throughout the world. Membership: 51 national temperance organizations in 31 countries. Executive Secretary: Ernest H. Cherrington. Headquarters: Westerville, Ohio. During 1940 the League continued to supply factual and source material to temperance organizations in practically every country, to publishers of temperance periodicals, and to schools. It maintains at Westerville, Ohio, a large reference library on the subject of alcohol.

**Amateur Athletic Union of the United States**, founded in 1888 to improve and promote amateur sports and the civic interest of the Nation, by the education of all classes in the benefits to be derived by participation in athletics. The A.A.U. establishes a uniform test of amateur standing and uniform rules governing the sports within its jurisdiction, regulates and awards the athletic championship of the United States, and promotes legislation in the interest of sports facilities. President: L. di Benedetto. Secretary: D. J. Ferris. Headquarters: 233 Broadway, New York, N.Y. For activities and awards during 1940, see the separate articles on the various sports.

**American Legion**. See separate article.

**American-Scandinavian Foundation**, founded in 1911 to assist cultural relations between America and the Scandinavian countries. President: Henry Goldard Leach. Headquarters: 116 East 64 Street, New York City.

**Antiquarian Society, American**, founded in 1812 with the maintenance of a national library of American history as its chief purpose. The library contains nearly 700,000 titles and is free for the use of all qualified scholars. Membership: 200. President: Samuel Eliot Morison. Director: Clarence S. Brigham. Headquarters: Worcester, Mass. Clifford K. Shipton was appointed librarian in October, 1940. Scheduled meetings: Boston, Mass., April, 1941; Worcester, Mass., October, 1941.

**Anti-Saloon League of America**, founded in 1895 to promote temperance education and legislation; a non-membership organization. President: Bishop Ralph S. Cushman. General Secretary: George W. Crabbe. Headquarters: 131 B Street, S.E., Washington, D.C. The biennial national convention held in Washington, D.C., Nov. 24-26, 1940, reaffirmed the general program adopted in 1938. The League noted in its report that, during 1940, the first State which had legalized liquor following repeal of national prohibition reversed its attitude. In an advisory referendum on August 27, South Carolina voted 189,361 for and 130,366 against repeal of the liquor law, a majority of 58,995. In Oklahoma, on November 5, a repeal of the State prohibition amendment was defeated by 374,911 to 290,752. Returns showed a slight increase in the number of no-license units in elections held during 1940 under local option.

**Applied Psychology, American Association for**, founded in 1937 to promote the service which psychology as a science can render society in its application in business, education, industry, law, medicine, mental hygiene, social welfare, and related fields. Membership: 600. President:

Edgar A. Doll. Executive Secretary: C. M. Louttit, Indiana University, Bloomington, Ind. During 1940 the Association published, in addition to *The Journal of Consulting Psychology*, the first biographical directory of applied psychologists. Scheduled meeting: Northwestern University, September, 1941.

**Archaeological Institute of America**, founded in 1879 to promote and direct archaeological investigation and research. Membership: 1600. President: William Bell Dinsmoor. General Secretary: Dr. Meriwether Stuart. Headquarters: 504 Schermerhorn Hall, Columbia University. The 1941 meeting will be held at Hartford, Conn., Dec. 29-31.

**Architects, The American Institute of**, founded in 1857 to promote the efficiency of the profession, to advance education in architecture and allied subjects, and to make the profession of increasing service to society. Membership: 3048. President: Edwin Bergstrom. Secretary: Charles T. Ingham. Headquarters: The Octagon, 1741 New York Avenue, N.W., Washington, D.C. Mrs. Beatrice Farrand, landscape architect, was elected an honorary member in 1940. The 73d Annual Convention will be held in Yosemite Park, Calif., May 17-21, 1941.

**Artists Congress, American**. See ART under *Other Developments*.

**Arts, The American Federation of**, founded in 1909 to develop art and its appreciation. President: Hon. Robert Woods Bliss. Director: Thomas C. Parker. Headquarters: Barr Building, Washington, D.C. The 1941 annual convention will be held in Washington, D.C., concurrently with the opening of the National Gallery of Art.

**Arts and Letters, National Institute of**, founded in 1898 to further the interests of literature and the fine arts. Membership: 250. President: Walter Damrosch. Secretary: Henry S. Canby. Headquarters: 168 East 71 Street, New York City. A Gold Medal was awarded in 1940 to William Adams Delano for architecture. Scheduled meetings: the Public Ceremonial, Jan. 18, 1941, at Carnegie Hall in New York; the Annual Dinner-Meeting, Dec. 10, 1941, in New York.

**Arts and Sciences, American Academy of**, founded in 1780 to encourage scientific work and publication. Membership: 779 Fellows and 129 Foreign Honorary Members. President: Harlow Shapley. Recording Secretary: Hudson Hoagland. Headquarters: 28 Newbury Street, Boston, Mass. During 1940 a number of grants for research work were made from funds given the Academy for that purpose. Meetings are held monthly, October through May.

**Asiatic Association, American**, founded in 1898 to study relations between Asiatic countries and the United States. Membership: 200. President: Howard E. Cole. Secretary: John B. Chevalier. Headquarters: India House, Hanover Square, New York City.

**Astronomical Society, American**, founded in 1899 to advance astronomy and closely related branches of science. Membership: 627. President: Joel Stebbins. Secretary: Dean B. McLaughlin, University of Michigan Observatory, Ann Arbor, Mich. The Annie J. Cannon Prize was awarded in 1940 to Julie Vinter Hansen, astronomer at the Observatory of Copenhagen. Scheduled meetings: September, 1941, Yerkes Observatory, Williams Bay, Wis.; December, 1941 (tentatively in Cleveland).

**Audubon Society, National**, founded in 1905 for the protection of wild birds and animals. Membership: 156 affiliated clubs and 6115 individuals. President: Guy Emerson. Executive Director: John H. Baker. Headquarters: 1006 Fifth Avenue, New York City. Activities during 1940 included a campaign to stop illegal traffic in wild bird plumage, investigation of the destruction of fish-eating birds at fish hatcheries and rearing ponds, and the appointment of a full-time representative of the Society for the State of California. Research projects were conducted in connection with the Roseate Spoonbill, the California Condor, and the Ivory-billed Woodpecker. The 1941 annual meeting is scheduled, October 17-21, in New York City.

**Automobile Association, American**, founded in 1902 to provide a national network of service and protection for motor-club members and to work for the improvement of motoring conditions. Membership in A.A.A. Clubs: about 1,021,000. President: Thos. P. Henry. General Manager: Russell E. Singer. Headquarters: 17th Street and Pennsylvania Avenue, N.W., Washington, D.C. During 1940 the million-member mark was passed for the first time. A nationwide Pedestrian Protection Contest was participated in by all States and hundreds of cities; the first State prize went to Minnesota and first prize for large cities to Cleveland, Ohio. A roadside protection program was formulated following extensive public hearings. The President of the Association was appointed to the National Defense Advisory Commission (q.v.) and the Association engaged in defense activities, including official observation of Army maneuvers.

**Automobile Manufacturers Association**, founded in 1913 for service to the motor industry. Membership: 29. President: Alvan Macauley. Secretary: Byron C. Foy. Headquarters: New Center Building, Detroit, Mich. The Association conducts annually the National Automobile

Show at New York. The 1941 meeting will be held at Detroit in June.

**Bacteriologists, Society of American**, founded in 1899 to promote the science of bacteriology and bring together American bacteriologists for demonstration and discussion of methods and consideration of subjects of common interest. Membership: about 1500. President: Dr. O. T. Avery. Secretary: Dr. I. L. Baldwin. Headquarters: University of Wisconsin, Madison, Wis. The Eli Lilly Award in Bacteriology and Immunology for 1940 was granted to Dr. D. W. Woolley of the University of Rochester. The 1941 meeting will be held in Baltimore, Md., Dec. 20-31.

**Bankers Association, American**, founded in 1875 to promote the welfare and usefulness of banks, secure uniformity of action on subjects of importance and provide opportunity for discussion thereon, and to provide educational opportunities for bank officers and employees. Membership: 14,333. President: P. D. Houston. Headquarters: 22 East 40 Street, New York City. Four new departments were established in 1940—Consumer Credit, Research in Mortgage and Real Estate Finance, Economics, and Customer Relations. Scheduled meetings: Regional, March 5-7, 1941, in New York City and March 20-21 in Louisville, Ky.; Trust, February 4-7, New York City; Annual Convention, September 28-October 2, Chicago, Ill. See **BANKS AND BANKING**.

**Bankers' Association, Investment**. See **FINANCIAL REVIEW** under *Financial Regulation*.

**Banks, National Association of Mutual Savings**, listed under *Mutual*.

**Bar Association, American**, founded in 1878 to advance the science of jurisprudence, promote the administration of justice and uniformity of legislation and judicial decision, uphold the honor of the profession, encourage cordial intercourse among members of the Bar, and correlate activities of State Bar Associations. Membership: 31,622. President: Jacob M. Lushly. Executive Secretary: Olive G. Ricker. Headquarters: 1140 North Dearborn Street, Chicago, Ill. In 1940 the Award of Merit was given to the State Bar of Texas and the Cleveland Bar Association. The American Bar Association Medal was awarded to Roscoe Pound, Dean Emeritus of Harvard Law School and the Ross Essay Prize to T. F. Green of Athens, Ga. Scheduled meetings: House of Delegates, Mar. 17-18, 1941, Chicago, Annual, Sept. 29, 1941, Indianapolis.

**Beethoven Association**. See **MUSIC**.

**Better Business Bureaus, Inc., National Association of**, founded in 1913 to encourage the formation of and assist in the development of Better Business Bureaus engaged in fostering truth in advertising and opposing fraud and/or unethical practices in advertising and selling. Membership: 74 associations. President: R. J. Bauer. Secretary: Muriel N. Tsvetkoff. San Francisco Better Business Bureau. The 1941 meeting will be held in Los Angeles, Calif. In May, 1940, a Business-Consumer Relations Conference was held in New York City.

**Bible Society, American**, founded in 1816 to encourage wider circulation of the Holy Scriptures without note or comment throughout the world. Membership probably over 10,000. President: John T. Manson. General Secretary: Dr. Eric M. North. Headquarters: Park Avenue and 57th Street, New York City. Universal Bible Sunday was observed Dec. 8, 1940. The 1941 annual meeting will be held May 8.

**Bibliographical Society of America**, founded in 1904 to promote bibliographical research and issue publications. Membership: 750. President: Randolph G. Adams. Permanent Secretary: George L. McKay, 47 East 60 Street, New York City. Scheduled meetings: June, 1941, in Boston; December, 1941.

**Birth Control Federation of America, Inc.**, founded in 1939 by the American Birth Control League (1921) and the Birth Control Clinical Research Bureau (1923) to foster planned parenthood by making birth control information available. Membership: about 34,000. Margaret Sanger is Honorary Chairman. President: Dr. Richard N. Pierson. Secretary: Albert D. Lasker. Headquarters: 501 Madison Avenue, New York City. The 1941 annual meeting is scheduled, Jan. 28-30, in New York City. See **BIRTH CONTROL**.

**Blind, Inc., American Foundation for the**, founded in 1921 to promote those interests of the blind which cannot be advantageously handled by local agencies. President: M. C. Migel. Executive Director: Robert B. Irwin. Headquarters: 15 West 16 Street, New York City. Activities include research, assistance and consultation service to local agencies, special services to individuals, scholarships, and a reference and lending library.

**Blindness, National Society for the Prevention of**, listed under *Prevention*.

**B'nai B'rith**, a Jewish service and fraternal organization, founded in 1843 to further the highest ideals of humanity through a program that encompasses adult education, promotion of youth welfare, communal service, philanthropy, patriotism, and good will. Membership: 125,000. President: Henry Monsky. Secretary: Maurice Bisgier. Headquarters: 1003 K Street, N.W., Washington, D.C. During 1940 B'nai B'rith contributed \$55,000 for war re-

lief and refugee aid, established a national defense committee to co-operate with the Government and agencies engaged in morale work, and embarked with the Red Cross on a nationwide home service program for families of men in the armed service. Nearly 1,000,000 people of all races and creeds attended B'nai B'rith patriotic meetings and youth and democracy rallies organized by Aleph Zadik Aleph, the youth agency. Hillel Foundations increased to 50, serving 30,000 Jewish college men and women with a program of religious and social welfare and cultural activities. Boy Scouting was made an integral part of the activity of B'nai B'rith during the year. The next triennial convention will be held in Chicago, Mar. 29-Apr. 2, 1941.

**Board of Review of Motion Pictures, Inc., National**, listed under *Review*.

**Botanical Society of America, Inc.**, established in 1906 as a clearing house for the botanists of America. It supports projects of general interest to botanists, provides an opportunity for the presentation and publication of research studies, and accepts and administers funds for certain purposes. Membership: 1250. President: E. N. Transeau. Secretary: Paul R. Burkholder. Osborn Botanical Laboratory, Yale University, New Haven, Conn. The Society will meet in Dallas, Tex., in December, 1941.

**Boys' Clubs of America, Inc.**, organized nationally in 1906 by existing Boys' Clubs to promote their development and improvement. Membership: 348 organizations reaching 300,000 boys. President: William Edwin Hall. Chairman: Herbert Hoover. Secretary: William Ziegler, Jr. Headquarters: 381 Fourth Avenue, New York, N.Y. During 1940 the organization successfully concluded a Five Year Mile Post Plan, during which the number of clubs and members was materially increased. A special medal was awarded to James Gilbert White for his outstanding service in the cause of the underprivileged boy. The 1941 annual conference will be held in May.

**Boy Scouts of America**, founded in 1910 to promote the ability of boys to do things for themselves and others, to train them in Scoutcraft, and to teach them patriotism, courage, self-reliance, and kindred virtues. Membership: 1,421,945. President: Walter W. Head. Chief Scout Executive: James E. West. Headquarters: 2 Park Avenue, New York, N.Y. During 1940 the Boy Scouts of America launched a Program of Action for Strengthening and Invigorating Democracy and joined with 15 other national organizations (under the auspices of the Citizenship Educational Service) in issuing "A Call to All Americans," a statement designed to arouse all citizens to vitalize the ideals of American Democracy. Boy Scouts participated in both the San Francisco and New York World's Fairs. At the New York Fair a Demonstration and Service Camp was maintained where nearly 3000 Scouts camped for one week each while rendering service to the Fair.

**Broadcasters, National Association of**, founded in 1922 to promote and defend the American system of privately owned, competitively operated radio and to render every aid to those engaged in it to enable them to operate in the public interest. Membership: 510. President: Neville Miller. Assistant to the President: C. E. Arney, Jr. Headquarters: Normandy Building, 1626 K Street, N.W., Washington, D.C. See **MUSIC**.

**Broadcast Music, Inc. (BMI)**. See **MUSIC**.

**Bund, German-American**. See **DIES COMMITTEE**, **FASCISM**.

**Business and Professional Women's Clubs, Inc.**, The National Federation of, founded in 1919 to bring about a spirit of co-operation among business and professional women of the United States and to extend opportunities to them through education along the lines of industrial, scientific, and vocational activity. Membership: 70,000. President: Dr. Minnie I. Maffett. Executive Secretary: Louise Franklin Bache. Headquarters: 1819 Broadway, New York City. During 1940 the Federation followed a program on "Making Democracy Work," making use of discussion and other approved adult-education media in the clubs and exploring ways in which groups can go from study to action in an intelligent way. New York State was selected as a testing ground for methods in organization and program in an effort to see why more women do not belong to organized groups. A study entitled "Should Married Women Work" was published. The next biennial convention will be held in Los Angeles, Calif., July 6-12, 1941.

**Campaign for Youth Needs**. See article on **YOUTH MOVEMENT**.

**Camp Fire Girls, Inc.**, incorporated in 1912 to provide an opportunity for girls' personal development, through group experiences, leisure-time activities, and cultivation of skills. Membership: 278,451. The President is Mrs. Elbert Williams, Secretary and National Executive, Mr. Lester F. Scott. Headquarters: 88 Lexington Avenue, New York City. During 1940 Camp Fire Girls placed special emphasis on the safety and health features of the program in an activities project called "Skillful Living." They made home safety surveys, drew up codes for themselves as bicyclers, roller skaters, and pedestrians, practiced skill in sports, considered well balanced meals, and well balanced daily schedules with time for work, fun, and relaxation. The older girls undertook a city housekeeping project which involved a study of the city's electric, gas,

and water supplies and sanitation system. Albums recording data collected and recommendations made were sent to National Headquarters.

**Cancer, Inc., The American Society for the Control of,** listed under *Control*.

**Care of European Children, U.S. Committee for the.** See *CHILDREN'S BUREAU, WAR RELIEF*.

**Catholic Welfare Conference.** See separate article.

**Chamber of Commerce, International,** founded in 1920 to provide business men and organizations with a continuing mechanism for interchange of information, joint study, consultation, and periodical conference. Membership: National Committees in 32 countries and affiliated organizations in 18. President: J. Sigfrid Edstrom of Sweden. Chairman of the American Section: Eliot Wadsworth; Manager, Chauncey D. Snow. Headquarters. 38 Cours Albert Premier, Paris, France (temporarily removed to 9, Vasträ Trädgårdsgatan, Stockholm, Sweden). Offices of the American Section: 1615 H Street, N.W., Washington, D.C. During 1940 the International Chamber of Commerce entered upon studies of Economic Reconstruction and established co-operative arrangements with the American Arbitration Association for settlement of trade disputes involving American business men.

**Chamber of Commerce, United States Junior.** An organization founded in 1920 to organize young men between 21 and 35 for civic service and community building activities. Membership: 120,000. Headquarters: Merchandise Mart Building, Chicago, Ill. Americanism week was observed Feb. 12-22, 1940. Prizes and trophies valued at about \$8000 were awarded for committee activities and excellence of operation, and local and National Distinguished Service Awards were made to outstanding young men. The 1941 annual convention will be held in Minneapolis, Minn., June 18-21.

**Chamber of Commerce of the United States,** established in 1912 primarily as a vehicle for the expression of national business opinion on important economic questions. Membership: 1626 chambers of commerce and trade associations, 6441 individuals, and 3519 associates. President: James S. Kemper. Secretary: Ralph Bradford. Headquarters: 1615 H Street, N.W., Washington, D.C. The Chamber is centering its attention mainly upon defense problems, holding many regional conferences of business leaders in all parts of the country to discuss the place of industries in the national defense effort. Chamber spokesmen appear before congressional committees to present a practical business viewpoint on pending legislation. Twelve service departments are maintained covering the main divisions of business activity. Publications include the *Nation's Business*, a monthly, the *Washington Review*, bi-monthly, special legislative bulletins, and committee reports. The 29th Annual Meeting will be held in Washington, D.C., Apr. 28-May 1, 1941.

**Chautauqua Institution,** founded in 1874 for religious and educational purposes. President Arthur E. Restor. Secretary: Charles E. Pierce. Headquarters: Chautauqua, N.Y. A program of music, lectures, and religious services is conducted during July and August each year.

**Chemical Industry, Society of.** See *CHEMISTRY, INDUSTRIAL*.

**Chemical Society, American,** founded in 1876 to advance chemistry, chemical research and knowledge, and the qualifications and usefulness of chemists. Membership: 25,414. President: Harry N. Holmes. Secretary: Charles L. Parsons. Headquarters: Mills Building, Washington, D.C.

In 1940 the Award in Pure Chemistry was made to Laurence Olin Brockway, the Eli Lilly and Company Award to Eric G. Ball, and the Women's Award to Mary Engle Pennington. At the request of the Executive Office of the President and in co-operation with the National Roster of Scientific and Specialized Personnel, the Society gathered a National Roster of over 50,000 chemists and chemical engineers. Two general meetings were conducted during the year at which a successful Employment Clearing House brought together employers and employees. The Society's publications were increased in size, and one new local section was established. Meetings in 1941, St. Louis, April 7-11, and Atlantic City, Sept. 8-12. See *CHEMISTRY*.

**Child Labor Committee, National,** founded in 1904 to promote legislation dealing with child labor and related subjects, conduct investigations, advise on administration, and maintain an information service. Membership: about 15,000. Chairman: Homer Folke. Headquarters: 419 Fourth Avenue, New York City. Activities in 1940 included an investigation of children employed on the legitimate stage, participation in hearings on Federal child-labor bills, participation in the White House Conference on Children in a Democracy (see *CHILDREN'S BUREAU*), and a field trip by the General Secretary to FSA Rural Rehabilitation, migrant camp, and farm purchase projects in 10 States. Six new publications were issued.

**China Society of America, The,** founded in 1913 to promote friendly relations and a better understanding between the peoples of the United States and China. Membership: 300. President: William M. Chadbourne. Headquarters: 570 Lexington Avenue, New York City. During 1940 luncheons were held in honor of Dr. Lin Yutang and

Maj. Evans Carlson. The Society distributed information about China to teachers throughout the United States and published *China* magazine.

**Christian Endeavor, International Society of,** formed in 1885 to further the training of young people in the Christian life, among societies and unions in about 30 evangelical denominations in the United States and Canada. Membership: approximately 2,000,000. President: Dr. Daniel A. Poling. Executive Secretary: Carroll M. Wright. Headquarters. 41 Mt. Vernon Street, Boston, Mass. The Rainbow Jubilee Year (60th anniversary) of the first group was held in 1940, climaxed by the celebration of Christian Endeavor Week, Jan. 26-Feb. 2, 1941. The 38th International Convention will be held in Atlantic City, N.J., July 8-13, 1941.

**Christian Front.** See *DIXIE COMMITTEE; FASCISM; NEW YORK* under *New York City*.

**Christians and Jews, National Conference of,** founded in 1928 to moderate and finally eliminate a system of prejudices which disfigures business, social, and political relations. Membership: 16,500. Co-Chairmen: Arthur H. Compton, Carlton J. H. Hayes, Roger W. Straus. Director: Everett R. Clinchy. Headquarters: 300 Fourth Avenue, New York City. The Williamstown Institute of Human Relations will be held at Williamstown, Mass., the last week in August, 1941.

**Churches, The World Council of,** established as a provisional committee after the world conferences at Oxford and Edinburgh in 1937 to unite the churches of the world on the Federal principle for co-operative service and the promotion of Christian unity. Membership: 70 denominations. World Chairman: The Archbishop of York. General Secretaries: Dr. W. A. Visser 't Hooft, Geneva; Dr. William Paton, London; Dr. Henry Smith Leiper, New York. Regional consultations on wartime responsibilities of the Churches were held in the Balkans, in Canada, and in England, as well as in Geneva in 1940. A chaplaincy service to prisoners of war was organized and likewise a special service to refugees from Europe. The American Section meets in New York City in May and October.

**City Managers' Association, The International,** founded in 1914 to aid in the improvement of local government administration and the proficiency of city managers. Membership: 596. President: Roy S. Braden. Headquarters: 1313 East 60 Street, Chicago, Ill. Publications issued in 1940 included *The Municipal Year Book, 1940*, edited by Ridley and Nolting, and *Municipal Public Relations* by Elton D. Woolpert. The Institute for Training in Municipal Administration made available two new correspondence courses: *The Technique of Municipal Administration* and *Municipal Recreation Administration*.

**Civic Federation, The National,** founded in 1900 to aid in moulding a sound public opinion. Chairman of the Executive Council: Mack W. Beeks. Secretary: Mrs. Ralph M. Easley. Headquarters: 74 Trinity Place, New York City. Church attendance was advocated in 1940 to stimulate religious recovery. Patriotic posters were distributed in schools, boys' clubs, and Grange halls to counteract the propaganda of the dictators and inculcate American principles, especially in the minds of youth.

**Civil Engineers, American Society of,** founded in 1852 to advance engineering and architectural knowledge and practice, to maintain high standards and encourage intercourse in the profession. There are 64 local sections and 120 affiliated student chapters. Membership, 16,694. President: Frederick H. Fowler. Secretary: George T. Seabury. Headquarters. Engineering Societies Building, 33 West 39 Street, New York City. The Norman Medal was awarded in 1940 to Charles H. Lee, the Croes Medal to C. A. Mockmore, the Laurie Prize to Stanley M. Dore, the Wellington Prize to Rufus W. Putnam, the Collingwood Prize for Juniors to B. K. Hough, Jr., the Construction Engineering Prize to Howard L. King, and the Hering Medal of the Sanitary Engineering Division to A. J. Schafmayer and the late B. E. Grant. The 1941 Annual Meeting was scheduled Jan. 15-17 in New York City; other meetings at Baltimore, April 23-25, San Diego, July 23-25, and Chicago, Oct. 15-17, 1941.

**Civil Liberties Union, American,** founded in 1920 to maintain the Bill of Rights for everybody, without exception. Membership: 5626. Chairman of the National Committee: Edward A. Ross. Chairman of the Board of Directors: Rev. John Haynes Holmes. Director: Roger N. Baldwin. Headquarters: 31 Union Square West, New York City. The Union continued during the year its practice of publicly condemning or commending proposed legislation or court decisions affecting democratic rights. The 150th anniversary of the submission of the Bill of Rights to the States was celebrated under the auspices of national and local committees. A large national conference, organized in New York, Oct. 13-14, and attended by 2500 persons, was devoted to "Civil Liberties in the Present Emergency." The radio news service throughout the year served 113 stations in 40 States with a weekly script entitled "Civil Liberty in the News." In a one-act play contest conducted in co-operation with the *One-Act Play Magazine*, a \$100 prize was awarded to Noel Houston's *According to the Law* (produced at the Provincetown Playhouse in New York) and Philo Higley's *First Free-*



dom. Dr. Harry F. Ward, chairman of the Union since its organization, resigned in 1940 because of opposition to the resolution defining qualifications for membership on the National Committee and Board of Directors. A controversy, long latent, arose in the Board of Directors over participation of Communists in the Union's affairs. At the annual meeting a resolution was adopted by the Board and the National Committee holding it "inappropriate for any person to serve on the governing committees of the Union or on its staff, who is a member of any political organization which supports totalitarian dictatorship in any country, or who by his public declarations indicates his support of such a principle." The Union had not for 20 years elected a Communist to its governing committee or staff, although two persons had joined the Communist party after their election. One was Elizabeth Gurley Flynn, member of the Board of Directors, whose resignation was requested and refused. The Board instituted proceedings to remove her, and the points at issue were submitted to the entire membership of the Union. Early returns showed 775 in favor of the Board's action with 160 opposed. Receipts for the year in all funds were \$34,343, an increase of \$4112. Four new committees were formed during the year, three in Illinois. Publications included the yearly *Story of Civil Liberty*, the *Civil Liberties Quarterly*, and a running index of all relevant magazine articles.

**Civil Service Reform League, National**, founded in 1881 to improve and extend the merit system in the public service. Membership: 3000. President: Samuel H. Ordway, Jr. Executive Secretary: H. Eliot Kaplan. Headquarters: 521 Fifth Avenue, New York City. In 1940 a nationwide Committee of Business and Industry was organized to arouse interest in the merit system. The League's field program was extended through organization of State committees and of merit-system institutes throughout the country. A fifty-dollar prize was offered to the Junior Chamber of Commerce submitting the outstanding report of merit-system activity. During the year the League was active in behalf of the Ramspeck Bill (see CIVIL SERVICE), the inclusion of national defense positions under civil service rules, and the adoption of civil service laws in several States and cities.

**Civitan International**, founded in 1918 for the building of good citizenship, curbing of crime, and elimination of tuberculosis. Membership about 10,000. President Dr. Don C. Rogers. Secretary Arthur Cundy. Headquarters: 800 Farley Building, Birmingham, Ala. For the fiscal year 1939-40 the organization reported the largest gain since its inception. Citizenship Essay Contests, conducted in public high schools, were participated in by 50,000 students, \$5000 in prizes were awarded. The international convention will be held at Chicago in June, 1941.

**Classical League, American**, formed in 1919 as a national organization for teachers of classics. Membership 4600. President: B. L. Ullman. Secretary-Treasurer: Rollin H. Tanner. New York University, New York City. The organization publishes *The Classical Outlook* and maintains a Service Bureau. It will meet (with the National Education Association) at Atlantic City, Feb. 25, 1941, and at Boston, June 30-July 2.

**Coal Association, National**. See COAL AND COKE.

**Colored People, National Association for the Advancement of**, listed under *Advancement*.

**Color Print Society, American**. See PRINTS.

**Composers and Conductors, The National Association for American**, founded in 1933 to advance the interests of the American composer, especially in relation to orchestral conductors, and to secure a hearing for serious works of merit. Membership over 500. President: Sigmund Spaeth. Headquarters: The Henry Hadley Studio, 15 West 67 Street, New York City. In addition to regular meetings and concerts, the Association sponsored in 1940 All-American programs at the Hotel des Artistes and the Macdowell Club, an orchestral concert at the Metropolitan Opera House, a memorial concert at the Academy of Arts and Letters in honor of Henry Hadley, and broadcasts of American music over stations WNYC, WQXR, and WABC. The Henry Hadley Memorial Library was established at the New York Public Library under the direction of Carleton Sprague Smith. The Henry Hadley Medal for service to American music during 1939-40 was awarded to Gene Buck, President of ASCAP. Certificates were awarded to Roy Harris, Howard Barlow, Serge Koussevitzky, F. D. Perkins, and Station WNYC.

**Composers, Authors, and Publishers, American Society of (ASCAP)**, founded in 1914 to provide American creators of musical works a co-operative movement to protect members' copyrights from unauthorized commercialization. Membership, 1200 composers and authors (155 deceased) and 136 publishers. President: Gene Buck. General Manager: John G. Paine. Headquarters: 30 Rockefeller Plaza, New York City. During 1940 Federal Courts in three jurisdictions, Nebraska, Tennessee, and Florida, sustained ASCAP's challenge of the constitutionality of the uniform anti-ASCAP law in various States aimed at outlawing ASCAP's licensing operations. The U. S. Supreme Court announced in December that it would review decisions. Many radio stations started 1941 without renewal of ASCAP licenses, radical changes in programs

resulting. Awards made during the year included eight fellowships (\$720 each) for college musical plays and awards of \$100 each in law schools throughout the country for essays on copyright law. An annual membership meeting is held, usually in April. See MONTANA; Music under *General News*.

**Composers, Inc., The League of**, founded in 1923 to further the works by living composers of all nationalities, as well as to help composers by commissions for new works and general promotion of their compositions. Executive Chairman: Mrs. Arthur M. Reis. Headquarters: 113 West 57 Street, New York City. In the 1940-41 season, the League took its first step in promoting distribution of new music on records, releasing by subscription Schonberg's "Pierrot Lunaire." Commissions were awarded to Robert Palmer and Bernard Rogers for radio and to Theodore Chanler for the Town Hall Award. The League publishes a quarterly, *Modern Music*, and conducts a program series in New York and over the air. Two programs at the Museum of Modern Art in 1940-41 featured Darius Milhaud and Music with Films.

**Consumer-Retailer Council, Inc., National**, founded in 1937 to enable consumers and retailers to work out together their mutual problems. Membership: American Association of University Women, American Home Economics Association, General Federation of Women's Clubs, American Retail Federation, National Association of Food Chains, National Retail Dry Goods Association, National Shoe Retailers Association, National Better Business Bureau, Inc. Chairman: H. W. Brightman. Executive Secretary: Roger Wolcott. Headquarters: 8 West 40 Street, New York City. Accomplishments of 1940 included an agreement by the National Association of Food Chains to adopt labels approved by the Council on certain canned fruits and vegetables, and the inauguration of an experiment in Newark, N.J., whereby local consumer and merchant groups adopted a program of informative labeling on one line of silk hosiery. Important distributors in the general merchandise field inaugurated or intensified programs of informative labeling based on the Council's recommendations. A meeting devoted to the subject of how consumers and business may co-operate in the defense program was attended by 250 representatives of consumer groups and industries. Publications of the year included *Informative Labeling*, *Informative Selling*, and *A Plan for Cooperation Between Consumers and Local Retailers*. The annual dinner meeting will be held in October, 1941, in New York City.

**Consumers League, National**, founded in 1899 to awaken consumer responsibility for conditions under which goods are made and distributed, and through investigation, education, and legislation to promote fair labor standards. Membership: 15,000, including State and National Leagues. President: Josephine Roche. Chairman of the Board of Directors: John Howland Lathrop. General Secretary: Mary Dublin. Headquarters, 114 East 32 Street, New York City.

**Consumers' Research, Inc.**, founded as the Consumers' Club in 1927 and incorporated in 1929 to provide unbiased information and counsel on goods bought by the ultimate consumer. Number of subscribers 60,000. President and Technical Director: E. J. Schlitz. Secretary: Clark C. Willever. Headquarters: Washington, N.J. *The Annual Cumulative Bulletin*, issued in September, 1940, listed over 4000 products by brand name as *Recommended*, *Intermediate*, and *Not Recommended*, and included basic reference data on consumer problems. An analysis of 1940 automobiles was issued in January, 1940.

**Consumers Union of the United States, Inc.**, founded in 1936 to test and report on consumer goods and services. Membership: 85,000. President: Colston E. Warne. Director: Arthur Kallet. Headquarters: 17 Union Square West, New York City. A two-day conference on "Science in the Service of the Consumer" was held at Massachusetts State College, June 17-18, 1940. The 1941 annual meeting will be held at the University of New Hampshire in the spring.

**Contractors of America, Inc., The Associated General**, listed under *General*.

**Control of Cancer, Inc., The American Society for**, founded in 1913 to save lives from cancer by collecting and disseminating knowledge, and to co-operate with medical groups in raising funds for indigent patients or other projects. The Society does not treat patients, nor administer hospitals, clinics, or laboratories. Membership: 700. President: Dr. John J. Morton, Jr. Secretary: Dr. Frank E. Adair. Headquarters: 350 Madison Avenue, New York City. During 1940 prizes totalling \$1875 were awarded in a poster competition. April was set aside by Congressional Resolution as Cancer Control Month, and a nationwide educational and money-raising campaign was organized and directed by the Women's Field Army of the Society. More than 175,000 women were enlisted in the Army, 10,000 lectures were delivered, 3,000,000 leaflets distributed, and 900 radio broadcasts presented. A two-reel film "Choose to Live," prepared in co-operation with the U. S. Public Health Service, was released in April and seen by an estimated 6,000,000 people during the year. The 1941 meeting is scheduled, March 1, in New York City.



**Cooperative Alliance, International.** See CO-OPERATIVE MOVEMENT.

**Cooperative League of the USA, The,** founded in 1916 as a national educational federation of consumer co-operatives devoted to the extension of the consumer co-operative movement through organization and operation of consumer-owned business enterprises. Membership: 1,115,000 members in 18 affiliated regional associations. President Dr. James P. Warbasse. General Secretary: E. R. Bowen. Headquarters: 608 S. Dearborn Street, Chicago, Ill., 167 West 12 Street, New York City; 726 Jackson Place, Washington, D.C. The 12th Biennial Congress and Silver Anniversary celebration of the founding of the League was held in Chicago, Oct. 16-18, 1940. The Washington office was opened in July. See CO-OPERATIVE MOVEMENT.

**Co-operatives.** See also under *Farmer Co-operatives and Farmers' Educational and Co-operative Union*; and the article on CO-OPERATIVE MOVEMENT.

**Cost Accountants, National Association of,** founded in 1919 for the advancement of the science of industrial accounting and the mutual self-betterment of its members. Membership: 10,000. President: V. H. Stempf. Secretary and Business Manager: S. C. McLeod. Headquarters: 385 Madison Avenue, New York City. The 1941 annual meeting will be held in New York in June.

**Cotton Manufacturers, National Association of,** founded in 1854 for service to cotton mills in the northeastern section of the United States. Membership: about 450. President: Russell T. Fisher. Headquarters: 80 Federal Street, Boston, Mass. Student Honor Medals were awarded in various textile schools in 1940.

**Credit Union National Association,** founded in 1934 to organize and service credit unions in the United States and Canada. Membership: 46 State leagues serving 2,500,000 members. President: William Reid. Managing Director: Roy F. Bergengren. Headquarters: 1342 E. Washington Street, Madison, Wis. During 1940 the Association acquired a five-acre tract on Lake Mendota, Madison, Wis., on which a national headquarters building will be erected by public subscription as a memorial to the late Edward A. Filene, founder of the credit union movement in the United States. Canadian credit unions were accepted to membership in 1940, and 1400 new unions were organized. The seventh annual meeting will be held in Jacksonville, Fla., May 1-3, 1941.

**Cruelty to Animals, The American Society for the Prevention of,** listed under *Prevention*.

**Daughters of the American Revolution, National Society,** founded in 1890 for historical, educational, and patriotic purposes. Membership: 143,115 in 2545 chapters. President General: Mrs. Henry M. Robert, Jr. Headquarters: Memorial Continental Hall, Washington, D.C. During 1940 the Society celebrated its Golden Jubilee with individual anniversary projects in hundreds of chapters. The regular program included work for the advancement of American music (begun in 1938), training for the foreign-born and reduction of illiteracy, aid to poor children and the elderly (through contributions of \$110,000 in two years), reforestation activities in co-operation with the U.S. Forest Service, education in the correct use of the flag, maintenance of a library and museum, and historical and genealogical research. Two schools are maintained by D.A.R. funds. In 1940, 356 girls and 209 boys received loan scholarships in institutions upholding American principles. During the past two years 682,492 copies of the *Manual for Citizenship* were distributed. A D.A.R. National Preview committee in New York evaluates motion pictures, and a list of pictures of merit is published in the *National Historical Magazine*. In 1939 and 1940, 4623 programs and 1615 hours of broadcasting were given over 607 different stations, furthering the historical and educational activities of the Society. The Fifth Continental Congress will be held in Washington, D.C., April 14-18, 1941.

**Defend America by Aiding the Allies, Committee to,** founded in 1940 to promote the necessary legislation and executive action to insure effective aid to Britain and other countries defending themselves against aggression. Membership: 603 national members and 780 local chapters. National Chairman Ernest W. Gibson. National Director: Clark M. Eichelberger. Headquarters: 8 West 40 Street, New York City. The organization seeks to mobilize public sentiment in support of Great Britain and her allies.

**Dental Association, American,** founded in 1859 for educational purposes. Membership: about 49,000. President: Oren A. Oliver. Executive Secretary: Gerald D. Timmons. Headquarters: 212 E. Superior Street, Chicago, Ill. A Centennial Meeting was held in Cleveland, Ohio, Sept. 9-13, 1940. The 1941 meeting will be held in Houston, Tex. See DENTISTRY.

**Dietetic Association, The American,** founded in 1917 to bring about closer co-operation among dietitians and between dietitians and workers in allied fields, and to improve conditions and raise the standard of dietary work. Membership: 4600. President: Nelda Ross. Headquarters: 185 N. Wabash Avenue, Chicago, Ill. A program in connection with defense was begun in 1940. The 1941 meeting will be held in St. Louis, October 20-24.

**Economic Association, American,** founded in 1885 to

encourage research and freedom of discussion and issue publications. Membership: 3097 members; 1318 subscribers. Headquarters: Northwestern University, Evanston, Ill. The annual meeting in New Orleans, Dec. 27-30, 1940, was devoted to current vital problems in retrospect and prospect; e.g. the Federal budget, Deficit Financing, the price level and the gold problem, the role of private investment, and economic consequences of the war. A special session commemorated the semicentennial of Alfred Marshall's *Principles*.

**Economic Entomologists, American Association of,** founded in 1889 to promote the study and to advance the science of entomology, and to publish the *Journal of Economic Entomology*, etc. Membership: 1320. President: J. R. Parker. Secretary: Ernest N. Cory. Headquarters: College Park, Md. The Eastern Branch of this Association awarded a medal and cash prize during 1940 to Raimon L. Beard for a paper entitled "The parasitic castration of *Anasa tristis* Deg. by *Trichopoda pennipes* Fabr. and its effect on reproduction." The golden jubilee was celebrated in December, 1939. The 1941 meeting will be held in San Francisco, December 27-31.

**Economic Research, National Bureau of,** founded in 1920 to encourage investigation, research, and discovery, and the application of knowledge to the well-being of mankind; and in particular to conduct exact and impartial investigations in the field of economic, social, and industrial science. Membership: 27 members of the Board of Directors. President: W. L. Crum. Headquarters: 1819 Broadway, New York City. Nine publications were issued in 1940 dealing with finance companies, consumer credit, credit practices, manufacturing output, etc.

**Economy League, The National,** founded in 1932 as a patriotic, national, non-partisan organization advocating sound Federal finance. Membership: 3500. Chairman: Ernest Angell. Executive Director: H. G. W. Sundlof. Headquarters: 280 Madison Avenue, New York City.

**Education.** See also the societies listed under *Adult Education, International Education, Kindergarten Association, Progressive Education*. For accrediting associations, see the article on UNIVERSITIES AND COLLEGES.

**Education, American Council on,** a council of national educational associations, organizations having related interests, approved educational institutions, State departments of education, and city school systems, founded in 1918 as a center of co-operation and co-ordination in the field of education. Membership: 500 organizations and institutions. President: George F. Zook. Chairman: Henry W. Holmes. Secretary: George D. Stoddard. Headquarters: 744 Jackson Place, N.W., Washington, D.C. Education and the national defense claimed the first interest of the Council in 1940. Special committees and an added staff member (Francis J. Brown of New York University) were appointed to keep in touch with swiftly moving government procedures and to serve as a clearinghouse of information to members. High officials of the War Department, the Navy Department, the Advisory Commission to the Council on National Defense, the National Resources Planning Board, and others were kept informed concerning educational resources, both of personnel and facilities. That is also true of members of the Senate and the House as legislation proceeded through conference to enactment. Frequent conferences of Council officers with government officials contributed to laws and regulations so fashioned that as far as possible the best interests of education have been conserved. The Council sought the judgments of educators in all quarters of the country and made these judgments known to officials responsible for government policy. By means of bulletins, letters, and conferences, the Council kept educators informed concerning the plans of government as those plans were being formulated. The work of the standing committees was continued during the year. The annual meeting will be held in Washington, D.C., in 1941. See EDUCATION.

**Education Association of the United States, National (NEA),** founded in 1857 to advance the interests of the teaching profession, promote the welfare of children, and foster the education of all the people. Membership: 203,429. President: Donald DuShane. Executive Secretary: Willard E. Givens. Headquarters: 1201 Sixteenth Street, N.W., Washington, D.C. A National Committee on Education and Defense was created in 1940, and offices of the following departments were established in the NEA building: National Association of Secondary School Principals; National Council for the Social Studies; American Association for Health, Physical Education and Recreation; and Classroom Teachers. Through the Activity of the Committee on Induction into Citizenship Congress named the third Sunday in May as Citizenship Recognition Day. The Personal Growth Leaflets were developed. The 1941 annual meeting will be held in Boston, June 29-July 3. See EDUCATION.

**Education by Radio, National Committee on,** founded in 1930 to act as spokesman for organized education, to act as a clearinghouse for information about educational broadcasting, and to promote the educational use of radio and co-operative radio councils. Membership: nine representatives of constituent organizations. Chairman: Dr.

Arthur G. Crane. Secretary: S. Howard Evans. Headquarters: 1 Madison Avenue, New York City.

**Electrical Engineers, American Institute of**, founded in 1884 for the advancement of the theory and practice of electrical engineering and allied subjects and maintenance of high professional standards. Membership: 17,916. Headquarters: 33 West 39 Street, New York City. The Lamme Medal was awarded in 1940 to Norman Wilson Storer for work in electrical traction. The 1941 national conventions will be held in Philadelphia, January 27-31; Toronto, June 16-20, and Yellowstone National Park, August 27-29.

**Elks, Benevolent and Protective Order of**, fraternal organization founded in 1868. Grand Exalted Ruler: Joseph G. Buch. Grand Secretary: J. Edgar Masters. Headquarters: Elks National Memorial Building, Chicago, Ill. A Commission of National Defense and Public Relations was appointed by the Grand Lodge in 1940 to co-operate in any national crisis. The 1941 annual Grand Lodge Session will be held in Philadelphia.

**Emergency Peace Mobilization.** See COMMUNISM.

**Engineering Societies.** See under *Civil Engineers, Electrical Engineers, Engineers, Mechanical Engineers, Mining and Metallurgical Engineers*

**Engineers, American Society of**, founded in 1912 to centralize all engineers in a single representative body. Membership: 22,950. President: Fred Gross. Acting Secretary: W. A. Card. Headquarters: Gross Building, Berwyn, Ill. The 1941 meeting will be held in Chicago, June 30.

**English Institute, The**, founded in 1939 to afford an opportunity for mature scholars in the field of English to meet together in a series of informal conferences and discuss questions of literary and philological research. In 1940 the Conferences were attended by 103 persons. Chairman: Prof. George Sherburn. Secretary: Prof. Rudolf Kirk, Rutgers University, New Brunswick, N.J. The second annual meeting of the Institute, in 1940, was marked by the appearance of the first number of the *English Institute Annual*, composed of papers from the first session. The 1941 session is to be held, September 8-13, at Columbia University, New York City.

**English-Speaking Union**, founded in 1920 to draw together in the bond of comradeship the English-speaking people of the world. Membership: about 15,000. Headquarters: 30 Rockefeller Plaza, New York City. Activities in 1940 included the Lord Lothian Dinner, a Geneva Benefit, Sir Evelyn Wrench's tour through the United States, adoption of Nonesuch Towns and Destroyers, establishment of an Overseas Children's Committee and a Mothers Club, and a Gracie Fields Concert.

**Engraving, American National Committee of.** See PRINTS

**Entomologists, American Association of Economic**, listed under *Economic*

**Ethers, Society of American.** See PRINTS

**Ethnological Society, American**, founded in 1842. The Society meets regularly for lectures and discussions of scientific work and problems in anthropology, and publishes a series of monographs. Membership: 247. President: Prof. Wm. D. Strong. Secretary: Dr. Cora Du Bois. Headquarters: American Museum of Natural History—New York Academy of Sciences

**Eugenics Society, Inc., American**, founded in 1926 to improve the quality of future citizens through formulation of eugenic policies, public education, and encouragement of research. Membership: 650. President: Dr. Maurice A. Bigelow. Secretary: Rudolf C. Bertheau. Headquarters: RKO Building, Rockefeller Center, New York City. The 1941 spring Conference will be held April 15-16.

**Farmer Co-operatives, National Council of**, founded in 1929 to promote the interests of and serve as a conference body for farmers' co-operatives. Membership: 55. Direct and associate organizations. President: John D. Miller. Executive Secretary: Ezra T. Benson. Headquarters: 1731 I Street, N.W., Washington, D.C. The 1941 meeting was scheduled for Washington, D.C., January 8-10.

**Farmers, Associated.** See CALIFORNIA

**Farmers' Educational and Co-operative Union of America**, founded in 1902 to secure equity, establish justice, and apply the Golden Rule. Membership: about 90,000, not including honorary members. President: James G. Patton. Secretary: J. M. Graves. Headquarters: 18 N. Klein Street, Oklahoma City, Okla. The National Convention was held at Denver, Colo., Nov. 18-20, 1940.

**Farmers of America, Future.** See EDUCATION, U.S.

#### OFFICE OF

**Fashion Group.** See FASHION EVENTS

**Federal Union, Inc.** See UNION NOW

**Fellowship Forum, American.** See DIS COMMITTEE

**Fire Protection Association, National**, founded in 1896 to promote the science and improve the methods of fire protection and prevention, to obtain and circulate information, and to secure the co-operation of its members in establishing safeguards against fire loss. Membership: 5010. President: Alvah Small. General Manager: Percy Dughee. Headquarters: 60 Battery March Street, Boston, Mass. See FIRE PROTECTION.

**Fire Underwriters, National Board of**, an educational, factual, and engineering organization founded in 1866 and supported by the capital stock fire insurance business.

Membership: 195. President: F. D. Layton. General Manager: W. E. Mallalieu. Headquarters: 85 John Street, New York City. The 1941 meeting will be held May 22 in New York City. See FIRE PROTECTION; INSURANCE.

**Foreign Born, American Committee for Protection of**, listed under *Protection*.

**Foreign Policy Association, Inc.**, founded in 1918 to carry on research and educational activities to aid in the understanding and constructive development of American foreign policy. Membership: 18,400. President: Frank Ross McCoy. Secretary: Dorothy F. Leet. Headquarters: 22 East 38 Street, New York City. The Association publishes a weekly *Bulletin* including the *Washington News Letter*; semi-monthly *Foreign Policy Reports* and *Pan American News*, and *Headline Books*. The annual meeting will be held in October, 1941. Discussion luncheons are scheduled periodically at the Hotel Astor, New York City.

**Foreign Relations, Inc., Council on**, founded in 1917 to study the international aspects of America's political, economic, and financial problems. Membership: 500. President: Norman Davis. Executive Director: Walter H. Mallory. Headquarters: 45 East 65 Street, New York City. The Council publishes a quarterly review, *Foreign Affairs*, and two annuals, *The United States in World Affairs* by Shephardson and Scroggs and *The Political Handbook of the World*.

**Foresters, Society of American**, founded in 1900 to represent, advance, and protect the interests and standards of the profession of forestry and to provide a medium for the exchange of professional thought. Membership: 4708. President: Dr. Clarence F. Korstian. Executive Secretary: Henry E. Clepper. Headquarters: Mills Building, Washington, D.C. The 40th anniversary of the founding of the Society was observed at a meeting of 550 members and guests, held in Washington, D.C., Dec. 19-21, 1940. The 1941 meeting will be held in Jacksonville, Fla., December 18-20.

**Forestry Association, American**, founded in 1875 for the advancement of intelligent management and use of the country's forests and related resources of soil, water, wildlife, and outdoor recreation. Membership: 14,000. President: W. S. Rosecrans. Executive Secretary: Ovid Butler. Headquarters: 919-17th Street, N.W., Washington, D.C. The 1941 meeting will be held in Los Angeles, April 15-17.

**Fraternal Congress of America, National**, founded in 1886 to unite all fraternal benefit societies of America for mutual improvement and concert of action. Membership: 86 societies. President: Alexander O. Benz. Manager: Foster F. Farrell. Headquarters: 35 E. Wacker Drive, Chicago, Ill. The 1941 meeting will be held September 22-25.

**French Chamber of Commerce of the United States, Inc.**, founded in 1896 to foster commercial relations between France and the United States. Membership: about 1000. President: Pierre C. Cartier. Executive Secretary: Firmin Guégo. Headquarters: 5 East 52 Street, New York City. The annual meeting was scheduled, Jan. 30, 1941.

**Future Farmers of America.** See EDUCATION, U.S.

#### OFFICE OF

**Garden Club of America**, founded in 1913. Membership: about 8000. Secretary: Mrs. Hermann G. Place. Headquarters: 598 Madison Avenue, New York City. The 1941 meeting will be held in Rochester, N.Y., in May.

**Gas Association, American**, founded in 1918 by holding companies, gas operating companies, manufacturers of gas appliances and equipment, and individuals. Membership: 5300. President: T. J. Strickler. Managing Director: Alexander Forward. Headquarters: 420 Lexington Avenue, New York City. In 1940 the Charles A. Munroe Award was granted to Herman Russell, President of the Rochester (N.Y.) Gas and Electric Corporation, and the Beal Medal to Raymond F. Hadley of Philadelphia for his paper, "Studies in Microbiological Anaerobic Corrosion." The 1941 annual convention will meet in Atlantic City in October, and the Natural Gas Section at Dallas, May 5-8. See GAS INDUSTRY.

**General Contractors of America, Inc., The Associated**, a trade association founded in 1918. Membership: 2535. President: M. W. Watson. Managing Director: H. E. Foreman. Headquarters: Munsey Building, Washington, D.C. The annual convention will be held at Houston, Texas, Feb. 17-20, 1941. A G.C. members performed a large portion of the National Defense Construction Program initiated in 1940.

**Geographical Society, American**, a research institution founded in 1852. Membership: 3101. President: Roland L. Redmond. Director: Dr. John K. Wright. Headquarters: Broadway at 156 Street, New York City. During 1940 the Society published *Inner Asian Frontiers of China* by Owen Lattimore; *Environment and Conflict in Europe: Eighteen Basic Maps*, and nine sheets of the great map of Hispanic America, bringing the number to 97 out of a total of 107 sheets. The Cullum Geographical Medal for 1940 was awarded to Dr. Robert Cushman Murphy and the Charles P. Daly Medal to Prof. Carl O. Sauer.

**Geographical Society, Royal**, founded in 1830 for the advancement of geographical science. Membership: circa

6000. President: Field Marshal Sir Philip Chetwode. Secretary: Arthur R. Hinks. Headquarters: Royal Geographical Society, Kensington Grove, London, S.W. 7. The Founder's Medal was awarded in 1940 to Mr. and Mrs. Harold Ingrams, the Patron's Medal to Lieut. Alexander R. Glen, and the Victoria Medal to Mr. O. G. S. Crawford. The Society publishes the monthly *Geographical Journal*, technical publications, and maps.

**Geographic Society, The National**, founded in 1888 for the increase and diffusion of geographic knowledge. Membership: 1,100,000. President: Gilbert Grosvenor. Secretary: George W. Hutchison. Headquarters: 1146 Sixteenth Street, Washington, D.C. During the year The Society co-operated with the Smithsonian Institution in sending an archeological expedition to the States of Veracruz and Tabasco, Mexico. Under the leadership of Matthew W. Stirling, the party uncovered five colossal heads and other monuments of a great pre-Columbian civilization. Dr. Joseph P. Connolly and James D. Bump served as leaders of the National Geographic Society-South Dakota School of Mines paleontological expedition to the Badlands of South Dakota. See *EXPLORATION*. Dr. Irvine C. Gardner led the National Geographic Society-National Bureau of Standards eclipse of the sun expedition to Patos, Brazil. On October 1, a program of tests with radio signals to determine the behavior, during total eclipses, of ionized layers in the upper atmosphere was successfully completed. Photographs were made of the four times of apparent contact of the sun and moon, of the inner corona, and of the flash spectrum. In addition to its official publication, the *National Geographic Magazine*, the Society published "An Initial Series from Tres Zapotes, Veracruz, Mexico," a monograph in its series of *Contributed Technical Papers*.

**German-American Bund**. See *DISE COMMITTEE*; *FASCISM*.

**Girl Scouts, Inc.**, founded in 1912 to help girls develop as good citizens and resourceful people through group self-government and activities in the following fields: home-making, arts and crafts, nature, the out-of-doors, literature and dramatics, community life, international friendship, sports and games, health and safety, music and dancing, and vocational exploration. Membership: 628,948. President: Mrs. Harvey S. Mudd. National Director: Mrs. Paul Rittenhouse. Headquarters: 14 West 49 Street, New York City. Girl Scout Anniversary Week was celebrated March 12-18, 1940, and Girl Scout Week, October 27 to November 2. The Western Hemisphere Encampment (August 14-18) was attended by 22 girls from American countries outside the United States and by 82 girls from the United States. In the summer of 1940 the Girl Scout national headquarters suggested that all local Girl Scout groups co-ordinate their service and citizenship activities by setting up special citizenship bureaus. Many councils have established such bureaus and Girl Scouts throughout the country are renewing their traditional emphases on practical citizenship problems and preparation for any emergency. The 1941 convention will be held at Dallas, Tex., October 19-25.

**Governors' Conference**. See under *State Governments* below.

**Grange, The National**, an Order formed in 1867 to give to the American farmer better social and educational opportunities, economic betterment, and higher spiritual and patriotic idealism. Membership: 800,000. Master: Louis J. Taber. Secretary: Harry A. Caton. Headquarters: Peoples Life Building, Washington, D.C., and 970 College Avenue, Columbus, Ohio. During 1940 the Grange added 400 Juvenile, Subordinate, and Pomona Granges and a new State Grange in Wyoming, making a total of 8000 Subordinate Granges and 37 organized States. In legislation it was active in supporting the Truth-in-Fabrics Bill, the Walter Logan Bill, and legislation to promote national defense. Accomplishments in co-operative activities added to the farmer's income through patronage, dividends, and better prices. The National Grange Session will convene at Boston, Mass., in 1941, the Diamond Jubilee year of the organization.

**Group Health Association**. See *MEDICINE AND SURGERY*.

**Hadassah, Inc.**, The Women's Zionist Organization of America, founded in 1912 to foster Zionist ideals in America through Jewish education and to conduct activities in Palestine which include promotion of public health, land redemption and afforestation, and immigration and colonization through Youth Aliyah. Membership 94,000. President: Mrs. David de Sola Pool. Executive Secretary: Miss J. N. Leibel. Headquarters: 1860 Broadway, New York, N.Y. Events of 1940 included contributions to the Jewish National Fund in January and the celebration of Hadassah's 28th birthday, the 80th birthday of Theodore Herzl founder of Zionism, and the birthday of Miss Henrietta Szold, Honorary President. Membership week was observed November 8-15 and National Education Day at Hunter College, New York City, December 3. The 29th Annual Convention will be held in October, 1941.

**Health**. See under *Group Health*; *Public Health*.  
**Henry George School of Social Science**, founded in 1933 to teach the philosophy of Henry George. Membership: hundreds of volunteer instructors throughout the

country and over 20,000 graduates. Director: Frank Chodorov. Headquarters: 30 East 29 Street, New York City. Classes are held, not only in the headquarters building, but in public buildings, Y.M.C.A. and church buildings, homes, offices, etc.; 3000 students were graduated in 1940.

**Highway Users Conference, National**, a fact-finding, information-giving, co-ordinating agency of national groups of motor vehicle users, founded in 1932 to bring about taxation and regulation policies that will insure to the public the maximum benefits of highway facilities. Membership: 27 national organizations. President: Alfred P. Sloan, Jr. Director: Chester H. Gray. Headquarters: 938 National Press Building, Washington, D.C.

**Hispanic Society of America**. See separate article.

**Holland Society of New York**, founded in 1885 for historical and genealogical work. Membership: limited to 1000 annual members. President: Arthur R. Wendell. Secretary: Frank H. Vedder. Headquarters: 90 West Street, New York City. At the annual banquet, Nov. 14, 1940, a gold medal was awarded to Henry Ford for eminence in scientific manufacturing beneficial to all mankind. The 1941 annual meeting will be held April 7.

**Home Economics Association, American**, organized in 1908 for development and promotion of standards of home and family life that will best further individual and social welfare. Membership: 15,180 individuals, 2345 student clubs, and six groups of homemakers. President: Gladys Branagan. Executive Secretary: Edna Van Horn. Headquarters: 620 Mills Building, Washington, D.C. During 1940 the Association adopted a basic platform for consumer-business relations, and undertook to compile a complete directory of home-economics trained women for use in emergency service. Progress was made in a program to promote standardization of and specification for consumer goods and to encourage the use of informative selling. Six international fellowships were awarded to young women from Argentina, China, and Peru. The Borlen Award was granted to Dr. Henry C. Sherman. The 1941 meeting will be held in Chicago, June 22-26.

**Hospital Association, American**, founded in 1899 to promote the welfare of the people through the development of hospital and out-patient service. Membership: 2854 institutions and 2296 individuals. President: Dr. Basil C. MacLean. Treasurer: Asa S. Bacon. Headquarters: 18 Division Street, Chicago, Ill. In 1940 the Award of Merit was granted to Dr. S. S. Goldwater. The National Hospital Day Certificates of Award went to St. Luke's Hospital, Milwaukee, Wis., and the Goldsboro Hospital, Goldsboro, N.C. The 43d Annual Convention will be held Sept. 15-19, 1941, in Atlantic City, N.J.

**Housing Conference, National Public**, listed under *Public*.

**Humane Association, The American**, founded in 1877 for the prevention of cruelty to children and animals. Membership: 11,000. President: Sydney H. Coleman. General Manager: Eric H. Hansen, 135 Washington Avenue, Albany, N.Y. The 13th annual Humane Trap Contest, held in 1940, brought in 150 entries. A poster and a photographic contest were also conducted. The 1941 meeting will be held in Hollywood, Calif., October 20-24.

**Hygiene**. See under *Mental Hygiene*; *Social Hygiene*.  
**Industrial Conference Board, Inc.**, The National, founded in 1916 for scientific research, professional education, practical service, and public information in the field of business economics and business management. President: Dr. Virgil Jordan. Secretary: Fairfield E. Raymond. Headquarters: 247 Park Avenue, New York City.

**Industrial Democracy, League for**, founded in 1905 with the purpose of education for a new social order based on production for use and not for profit. Membership: 2000. President: John Dewey. Executive Director: Harry W. Laidler. Headquarters: 112 East 19 Street, New York City. The League celebrated its 35th anniversary in New York, Nov. 28, 1940. Meetings scheduled in 1941 include a conference on Defense of Living Standards, February 15, and a June Conference in New York.

**Industrial Relations Counselors, Inc.**, established in 1926 to advance the knowledge and practice of human relationships in industry, commerce, education, and government. Director: T. H. A. Tiedemann. Headquarters: 1270 Sixth Avenue, New York, N.Y. The organization conducts research, offers a consulting service, mainly for industrial corporations, and maintains a specialized industrial-relations library and an information service. Fifteen volumes and four monographs were published by the close of 1939.

**International Education, Institute of**, a non-membership organization, founded in 1919 to increase international understanding through interchange of students, circuiting of lecturers, teacher and librarian exchanges, and publication of books, pamphlets, and a *News Bulletin*. The Institute serves as a general clearing house of information in its field. Director: Stephen Duggan. Headquarters: 2 West 45 Street, New York City. For the academic year 1940-41, 220 fellowships and scholarships were awarded for study at United States colleges and universities and 28 for Americans at foreign universities. Events of 1940 included expansion of cultural relations with Latin America and increased assistance for displaced foreign scholars.

**Investment Bankers' Association.** See **FINANCIAL REVIEW** under *Financial Regulation*.

**Iron and Steel Institute, American,** founded in 1908 to promote the interests of the industry. Membership: about 1800. President: Walter S. Tower. Secretary: G. S. Rose. Headquarters: 350 Fifth Avenue, New York City. The Institute's medal was awarded in 1940 to James E. Loe, Vice-President of the Carnegie-Illinois Steel Corporation. The 49th General Meeting was held in New York, May 23, 1940.

**Jewish Welfare Board.** See separate article.

**Junior Leagues of America, Inc., Association of the,** founded in 1921 to unite the 150 local Junior Leagues and through them to educate their members for effective volunteer service in community agencies and for shaping social programs. Membership: 34,000. President: Mrs. George V. Ferguson. Executive Secretary: Mrs. DeForest Van Slyck. Headquarters: Hotel Waldorf-Astoria, New York City. The 1941 annual conference was scheduled in St. Louis, January 27 to February 1.

**Kindergarten Association, National,** founded in 1909 to help secure the advantages of kindergarten education for all the nation's children. Membership varies from 2245 to 8000. President: Maj. Bradley Martin. Executive Secretary: Miss Bessie Locke. Headquarters: 8 West 40 Street, New York City. As a result of the work done by the Association 83 new kindergartens were opened in 1940. Five new leaflets were distributed. The annual meeting is held at the national headquarters in January.

**King's Daughters and Sons, International Order of the,** in 1886 "for the development of spiritual life and stimulation of Christian activities." Membership: 53,446. President: Mrs. Henry S. Eley. Secretary: Mrs. Claude E. Leher. Headquarters: 144 East 37 Street, New York City. The General Convention met in Oakland, Calif., in June, 1940. The next meeting is scheduled to be held in Jackson, Miss., in 1942. The Central Council will meet in Chautauqua in August, 1941.

**Kiwanis International,** founded in 1915 to unite community leaders in each business and profession for civic, social, and welfare service to their towns. Membership: 110,000 (2131 clubs). President: Mark A. Smith. Acting Secretary: George W. Kimball. Headquarters: 520 N. Michigan Avenue, Chicago, Ill. The organization observed its 25th anniversary in 1940. Over 29,000 community service activities were completed in the fields of aid to underprivileged children, vocational assistance, urban-rural relations, conservation, safety, aid to youth, etc. The 1941 annual convention will be held in Atlanta, June 15-19.

**Knights of Pythias,** a fraternal organization founded in 1864. Membership: 350,000. Supreme Chancellor: Ray O. Garber. Headquarters: 1054 Midland Bank Building, Minneapolis, Minn. The Supreme Lodge meets biennially, the next meeting being in 1942.

**Ku Klux Klan, Inc., Knights of the,** founded in 1915 to organize a solid block of native-born, white, Protestant, Gentile Americans for the purpose of promoting under oath the following principles: the tenets of the Christian religion; white supremacy; protection of pure womanhood; just laws and liberty, closer relationship of pure Americanism; upholding of the Constitution of the United States; sovereignty of State rights; separation of Church and State, freedom of speech and press; closer relationships between Capital and Labor, preventing the causes of mob violence and lynchings, preventing unwarranted strikes by foreign labor agitators; prevention of fires and destruction of property of lawless elements; limitation of foreign immigration; much needed local reforms; law and order. Membership: over 5,000,000. Imperial Wizard (President): James Arnold Colcott. Imperial Kligrapp (Secretary): James M. George. Headquarters: 3155 Roswell Road, Atlanta, Ga. In 1940 Klan leaders who refused to drop anti-practices and adhere to the program of pro-Americanism were eliminated. A unified national program, as announced by the Imperial Wizard in June, 1939, was adopted. See **FASCISM**; **GEORGIA**.

**Labor Legislation, American Association for,** an organization of socially minded economists, lawyers, journalists, labor leaders, and employers, founded in 1906 to attack needless industrial evils from the general welfare viewpoint. It functions as the American arm of the International Association for Social Progress, formed in 1925. President: Joseph P. Chamberlain. Secretary: John B. Andrews. Headquarters: 131 East 23 Street, New York City. In 1940 a special report on Labor Law Administration in North Carolina was issued, and the quarterly *American Labor Legislation Review* completed its 30th year of publication. The 34th Annual Meeting was held in Chicago, Dec. 27-30, 1940, several sessions being held jointly with the American Political Science Association, the American Statistical Association, and the American Sociological Society. See **LABOR LEGISLATION**.

**Law Institute, The American,** founded in 1923 to promote the clarification and simplification of the law and its better adaptation to social needs, to secure the better administration of justice, and to encourage and carry on scholarly and scientific legal work. Membership: 750. President: George Wharton Pepper. Director: William Draper Lewis. Headquarters: 3400 Chestnut Street, Philadelphia,

Pa. The annual meeting will be held in Washington, D. C., May 6-9, 1941. See **CHILDREN'S BUREAU**; **PRISONS, PAROLE, AND CRIME CONTROL**.

**League of Nations Association, Inc.,** founded in 1923 to teach the need for the co-operation of all nations in building an international organization as the essential basis of peace. Membership: 10,000. President: Dr. Frank G. Boudreau. Director: Clark M. Elchelberger. Headquarters: 8 West 40 Street, New York, N.Y. During 1940 the Association co-operated with the Commission to Study the Organization of Peace in a series of 15 weekly broadcasts over CBS, entitled "Which Way to Lasting Peace?" and in simultaneous student discussions of issues raised in the programs, awards were given for the best recommendations sent by study groups. The 14th national high school examination contest was held Apr. 12, 1940; 1210 schools competed and a first prize of \$500 was awarded in lieu of the usual trip to Europe.

**Legal Aid Organizations, National Association of,** founded in 1911 as a central body to promote legal aid work and organizations, and to co-operate with the judiciary, the bar, and all organizations interested in the administration of justice. Membership: 48 organizations. President: John S. Bradway. Secretary: Emery A. Brownell. Headquarters: 25 Exchange Street, Rochester, N.Y. During 1940 new legal aid organizations were established in Plainfield, N.J., Portland, Me., Stockton, Calif., and Vancouver, B.C. Other important events included the formation of a Committee on Legal Aid Teaching by the Association of American Law Schools and formation of a Legal Aid Clinic at Vanderbilt University, Nashville, Tenn. Publications of the year pertained to forms of organizations and legal aid records and standards, and included also a bibliography.

**Legion of Decency, National,** founded in 1934 to review and morally evaluate current entertainment motion pictures. Membership of the Episcopal Committee on Motion Pictures: 5. Executive Secretary: The Rev. John J. McClafferty. Headquarters: 485 Madison Avenue, New York City.

**Legislators' Association, American.** See under *State Governments* below.

**Library Association, American (A.L.A.),** founded in 1876 to provide complete and adequate library coverage for the United States and Canada. Membership: 16,000. President: Charles H. Brown. Executive Secretary: Carl H. Milam. Headquarters: 520 N. Michigan Avenue, Chicago, Ill. During 1940 the association was reorganized through revision of its constitution and by-laws. It directed a Rockefeller Foundation grant for a three-year project providing American books for selected popular libraries in Denmark, Eire, England, Finland, France, the Netherlands, Norway, Sweden, and Switzerland, and a grant for a three-year project covering work and studies on library co-operation with Latin-America; adopted a policy statement on "Libraries and the war in Europe"; co-operated with other groups in behalf of national defense and democracy; increased library service through help from State and national aid; issued two new quarterly *College and Research Libraries* and *The Hospital Book Guide* along with many professional bulletins, books, and pamphlets and book lists, continued work for Federal aid legislation; conducted several library surveys; and administered various foundation grants of funds for books, libraries and library training in United States and Canada. The Newbery Award was granted in 1940 to James Daugherty for *Daniel Boone*; Caldecott Award to Ingri and Edgar Parin d'Aulaire for *Abraham Lincoln*; Library Publicity Honor Roll to 52 libraries and four editors; Honorary Membership to Dr. Frank Pierce Hill and Dr. Herbert Putnam. See **LIBRARY PROGRESS**.

**Library Association, The,** founded in 1877 (incorporated by Royal Charter in 1898) to unite all persons engaged or interested in libraries, hold examinations and maintain a professional register, promote the establishment of public libraries, encourage bibliographical study, publish journals, and hold conferences. Membership: 6250. President: Arundell Esdaile. Secretary: P. S. J. Welford. Headquarters: Chaucer House, Malet Place, London, W.C.1. The Association's Carnegie Medal for an outstanding children's book published in Great Britain during 1939 was awarded to Miss Eleanor Dooley for *The Radium Woman*. Plans for the 1941 meeting were in abeyance during temporary international inconvenience.

**Lions Clubs, International Association of,** founded in 1917 as a national organization for local Lions Clubs, which are composed of representative business and professional men interested in the development of their communities. Membership: 138,000. President: Karl M. Sorrick. Secretary-General: Melvin Jones. Headquarters: 332 S. Michigan Avenue, Chicago, Ill. Activities are grouped under eight headings: boys and girls; citizenship and patriotism; civic improvements; community betterment, education; health and welfare; safety; sight conservation and the blind. Under the last-named program, 14,811 pairs of eyeglasses were donated to the needy and 7515 copies of the *Lions Juvenile Braille Magazine* were distributed. In the field of citizenship and patriotism, Lions Clubs featured in 1940 community-wide discussions, recruiting for

navy fliers and other units, co-operation with the FBI against Fifth Column activities, and establishment of National Guard units. The 25th annual convention will be held in New Orleans, July 22-25, 1941.

**Lumber Manufacturers Association, National.** See FORESTRY.

**Management Association, Inc., American,** founded by a merger of predecessor organizations in 1923 to provide executives of commercial and industrial companies with a means of exchanging information on management policies and techniques. Membership: 4000. Headquarters: 330 West 42 Street, New York City. Meetings scheduled for 1941 included the Financial Management Conference, New York City, January 22-23; Conference for Personnel Executives, Chicago, February 12-14; Packaging, Packing, and Shipping Conference, Chicago, April 1-4; Conference for Marketing and Sales Executives, New York City, April; Insurance Conference, Atlantic City, May; and meetings for Production and Office Management Executives.

**Manufacturers, National Association of (N.A.M.),** an organization of individuals, firms, and corporations engaged in manufacturing, founded in 1895 with the following general objectives: (1) the promotion of the industrial interests of the United States; (2) the fostering of the domestic and foreign commerce of the United States; (3) the betterment of the relations between employers and their employees; (4) the protection of the individual liberty and rights of employer and employee; (5) the dissemination of information among the public with respect to the principles of individual liberty and ownership of property; (6) the support of legislation in furtherance of those principles and opposition to legislation in derogation thereof. Membership: 7000. President: H. W. Prentiss, Jr. Secretary: Noel Sargent. Headquarters: 14 West 49 Street, New York City. The Association has a number of standing committees and advisory groups. The Committee on Agricultural Co-operation strives to gather unbiased, impartial facts upon which American businessmen can build a better understanding of the farm situation. The Committee on Economic Policy works in the entire basic field covered by the TNEC investigation. The Committee on Economic Security analyzes existing social security legislation and considers all new proposals, non-governmental as well as governmental, for the promotion of economic security. Under the sponsorship of the Employment Relations Committee of the N.A.M. a two weeks Institute on Employment Relations was held in conjunction with the University of Vermont in Burlington, Vt., Aug 19-30, 1940. This Committee has published *Workers over Forty, What Employees Think*, and *Model Employment Procedures*. The Committee on Study of Depressions has issued two special reports on the depression problem. The Committee on National Defense and Industrial Mobilization was formed to help the Government organize the nation's industrial resources in the interests of national defense. Under the sponsorship of the Committee on Patents and Research 19 national awards and 565 local awards were given in 1940 in the field of invention at patent dinners held in various cities of the country. In addition, the Association has been sponsoring the most widespread and complete program ever undertaken by organized industry to tell its story to the public through the National Industrial Information Committee.

**Masons.** See article on FREEMASONRY.

**Mathematical Society, American,** founded in 1888 for the promotion and publication of research in mathematics. Membership: 2300. President: Prof. Marston Morse. Secretary: Prof. J. R. Kline. Headquarters: Low Memorial Library, Columbia University, New York City. In 1940 a new international abstracting journal was established, the monthly *Mathematical Reviews*. A War Preparedness Committee was active. Meetings in 1941 will be held in New York City in February, Washington in May, and Chicago in September.

**Mayors, United States Conference of,** founded in 1932 as a clearing house for American cities on problems of municipal government. Membership: 190 cities over 50,000 in population. President: Mayor F. H. LaGuardia. Executive Director: Paul V. Betters. Headquarters: 730 Jackson Place, Washington, D.C.

**Mechanical Engineers, The American Society of,** founded in 1880 to promote mechanical engineering and allied arts and sciences. Membership: 15,000. President: William A. Hanley. Headquarters: 29 West 39 Street, New York City. The 60th anniversary of the Society was celebrated in 1940. It participated in the national defense program through public meetings devoted to ordnance manufacture discussion, committee service in research and standardization, and the assembly of records of individual members available for key positions in the defense program. At the annual meeting, Dec. 4, 1940, the A.S.M.E. Medal was awarded to Charles F. Kettering; the Holley Medal to Edwin H. Armstrong (radio communication); the Warner Medal to William Benjamin Gregory (hydraulic engineering); the Melville Medal to Carl A. W. Brandt for his paper "The Locomotive Boiler"; and the Pi Tau Sigma Award to George A. Hawkins (high-pressure steam research). Meetings are scheduled to be held

in Atlanta, Apr. 1-3, 1941; Kansas City, June 16-20; Louisville, October 12-15, and New York City (annual meeting), December 1-5.

**Medical Association, American,** founded in 1847 to promote the science and art of medicine and the betterment of public health. Membership: 117,163. President: Frank H. Lahey. General Manager: Olin West. Headquarters: 535 N. Dearborn Street, Chicago, Ill. The Distinguished Service Medal and Citation for distinguished service in the science or art of medicine was awarded, June 10, 1940, to Dr. Chevalier Jackson of Philadelphia. The Association will meet in Cleveland, Ohio, June 2-6, 1941. See MEDICINE AND SURGERY.

**Medical Association, Canadian,** founded in 1867 and interested in all matters concerning the practice of medicine. Membership: 5000. President: Gordon Fahrni. General Secretary: T. C. Routley. Headquarters: 184 College Street, Toronto, Canada. In 1940 the federation of all the Provincial Medical Associations in Canada as divisions of the Canadian Medical Association was completed. The Association will meet in Winnipeg, June 23-27, 1941.

**Mental Hygiene, Inc., The National Committee for,** founded in 1909 to promote interest and action throughout the United States in the prevention and control of mental illness and the conservation of mental health. Membership: 770. President: Dr. Adolf Meyer. Medical Director: Dr. George S. Stevenson. Associate Secretary: Paul O. Komora. Headquarters: 1790 Broadway, New York City. During 1940 the President and Medical Director became members of a planning committee to administer the Hogg Foundation, established under a grant of two and one-half million dollars to the University of Texas for mental health work in that State. The 1941 meeting of the National Committee is to be held in New York City the second Thursday in November.

**Meteorological Society, American,** founded in 1919 for the advancement and diffusion of knowledge of meteorology (including climatology) and its application to public health, agriculture, engineering, transportation, and other forms of industry and commerce. Membership about 1300. President: F. W. Reichelderfer. Secretary: Charles F. Brooks. Headquarters: Blue Hill Observatory, Milton, Mass.

**Mining and Metallurgical Engineers, American Institute of,** founded in 1871 to promote the arts and sciences connected with the production of useful minerals and metals and the welfare of those employed in these industries. Membership: 10,697. President: John R. Suman. Secretary: A. B. Parsons. Headquarters: 29 West 39 Street, New York City. The James Douglas Medal was awarded in 1940 to Louis D. Ricketts, the Lucas Medal to E. DeGolyer, the Hunt Medal to Axel Hultgren and Gosta Phragmen, and the Johnson Award to P. V. Martin. The 1941 annual meeting was scheduled February 17-20 in New York City.

**Mining Congress, The American,** founded in 1898 to advance the welfare of all branches of the mining industry, foster safer and more efficient methods of production, and represent the industry in governmental matters. Membership: 9000. President: Howard I. Young. Secretary: Julian D. Conover. Headquarters: 309 Munsey Building, Washington, D.C. The Annual Coal Convention and Exposition will be held in Cincinnati, Apr. 28 to May 2, 1941, the Metal Mining Convention and Exposition in San Francisco, Sept. 29 to Oct. 2, 1941, and the annual business meeting in Washington, Jan. 14, 1941.

**Modern Language Association of America,** organized in 1883 to promote literary and linguistic research in all the fields of the Modern Languages and Literatures. President: Karl Young. Headquarters: 100 Washington Square, New York City. During 1940 the Association published ten books. The 1941 meeting will be held in Indianapolis during the Christmas holidays.

**Modern Woodmen of America,** a fraternal life insurance society formed in 1883. It furnishes legal reserve life insurance to men, women, and Junior members. Membership: 425,000. President: Oscar E. Aleshire. Secretary: J. G. Ray. Headquarters: Rock Island, Ill. The 1941 national convention or Head Camp will be held in June.

**Museums, American Association of,** founded in 1906 to help museums solve their problems and increase their usefulness. Membership: 1100. President: Clark Wissler. Director: Laurence Vail Coleman. Headquarters: Smithsonian Institution, Washington, D.C. The Association has two major functions—long range work that shapes broadly the course of museum development and direct and immediate usefulness to museums. The former program was practically finished in the 1940 fiscal year with the publication of a three-volume critical study by Laurence Vail Coleman, *The Museum in America*, and the Association turned to the application of its years of study. Effort to add to the membership resulted in the largest income from that source in the history of the Association. A new regional group, the Washington State Museum Conference, was organized. The Carnegie Corporation increased the amount of its support for general purposes from \$10,000 to \$12,500 annually. *The Museum News* completed its 17th annual volume. In the spring of 1940, Mr. Henry W. Kent, Secretary of the Metropolitan Museum of Art, pro-

vided for an award to be made from time to time for distinguished service to the cause of museum education. The first award was made to the Association's Director at the 35th annual dinner in Detroit, May 24. The 1941 meeting will be held in Columbus, Ohio, in May.

**Music.** See organizations listed under *Advancement of Music and Composers*; also, the article on *Music*.

**Music Appreciation, National Committee for.** See *MUSIC*.

**Music Clubs, National Federation of,** founded in 1898 to bring into working relation with one another organizations and individuals associated with musical activity, to aid musical education and develop and maintain high musical standards throughout America. Membership: 4700 clubs. President: Mrs. Vincent H. Ober. Secretary: Mrs. W. A. Goforth. Publication Offices: 320 Wait Avenue, Ithaca, N.Y. The Stillman Kelley Scholarship Fund for talented children who cannot afford to study was created in 1940 and the first award was made to David Smith of Cincinnati. A plan of motion-picture awards for musicians and composers in the films was adopted, and preliminary work was done on the biennial awards of \$1000 each to three winners in Young Artist Contests. A nationwide Loyalty Through Music Crusade was launched to meet the need for rearsoused patriotism. The next biennial convention will be held in Los Angeles, June 19-25, 1941.

**Music Council, Inc., National,** organized in April, 1940, to provide a forum for the discussion of problems affecting national music life, to speak with one voice for music in the United States, to provide for an interchange of musical information, to encourage the co-ordination of the efforts of musical organizations, to conduct surveys of important problems, to encourage the development of the art of music, and to foster the highest ethical standards in it. Membership: 26 nationally active associations. President: Edwin Hughes, 338 West 89 Street, New York City. Secretary: Franklin Dunham. Meetings are to be called in New York City at least twice a year.

**Mutual Savings Banks, National Association of,** founded in 1920 to represent mutual savings banks of the United States. Membership: 12,000 officers and trustees. President: Myron F. Converse. Executive Secretary: John W. Sandstedt. Headquarters: 60 East 42 Street, New York City. The year 1941 will mark the 125th anniversary of the mutual savings bank system. At the end of 1940 these banks were serving the greatest number of depositors and holding the greatest total of deposits in their history. The annual conference of the Association will be held in Philadelphia, Apr. 30 to May 2, 1941.

**Nature Association, American,** founded in 1922 to stimulate public interest in every phase of Nature and the out-of-doors, and to further the practical conservation of the great natural resources of America. Membership: 70,000. President: Arthur Newton Pack. Secretary: Richard W. Westwood. Headquarters: 1214 16th Street, N.W., Washington, D.C. During 1940 the Association conducted and published the results of two studies: a survey of roadside conditions in Florida and a study of conservation education in the schools under a special endowment of the American Nature Association to Cornell University. Legislation of constructive character looking to the conservation of natural resources was actively supported.

**Netherland-America Foundation, Inc., of Holland House,** founded in 1921 to deepen understanding and friendship between the Netherlands and the United States through educational and cultural channels. Membership: 125. President: Thomas J. Watson. Secretary: Harold de Wolf Fuller. Headquarters: 10 Rockefeller Plaza, New York City. The annual meeting is held the third Tuesday in January. During 1940 the Foundation presented, in association with Holland House, a concert of Contemporary Dutch Music and several art exhibitions.

**Newspaper Publishers Association, American,** founded in 1887 to foster and protect the interests of the newspaper publishing business. Membership: 456. President: John S. McCarrens. Secretary: Norman Chandler. Headquarters: 370 Lexington Avenue, New York City. The 1941 meeting will be held in New York City, April 22-24.

**No Foreign War Committee,** founded in December, 1940, to keep America out of foreign war. Chairman: Verne Marshall. Treasurer: Robert A. Lancaster. Headquarters: 100 East 42 Street, New York City.

**Numismatic Society, The American,** founded in 1858 for the collection, preservation, and study of coins, medals, and decorations of all countries. Membership: 443. President: Edward T. Newell. Secretary and Curator: Sydney P. Noe. Headquarters: Museum at Broadway and 156th Street, New York City. During 1940 an exhibition was held of the collection of Architects' Medals presented to the Society by Mr. and Mrs. Robert J. Eidlitz. Meetings are held at the Museum on the second Saturday in January, April, and November.

**Nurses' Association, American,** founded in 1896 to promote the professional and educational advancement of nurses, to elevate the standard of nursing education, and to establish and maintain a code of ethics among nurses. Membership: 166,286. President: Julia C. Stimson, R.N. Secretary: Mrs. Mary A. Hickey, R.N. Headquarters: 1790 Broadway, New York City. During 1940 sections

for Men Nurses and General Staff Nurses were created, and the Association co-operated in the activities of the Nursing Council on National Defense. Studies were made in the interest of placement service and vocational counseling, organization and program of professional registries, service in small hospitals, shorter hours (with special reference to private duty nurses), and the status of subsidiary workers with regard to the care of the sick. The next Biennial Convention will be held in Chicago in May, 1942, in conjunction with the National League of Nursing Education, and the National Organization for Public Health Nursing.

**Odd Fellows, Independent Order of,** a fraternal organization founded in 1819 to relieve the distressed, bury the dead, and educate orphans. Membership: 1,406,835. Grand Sire: James A. Hagerman. Grand Secretary: Edw. G. Ludvigsen. Headquarters: 16 West Chase Street, Baltimore, Md. The 1941 meeting will be held in Des Moines, Iowa, September 15.

**Orchestral Association, National.** See *MUSIC*.

**Oriental Society, American,** founded in 1842 for the promotion of research in oriental languages and cultures and the publication of books and papers. Membership: 840. President: Dr. Arthur W. Hummel. Secretary: Prof. Ferris J. Stephens, Yale University, New Haven, Conn. The 1941 meeting will be held in Chicago, April 15-17.

**Ornithologists' Union, The American,** founded in 1883 for the advancement of its members in ornithological science, publication of a journal and other works, and acquisition of a library. Membership: 1460. President: James P. Chapin. American Museum of Natural History, New York City. Secretary: Lawrence E. Hicks. In 1940 the Brewster Award was granted to Dr. James L. Peters for his *Birds of the World*. The 1941 meeting will be held in Denver, Colo., in June.

**Ort, Women's American,** founded in 1927 and devoted to the creation of a new occupational existence for refugees and the masses of European Jews through trade-schools, farm colonies, and industrial workshops. It is affiliated with American Ort Federation and World Ort Union, which have operated training centers in Europe for the past 60 years. Membership: about 5000. President: Mrs. Edward B. Gresser. Headquarters: 212 Fifth Avenue, New York City. Events of 1940 included the Annual Donor Luncheon, May 14, and the Annual Membership Tea, December 17, in New York City. Chapter meetings are held monthly throughout cities of the United States.

**Pacific Relations, Institute of,** founded in 1925 to promote scientific investigation and rational discussion of the problems and mutual relations of the peoples of the Pacific area. Membership: 1732. Secretary-General: Edward C. Carter. Headquarters of the American Council: 129 East 52 Street, New York, N.Y. Publication of a series of books on "Inquiry into the Sino-Japanese Conflict" was continued in 1940. Round table discussions were held in Honolulu, San Francisco, Chicago, Los Angeles, and New York. A seminar program was held jointly with the Foreign Policy Association, and a study outline on "Essentials of Far Eastern Peace" was distributed among college and study groups.

**Painters and Sculptors, National Association of Women,** listed under *Women*.

**Pan American Union.** See separate article.

**Pan Pacific Union,** founded in 1917, after ten years of preliminary work by the founder Alexander Hume Ford, for the promotion of better relation in Pacific countries through a fuller knowledge of each other. Membership: 500. President: A. D. Castro of Honolulu, former Consul for Brazil. Executive Secretary: A. V. Satterthwaite. Headquarters: 1025 Union Trust Building, Honolulu. During 1940 the Union addressed a memorial to the Pacific governments seeking cessation of hostilities. Pan-Pacific or Balboa Day was observed, September 25. A meeting scheduled in New Zealand in January was postponed on account of the war, and no international meetings have been scheduled recently.

**Parents and Teachers, The National Congress of,** founded in 1897 as the National Congress of Mothers, to promote the welfare of children and youth in home, school, church, and community. Membership: 2,379,599. President: Mrs. William Kletzer. Secretary: Mrs. Charles D. Center. National Office: 600 S. Michigan Boulevard, Chicago, Ill. On Nov. 14, 1940, the organization of the Nevada Congress of Parents and Teachers brought into the National Congress the last unorganized State in the nation. A three-year program of action on "The Child in His Community" was inaugurated, based on the findings and recommendations of the 1940 White House Conference on Children in a Democracy (see *CHILDREN'S BUREAU*). The organization accepted membership on the National Co-ordinating Committee on Education and Defense.

**Peace.** See *Emergency Peace Mobilization*, *No Foreign War Committee*, *World Alliance for International Friendship*, *World Peace Foundation*, as well as the immediately following groups.

**Peace and Freedom, Women's International League for (U.S. Section),** founded in 1915. Membership: 13,000. President: Miss Gertrude C. Bussey. Secretary: Miss Grace E. Rhoads. Headquarters: 1734 F Street, N.W..



**Washington, D.C.** An Institute on Puerto Rican problems was held in 1940. The 1941 annual convention will be held at Washington, D.C., May 2-4.

**Peace Conference, National**, founded in 1933 with a three-fold purpose: (1) as a council board at which its members express their views on American foreign policy and formulate and clarify issues; (2) as a clearinghouse to receive, record, and publicize the views of its affiliated organizations; (3) as a publisher and program servicing agency to provide its member organizations and the public with objective, non-partisan information. Membership: 38 national organizations. President: Walter W. Van Kirk. Headquarters: 8 West 40 Street, New York City. The annual meeting was held May 7-8, 1940, at International House, New York.

**Pen Women, National League of American**, founded in 1897 to promote the creative cultural arts of the pen, pencil, and brush. Membership: 3000. President: Edna Knight Gasch. Headquarters: 409 Willard Hotel, Washington, D.C. A biennial convention was held in Washington, D.C., in April, 1940.

**People's Lobby, Inc., The**, founded in 1931 (formerly the People's Reconstruction League, founded in 1920) to work for legislative and administrative measures in the national capital, in the interest of all the people. Membership: 1875. President: Bishop Francis J. McConnell. Executive Secretary: Benjamin Marsh. Headquarters: 1410 H Street, N.W., Washington, D.C. During 1940 the organization distributed about half a million reprints of its material from the *Congressional Record*. It was active in getting the Selective Service Bill amended to exclude certain features, and sought to popularize profitless defense and a pay-as-you-go policy for national defense. The 1941 annual meeting was scheduled at the Town Hall Club, New York City, Jan. 13.

**Petroleum Institute, American**, founded in 1919 to afford a means of co-operation with the government, foster trade in petroleum products, promote the interests of the industry, the mutual improvement of its members, and the study of related arts and sciences. Membership about 4000. President: Axtell J. Byles. Secretary: Lacey Walker. Headquarters: 50 West 50 Street, New York City. Meetings in 1941 include the 11th Mid-Year Meeting, in Tulsa, Okla., May 19-23, and the 22nd Annual Meeting in San Francisco, November 3-7.

**Philatelic Society, American**, an organization of stamp collectors, founded in 1886 for mutual benefit. Membership: 5016. President: Rollin E. Flower. Secretary: Dr. H. A. Davis. Headquarters: 3421 Colfax "A," Denver, Colo. The annual meeting, held in late summer, is scheduled for Baltimore, Md. in 1941.

**Philological Association, American**, founded in 1869 for the advancement and diffusion of philological knowledge. Membership: 1068. President: G. M. Calhoun. Secretary: L. R. Shero. Swarthmore College, Swarthmore, Pa. In 1940 the Association appropriated \$1000 to the British Classical Association in appreciation of the continued publication under war conditions of the *Classical Quarterly* and the *Classical Review*. The 1941 meeting will be held in Hartford, Conn., December 29-31. See *PHILOLOGY*, CLASSICAL.

**Physical Society, American**, founded in 1899 for the advancement and diffusion of knowledge of physics. Membership: 3800. President: Dean George B. Pegram. Secretary: Dr. K. K. Darrow. Headquarters: Columbia University, New York City. The annual meeting will convene, Dec. 26, 1941.

**Physicians, American College of**, founded in 1915 as an organization of qualified specialists to maintain and advance the highest possible standards, perpetuate the history and best traditions of medicine and medical ethics, and to maintain the dignity and efficiency of Internal Medicine in its relationship to public welfare. Membership: 3 masters, 3200 fellows, and 1217 associates; total, 4420. President: Dr. Roger I. Lee. Executive Secretary: E. R. Loveland. Headquarters: 4200 Pine Street, Philadelphia, Pa. The 25th anniversary of the founding of the College was marked in 1940 by the publication of a book, *The American College of Physicians—Its First Quarter Century*. A program was developed for determining and supervising standards for residencies in Internal Medicine and allied specialties. In addition to numerous State or sectional meetings, intensive postgraduate courses were conducted in various centers. The John Phillips Memorial Award for achievement in Internal Medicine was awarded to Dr. René J. Dubos of New York City. The 25th annual session will be held in Boston, Mass., Apr. 21-25, 1941.

**Planning and Civic Association, American**, formed in 1935 by a merger of the American Civic Association (1904) and the National Conference on City Planning (1909). It promotes public understanding and support of planning for the best use of land, water, and other natural resources, higher ideals of civic life, and safeguarding of natural wonders, scenic possessions, and recreation facilities. President: Horace M. Albright. Executive Secretary: Harlan James. Headquarters: 901 Union Trust Building, Washington, D.C. During 1940 the Association published the *American Planning and Civic Annual*, the quarterly *Planning and Civic Comment*, and held several conferences

on Federal and city parks. Meetings in 1941 include the Annual Dinner, Washington, D.C., January 29, and the Joint Planning Conference, Philadelphia, May 12-14.

**Poetry Week Fellowship of National Poetry Center**, an organization of poets and friends of poetry, founded in 1927 to advance the art, especially through the international celebration of Poetry Week, held annually the fourth week in May. Founder-Director: Anita Brown. Headquarters: 30 Rockefeller Plaza, New York City. In addition to the celebration of Poetry Week in 1940, the National Poetry Center conducted a National Poetry Day at the New York World's Fair, in connection with which gold medals were awarded in every State throughout the Nation. The largest book of poetry in the world, published by the Poets Press of the National Poetry Center was exhibited. Junior and Senior Poetry Prizes were awarded at the winter meeting at the Vassar Club, and certificates were presented to poets of merit at different meetings. Other awards include Gold Emblems of Honor presented to the foremost man and woman poet in New York State, Annual Poetry Scholarship Awards, and Poetry Parchments of Honor. The Center also conducts Poetry radio programs.

**Polish National Alliance of the U.S. of N.A.**, a fraternal society founded in 1880 for benefit insurance and educational and charitable activities. Membership: 300,000. President: I. K. Rozmarek. General Secretary: A. S. Szczerbowski. Headquarters: 1514-20 W. Division Street, Chicago, Ill. During 1940 the 60th Anniversary was celebrated at Palmer House. A convention is held once every four years, and the subsidiary lodges, which number about 2000, meet monthly.

**Political and Social Science, The American Academy of**, founded in 1899 to provide a forum for the discussion of the great political, social, and industrial problems confronting the world. Membership: 8000 to 9000. President: Dr. Ernest Minor Patterson. Secretary: Dr. J. P. Lichtenberger. Headquarters: 3457 Walnut Street, Philadelphia. A bi-monthly, *The Annals*, is published. The 1941 annual meeting was scheduled for Philadelphia in April.

**Political Science, Academy of**, an international learned society for advancing the political sciences and their application to political, economic, and social problems; founded in 1880. Membership: 6911. President: Wesley C. Mitchell. Director: Miss Ethel Warner. Headquarters: Fayerweather Hall, Columbia University, New York City. At the semi-annual meeting on Apr. 11, 1940, in New York City "Economic Nationalism, Trade Barriers and the War" was discussed. At the sixtieth annual meeting on November 13th the topic under discussion was "The Defense of the United States."

**Political Science Association, American**, founded in 1903 to foster scholarly interest in the scientific study and improvement of politics and public law, administration, and diplomacy. Membership: 2857. President: Frederic A. Ogg. Secretary: Kenneth Colegrove. Headquarters: 105 Harris Hall, Northwestern University, Evanston, Ill. The Association maintains a Personnel Service indicating the records of young scholars available for appointment. The 1941 annual meeting will be held in New York City, December 29-31.

**Postmasters of the United States, National Association of**, incorporated in 1936 for the betterment of the Postal Service and mutual assistance of all Postmasters. Membership: 28,054. President: Michael J. O'Rourke. Secretary: John J. Hart. Headquarters: Ottawa, Ill. During 1940 a Chapter of the Association was organized in Alaska. Eleven States had 100 per cent membership, including every postmaster in the State. The 1941 annual convention will be held in Boston, Mass., in September.

**Prevention of Blindness, National Society for the**, founded in 1915, concerned with the control and, where possible, the elimination of the causes of blindness, impaired vision, and eyestrain—not with activities on behalf of those already blind. Membership: 18,645. President: Mason H. Bigelow. Secretary: Miss Regina E. Schneider. Headquarters: 1790 Broadway, New York City. The Society co-operates with the medical profession, industry, nurses, medical social workers, and educational authorities in its efforts to conserve sight. It furnishes information regarding the relationship of sight to numerous environmental factors, stimulates study of the causes of blindness, counsels government and voluntary agencies, and serves as a clearinghouse in its field.

**Prevention of Cruelty to Animals, The American Society for the (ASPCA)**, founded in 1866. President: Alexander S. Webb. Secretary: Richard Welling. Headquarters: 50 Madison Avenue, New York, N.Y. During 1940, the Society handled 287,825 small animals in 5 animal shelters and a hospital, and investigated 11,799 cases of cruelty. The Humane Education Department gave instruction to 55,071 children and conducted a photographic contest for Junior High School Children. The annual meeting was held Jan. 2, 1941.

**Prevention of Lynching, Association of Southern Women for the**. See *LYNCING*.

**Prison Association, American**, founded in 1870 to improve laws, law enforcement, and penal and correctional institutions, to study the causes of crime, and to care for



and provide employment for paroled and discharged prisoners and probationers. The Association maintains a free clearinghouse of information. Membership: 890. President: James A. Johnston. General Secretary: E. R. Cass. Headquarters: 135 East 15 Street, New York, N.Y. The Annual Congress, which may be attended by anyone who wishes to profit thereby, will be held in San Francisco, Aug. 18-22, 1941.

**Progressive Education Association**, incorporated in 1931 to develop and promote progressive principles of education through field conferences, a Service Center for members, preparation and distribution of educational materials, and publication of two journals, *Progressive Education* and *Frontiers of Democracy*. Membership: about 10,000. President: Carleton Washburne. Executive Secretary: Frederick L. Redefer. Headquarters: 221 West 57 Street, New York City. In 1940 the eight-year experiment of the Association's Commission on the Relation of School and College was completed. Publications of the year were *Democratic Education* (suggestions for education and national defense) and a series of books on the reorganization of the secondary school curriculum. In addition to numerous regional conferences, a national conference is scheduled Feb. 19-22, 1941, in Philadelphia. See **EDUCATION**.

**Protection of Foreign Born, American Committee for**, founded in 1933 to promote better relations between native and foreign born by education; to combat discrimination on the ground of race, nationality, or non-citizenship, to encourage and facilitate naturalization; and to prevent the destruction of American families by deportation. It is not a membership organization, but has 400 annual contributors. Chairman: Carey McWilliams. Headquarters: 79 Fifth Avenue, New York City. The Fourth National Conference, held in Washington, D.C., in March, 1940, was attended by representatives of organizations having 5,000,000 members. The Conference was greeted by President Roosevelt, Secretary Hull, and other members of the Cabinet. The 1941 Conference will be held at Atlantic City, N.J., March 29-30.

**Psychiatric Association, American**, founded in 1844 to further the study of mental diseases; to further psychiatric hospitals, education, and research, and to apply psychiatric knowledge to other branches of medicine, to other associations, and public welfare. Membership: 2423. President: Dr. George H. Stevenson. Executive Assistant: Austin M. Davies. Headquarters: 9 Rockefeller Plaza, New York City. Activities in 1940 included the compilation of military information and data and the preparation of a biographical directory of members of the Association. The 1941 meeting was scheduled for Richmond, Va., May 5-9.

**Psychological Association, American**, founded in 1892 to advance psychology as a science. Membership: 2739. President: Herbert Woodrow. Secretary: Willard C. Olson. Headquarters: University of Michigan, Ann Arbor, Mich. The 1941 meeting is scheduled September 3-6 at Northwestern University.

**Psychology, American Association for Applied**, listed under **Applied**.

**Public Affairs, Institute of**, founded in 1927 to explore by formal addresses and open forum discussions important public problems. Membership: 3000 yearly, 32,000 total. Director: Hardy Cross Dillard. Secretary: Anne Cowle Yates. Headquarters: University of Virginia, Charlottesville, Va. Students from colleges in all sections of the East participated in the 1940 sessions. The 1941 sessions will be held at the University of Virginia at the end of June.

**Public Health Association, American**, founded in 1872 to promote and protect the public health. Membership: 7100. President: Dr. W. S. Leathers. Executive Secretary: Dr. Reginald M. Atwater. Headquarters: 1790 Broadway, New York City. The Association prepared during 1940 a study on community organization for health education, and published reports on Control of Communicable Diseases. Fellowship privileges were extended to professional public health workers in Latin America. The A.P.H.A. adopted an Official Declaration of Attitude on Desirable Standard Minimum Functions and Suitable Organization of Health Activities. A Committee on Public Health in National Defense was appointed. The Sedgwick Memorial Medal was awarded in 1940 to Dr. Hans Zinsser. In a City Health Contest, financed by a group of life insurance companies, the winners were (by groups according to population): Milwaukee, Wis.; Memphis, Tenn.; New Haven and Hartford, Conn.; Newton, Mass.; Greenwich, Conn., and Plainfield, N.J.; Englewood, N.J. A Rural Health Contest was conducted also, financed by the Kellogg Foundation. The 70th annual meeting will be held at Atlantic City, N.J., Oct. 14-17, 1941.

**Public Housing Conference, National**, an association of individuals and organizations, founded in 1931 to promote slum clearance and low-rent housing through an established Federal-State-Local service. Membership: 1000. President: Mary K. Simkhovitch. Executive Director: Helen Alfred. Headquarters: 122 East 22 Street, New York City. The 1940 program included meetings, publications, housing tours, and the use of visual material and the radio to support a campaign against slums. The 1941

annual meeting was scheduled in New York City, January 24-25.

**Public Welfare Association, American**, founded in 1930 to serve as a clearinghouse on public welfare information, and to provide technical and consultant services to public welfare administrators. Membership: about 2500. President: William Hodson. Director: Fred K. Hoehler. Headquarters: 1313 East 60 Street, Chicago, Ill. A National Council of State Public Assistance and Welfare Administrators and a National Council of Local Welfare Administrators were organized in 1940. Meetings of the two National Councils were held in Chicago in May and at the Fifth Annual Round Table Conference of the American Public Welfare Association, December 4-8, in Washington, D.C. See **JUVENILE DELINQUENCY**.

**Radio, National Committee on Education by**, listed under **Education**.

**Radio Manufacturers Association**. See **FEDERAL COMMUNICATIONS COMMISSION**.

**Railroads, Association of American**, founded in 1934 to promote trade and commerce in the public interest, further improve railroad service, and maintain the integrity and credit of the railroad industry where concert of policy and action are required. Membership: 138 railroad systems and 180 associate members. President: J. J. Pelley. Secretary-Treasurer: H. J. Forster. Headquarters: Transportation Building, Washington, D.C. See **RAILWAYS**.

**Recreation Association, National**, founded in 1906 with the following objective: That every child in America shall have a chance to play, that everybody in America, young or old, shall have an opportunity to find the best and most satisfying use of leisure time. Membership: 8836. First Vice-President: John G. Winant. (The Presidency is vacant.) Secretary: Howard Braucher. Headquarters: 315 Fourth Avenue, New York City. In the defense emergency which arose during 1940, the Association was particularly active in attempting through recreation to maintain the morale of the people and to give such service as it can to help communities near defense camps provide adequate leisure-time programs for men on leave. The 25th National Recreation Congress was held at Cleveland, Ohio, Sept. 30-Oct. 4, 1940.

**Red Cross, American National**. See separate article.

**Research Council, National**, founded in 1916 to "promote research in the mathematical, physical, and biological sciences, and in the application of these sciences to engineering, agriculture, medicine, and other useful arts, with the object of increasing knowledge, of strengthening the national defense, and of contributing in other ways to the public welfare." Membership: about 200, composed in majority of representatives of 85 scientific and technical societies; together with about 1150 members of committees of the Council and its Divisions. Chairman: Ross G. Harrison. Executive Secretary: Albert L. Barrows. Headquarters: 2101 Constitution Avenue, Washington, D.C. The Council conducts a wide range of research activities in the medical and natural sciences under the sponsorship or supervision of specially appointed committees. Series of post-doctorate fellowships are administered in the medical and in the natural sciences. A number of publications resulting from work of the Council's Committees are issued each year, either commercially or in the *Bulletin* or *Reprint and Circular Series* of the Council. As an operating agency of the National Academy of Sciences, the Council has been called upon frequently during the past year by agencies of the Government for advice and assistance in connection with research relating to the national defense.

**Research Council of Canada, National**, founded in 1916 to have charge of all matters affecting scientific and industrial research in Canada which may be assigned to it by the Committee of the Privy Council on Scientific and Industrial Research. Membership: 15. President: Lt.-Gen. A. G. L. McNaughton (recalled to active duty). Acting President: C. J. Mackenzie. Secretary: S. P. Eagleson. Headquarters: National Research Building, Ottawa, Can. The peacetime program of the Council was modified in 1939-40 to meet the needs for scientific and industrial research relating to war projects. Construction of new aeronautical laboratories was begun. Supplementing its laboratory establishment at Ottawa, the Council granted 69 scholarships for postgraduate research and provided 116 grants-in-aid to responsible research workers in universities for special investigations. Special provision was made for research on war projects at various centers.

**Retail Dry Goods Association, National**, a trade association founded in 1911 for research work in common management and operating problems of department and specialty stores and representation in national legislative matters in industry relations. Membership: 5700. President: Frank Mayfield. General Manager: Lew Hahn. Headquarters: 101 West 31 Street, New York City. The week of Sept. 16, 1940, was set aside for National Retail Demonstration. During the year the association conducted a co-operative program with the Government to prevent unjustified price increases in consumer goods, and inaugurated 20 conferences with industries to effect practical means of compliance with the Wool Labeling Law. The Wolf Retail Award for the most effective package created in the department store field in 1939 was awarded to

Gimbel Brothers, New York. A medal was awarded in 1940 to Maj. Benjamin H. Namm, President of the Namm Store, Brooklyn, N.Y., for outstanding service for the retail trade over a period of years. Mrs. Typical Customer for 1940 was Mrs. Roy Fleming of Hot Springs, Ark. Meetings scheduled for 1941 are the Annual Convention, New York City, Jan. 13-17 and the Mid-Year Convention, Chicago, June 2-5.

**Review of Motion Pictures, Inc., National Board of.** An organization founded in 1909 to encourage the best uses of the motion picture recreationally, educationally, and artistically. Membership: 500. The President is Dr. A. A. Brill; Executive Director, James Shelley Hamilton. Headquarters: 70 Fifth Avenue, New York City. The 15th annual announcement of the Board's choices of the best films of the year was made on Dec. 23, 1940, as follows: Best film of the year, *The Grapes of Wrath*, best foreign-language film, *The Baker's Wife*; best documentary film, *The Fight for Life*, with Honorable Mention given to *Power and the Land*. The ten best American films selected, in order of preference, were: *The Grapes of Wrath*, *The Great Dictator*, *Of Mice and Men*, *Our Town*, *Fantasia*, *The Long Voyage Home*, *Foreign Correspondent*, *The Biscuit Eater*, *Gone with the Wind*, and *Rebecca*.

**Rotary International**, a worldwide organization which serves as a clearinghouse for all Rotary Clubs, the first of which was formed in 1905. A Rotary Club is a group of representative men (one from each business or profession in a community) who gather together to further the ideal of service in community and business contacts. Membership: 5042 clubs; 209,940 members. President: Armando de Arruda Pereira of Brazil. Secretary: Chesley R. Perry. Headquarters: Chicago, Ill., with additional offices in Zurich, London, and Bombay. Rotary Observance Week, Feb. 18-24, 1940, was a worldwide celebration of Rotary's 35th anniversary. More than 300 "Institutes of Understanding" were sponsored by Rotary clubs in the U.S.A., presenting outstanding speakers on vital world problems in community forums and in high schools. Rotary International contributed \$50,000 for war relief in 1940 through the International Red Cross, the American Red Cross, the Canadian Red Cross, the British Red Cross, and the Chinese Red Cross. Rotary clubs throughout the world contributed to a special Rotary International fund which provides assistance to Rotarians and their families in the war-torn countries of the world. Rotary International assisted in the evacuation of many children from Europe, placing them in the homes of North American Rotarians. The 31st annual convention of Rotary International was held in Havana, Cuba, June 9-14, and was attended by nearly 4000 Rotarians and their families from 32 countries of the world.

**Royal Geographical Society**, listed under *Geographical*. **Royal Institution of Great Britain**, founded in 1799 for the promotion, diffusion, and extension of science and useful knowledge. Membership about 900 President: The Right Hon. Lord Eustace Percy. Secretary: Maj. Charles E. S. Phillips. Headquarters: 21 Albemarle Street, London, W. 1.

**Royal Society**, founded in 1662 for improving natural knowledge. Membership: 450 and an additional 50 foreign members. President: Sir Henry Dale. Secretaries: Prof. A. V. Hill and Prof. A. C. G. Egerton. Headquarters: Burlington House, London, W. 1. Awards were made during 1940 as follows. Copley Medal to P. Langevin; Rumford Medal to K. N. G. Siegbahn; Royal Medals to P. M. S. Blackett and F. H. A. Marshall; Davy Medal to H. C. Urey; Darwin Medal to J. P. Hill; Sylvester Medal to G. H. Hardy, and Hughes Medal to A. H. Compton. The Bakerian Lecture was delivered by Prof. N. V. Sidgwick on June 24, 1940. Plans for 1941 were unsettled owing to the war, except for an Anniversary Meeting scheduled December 1. See *CHEMISTRY, INDUSTRIAL*.

**Safety Council, National**, founded in 1913 to bring about public understanding of the steps necessary to prevent accidents of all kinds. Membership: 5216. President: Col. John Stilwell. Managing Director: W. H. Cameron. Headquarters: 20 N. Wacker Drive, Chicago, Ill. Reports were made during 1940 by six special accident-study committees on Night Traffic Hazards, Speed Regulation, Pedestrian Control and Protection, Tests for Intoxication, Winter Driving Hazards, and National Traffic-Law Enforcement. The year's accident-prevention activities culminated in the 29th National Safety Congress and Exposition in Chicago, October 7-11. The Association's service was expanded through standard magazines, Safe and Health Practices Pamphlets, Safety Posters, and thousands of miscellaneous publications. Hundreds of awards were made in all kinds of safety contests—traffic, industrial, and otherwise. See *ACCIDENTS*.

**Savings and Loan League, United States**, a trade organization founded in 1892 by the savings, building, and loan associations of the United States, whose assets total \$6,500,000,000 and whose chief business is the lending of money to finance home ownership. Membership 3700 associations and 47 affiliated state leagues. President: Paul Endicott. Secretary: H. F. Cellarius. Headquarters: 333 N. Michigan Avenue, Chicago, Ill. At the annual convention in Chicago, Nov. 11-15, 1940, the Associations pledged

their full support of the defense housing program. The League published the 10th of its series of year books, *Savings and Loan Annals 1939*. The year 1940 represented the first billion-dollar lending year for the Association since 1930.

**Scandinavian Foundation, American**, listed under *American*.

**Science, American and British Associations for the Advancement of**, listed under *Advancement*.

**Sculpture Society, National**, founded in 1893 to advance the knowledge, creation, and appreciation of good sculpture by annual exhibitions and all other means in the Society's power. Membership: 280. President: Paul Manship. Secretary: Mrs. Margaret French Cresson. Headquarters: 115 East 40 Street, New York City. The Medal of Honor was awarded in 1940 to Herbert Adams in recognition of his distinguished sculpture and devoted services to the profession. First prize for design of the Medal of Honor was won through competition by Henry Kreis. In the spring a Sculpture Festival Exhibition was held at the Whitney Museum of Art, New York.

**Securities Dealers, National Association of**. See *FINANCIAL REVIEW under Financial Regulation*.

**Seeing Eye, The**, a philanthropic organization founded in 1929 for the purpose of furnishing dogs as guides to blind persons. Membership: 15,367. President: Henry A. Colgate. Treasurer: Herman J. Cook. Mrs. Harrison Eustis, founder, is the Honorary President. The organization maintains a school at Morristown, N.J., where dogs are trained, separately for three months and with their blind masters for a period of one month. During the fiscal year ending Sept. 30, 1940, 144 blind men and women were graduated with their educated dogs, 304 applicants were investigated, and 116 were accepted for classes during the succeeding year. Approximately 570 persons now use Seeing Eye dogs. The maximum cost to the blind person is \$150 although the actual cost of training the dog is many times that amount.

**Shipbuilders, National Council of American**, founded in 1921 by shipbuilders, ship-repairers, and manufacturers of marine equipment in a united effort to promote a sound shipbuilding industry as the basis of the American merchant marine and as an auxiliary to the navy yards, and to improve conditions in the industry. Membership 51. President: H. Gerrish Smith. Secretary: C. C. Knerr. Headquarters: 21 West Street, New York City. The annual meeting will be held in April, 1941, at the Whitehall Club, New York City.

**Silver Legion of America**. See *DIPS COMMITTEE*.

**Social Hygiene Association, American**, formed in 1914 to inform the public about the national program and needed community action, to combat syphilis and gonorrhea, to fight prostitution and other unwholesome conditions, to promote sound sex education and training for marriage and parenthood, and to protect and improve the American family as the basic social institution. Membership 147 organizations, approximately 10,000 individuals. President: Dr. Ray Lyman Wilbur. Executive Director: Dr. Walter Clarke. Headquarters: 1790 Broadway, New York City. The Association undertakes to promote an eight-point program in 48 States, working in co-operation with other interested agencies. Services include advice and consultation, surveys, distribution of literature, films, and other materials. During 1940 the Fourth National Social Hygiene Day was sponsored with more than 5000 meetings throughout the country. A digest of laws relating to the control of syphilis and gonorrhea was published, and a new sound film, *With These Weapons*, was distributed. The William Freeman Snow medal for distinguished service in the social hygiene field was presented to Gen. John J. Pershing, and 11 cash awards were made to the Junior Chambers of Commerce conducting the most successful anti-syphilis projects. Regional conferences were scheduled in Philadelphia, New Orleans, Los Angeles, St. Louis, and New York on Feb. 5, 1941.

**Social Science, Henry George School of**, listed under *Henry George*.

**Social Sciences, National Institute of**, incorporated in 1899 to reward distinguished services rendered to humanity, either by election to membership, or by bestowal of its Honor Medals, or other insignia. Membership 590. President: William Edwin Hall. Secretary: Miss Rosina Hahn. Headquarters: 271 Madison Avenue, New York City. At the annual dinner, May 7, 1940, in New York City, gold medals were awarded to Wendell L. Willkie, Mrs. Carrie Chapman Catt, and Dr. James E. West, Chief of the Boy Scouts. The 1941 annual meeting was scheduled in New York City, February 4.

**Social Work, National Conference of**, founded in 1873 to facilitate discussion of the problems and methods of practical human improvement, to increase the efficiency of organizations devoted to this cause, and to disseminate information. It does not formulate platforms. Membership: 6000. President: Jane M. Hoey. General Secretary: Howard R. Knight. Headquarters: 82 N. High Street, Columbus, Ohio. The 1941 meeting will be held in Atlantic City.

**Social Workers, American Association of**, founded in 1921 to formulate and establish standards of personnel and of conditions under which social work is practiced, to dis-

seminate information concerning the profession, and to conduct investigations which contribute to an understanding of social welfare needs. Membership: 11,250. President: Wayne McMillen. Executive Secretary: Walter West. Headquarters: 130 East 22 Street, New York City. A survey of relief conditions in the United States was published in May, 1940. The 1941 Delegate Conference will be held in Atlantic City in May.

**Sociological Society, The American**, founded in 1905 to encourage sociological research, discussion, teaching, and publication. Membership: 1031. President: Robert M. MacIver. Secretary: Harold A. Phelps. Headquarters: University of Pittsburgh, Pittsburgh, Pa. During 1940 the Society completed a study of members and instituted a study of the role of sociology in the national emergency. A leaflet on *Occupations of Sociologists* was published. The 1941 meeting will be held in Washington, D.C., December 29-31.

**Standards Association, American**, a federation of national groups dealing with standardization, founded in 1918. Membership: 72 trade associations, technical societies, and government departments, and some 2000 industrial concerns, who hold membership either directly or by group arrangement. President: R. E. Zimmerman. Secretary: P. G. Agnew. Headquarters: 29 West 39 Street, New York City. The National Defense Program, with its need for co-ordination of defense-production standards, highlighted almost all standardization work in the mechanical field in 1940, and at the end of the year the Association was speeding up work on undertakings most urgently needed for defense—for example, work on screw threads, on bolts, nuts, and wrench openings, on machine pins; on wire and sheet metal gages; on fits of machine parts; and on some of the safety codes which are needed to protect the inexperienced labor that is being turned into defense production. During the year 73 standards were approved, including one on Twist Drills and the American Standard Rules for Rounding Off Numerical Values, which sets forth a simple and effective method of rounding numbers, pointing out a common error in the practice followed by most schools. A committee representing groups interested in photographic supplies and equipment completed the first standard in this field—a proposed Method for Determining the Photographic Speed of Roll Film, Film Packs, and Miniature Camera Films, which was being published for a year's trial. The National Electrical Code was completely revised, and a new edition of the American Standard Building Exits Code provided technical data on exit facilities in public buildings. Progress was made on the standardization of sizes for children's clothing—a project in which there is wide public interest. The committee in charge completed a series of average body dimensions for boys in the age range from kindergarten to junior high school. Four new projects in the field of safety were authorized during the year. Safety Code for Quarry Operations, Performance Requirements for Protective Occupational Footwear; Safety Standards for Household Ladders; Safety Standards for General Industrial Stairs. Despite the war in Europe, the American Standards Association kept up its contacts with the national standardizing bodies of other countries, and was able to supply American companies filling foreign orders with information and material that they could obtain nowhere else. The British Purchasing Commission continually called on the ASA for standards and specifications. See *PHOTOGRAPHY* under *Physical Measurements*.

**State Governments, The Council of**, founded in 1925 by the States to encourage co-operation among them, to make State government more effective, and to serve as a clearinghouse of information for public officials. It is also the secretariat of the Governors' Conference, the American Legislators' Association, the National Association of Attorneys General, the National Association of Secretaries of State, and the National Conference of Commissioners on Uniform State Laws. (The Council was appointed secretariat for the last-named Conference on Sept. 9, 1940, at its annual meeting with the American Bar Association.) Membership: 44 States. President: Gov. Harold E. Stassen. Executive Director: Frank Bane. Headquarters: 1313 East 60 Street, Chicago, Ill. The Council participated in the work of the Board of Inquiry into Great Lakes Fisheries, set up Feb. 29, 1940, and co-operated with the Division of State and Local Co-operation of the National Defense Advisory Commission after its formation. A Federal-State Conference on Law Enforcement Problems of National Defense was held in co-operation with the Department of Justice in Washington, August 5-6. The Fifth General Assembly was scheduled to meet in Washington, Jan. 21-24, 1941.

**Statistical Association, American**, founded in 1839 as a scientific and educational organization of persons seriously interested in the application of statistical methods to practical problems, the development of more useful methods, and the improvement of basic statistical data. Membership: 2750. President: Prof. Winfield W. Riefler. Secretary: R. L. Funkhouser. Headquarters: 1626 K Street, N.W., Washington, D.C.

**Student Federation of America, National**, founded in 1925 to achieve a spirit of co-operation among U.S. stu-

dents, to develop and vigorously express an intelligent student opinion on questions of national and international importance, to further an enduring peace, and to create and endeavor to execute a program for the youth of America on vital problems. The Federation acts independently of any political party or religious sect. Membership: student councils of about 125 colleges and universities. President: John Darnell. Headquarters: 1410 H Street, N.W., Washington, D.C. The 17th annual congress will be held Dec. 27-31, 1941.

**Student Service, International**, founded in 1920 to provide the student with opportunity for action without losing sight of his responsibility for objective and thorough study. It is not a membership organization. Chairman of the Executive Committee: Alvin Johnson. General Secretary: Joseph P. Lash. Headquarters: 8 West 40 Street, New York City. In addition to its traditional work of aiding student refugees, the I.S.S. was expanded in 1940 to include conferences on problems of democracy, voluntary work camps, and publication activities. Meetings scheduled for 1941 included a conference on "War Aims" at Smith College, March 4, a conference on "The Student and National Defense" at Yale in April, and annual conferences in September and December.

**Student Union, American**, founded in 1935 to defend democratic education, keep America out of war, and preserve American democratic traditions. Membership: 20,000. President: Richard Bancroft. Executive Secretary: Herbert Witt. Headquarters: 381 Fourth Avenue, New York City. Events of 1940 included a Peace Strike in April, a Summer Institute, a Fall Planning Conference, and the Sixth National Convention. The Seventh National Convention will be held Christmas week, 1941.

**Sunday-School Union, American**, founded in 1824 to establish and maintain Sunday schools and to publish and circulate moral and religious publications. Thirty-six laymen constitute the Board of Managers. President: Dr. E. Clarence Miller. Secretary: John H. Talley. Headquarters: 1816 Chestnut Street, Philadelphia, Pa. The Daily Vacation Bible School work was successfully continued in 1940, and growth was reported in young people's Bible conferences.

**Surgeons, American College of**, founded by the surgeons of the United States and Canada in 1913 to advance the science and the ethical and competent practice of surgery, to establish hospital standards, to engage in research, to aid in better instruction of doctors, to formulate standards of medicine and to improve all adverse conditions surrounding the ill and injured wherever found. President: Everts A. Graham. Secretary: Frederic A. Besley. Headquarters: 40 East Erie Street, Chicago, Ill. Three sectional meetings were held in 1940 in addition to the annual meeting and clinical congress at Chicago, October 21-25. Work was carried on by the following departments: Hospital Standardization, Clinical Research, Library and Department of Literary Research, Medical Motion Pictures, and Graduate Training for Surgery. The award for Prize Winning Case Histories was granted to Dr. Martin Batts, Jr., of Ann Arbor.

**Swedish Historical Foundation, American**, established in 1926 to promote good citizenship and patriotic purposes among citizens of Swedish origin. Membership: 5000. President: Dr. Julius Lincoln. Corresponding Secretary: Dr. Amandus Johnson. Headquarters: American Swedish Historical Museum, Philadelphia, Pa. Lecturers in 1940 included Willem van Loon, Pearl Buck, and Luise Olsen. The Lucia Festival was presented, depicting Christmas life in Sweden. The 1941 meeting will be held in Philadelphia in June.

**Temperance Groups**. See under *Alcoholism*, *Anti-Saloon League*, *Woman's Christian Temperance Union*.

**Testing Materials, American Society for**, a technical society founded in 1898 to promote knowledge of the materials of engineering and to standardize specifications and the methods of testing. Membership: 4400. President: W. M. Barr. Secretary-Treasurer: C. L. Warwick. Headquarters: 260 S. Broad Street, Philadelphia, Pa. During 1940 the 14th award of the Charles B. Dudley Medal and the first Sanford E. Thompson Award were made to T. F. Willis and M. E. De Reus for their paper on "Thermal Volume Change and Elasticity of Aggregates and Their Effect on Concrete." In 1941 the Spring Meeting and Committee Week will be held at Washington, D.C., March 3-7, and the Annual Meeting and Sixth Exhibit at Chicago, June 23-27.

**Trucking Associations, Inc., American**, a national association for the motor freight industry, organized in 1933. Membership: 51 associations. President: Ted V. Rodgers. General Manager: J. V. Lawrence. Headquarters: 1013-16th Street, N.W., Washington, D.C. During 1940 a national advertising campaign was launched in national weekly magazines. Numerous prizes and awards were granted for fleet safety work and driver skill.

**Tuberculosis Association, National**, founded in 1904 for the study and prevention of tuberculosis. Membership: over 1600. President: Dr. P. P. McCain. Secretary: Dr. Charles J. Hatfield. Headquarters: 1790 Broadway, New York City. In 1940 the Trudeau Medal was awarded to

Dr. William Charles White. The 1941 annual meeting was scheduled to be held in San Antonio, May 5-8.

**University Professors, American Association of**, a professional organization of college and university teachers and investigators, founded in 1915 to facilitate more effective co-operation among its members, to promote the interests of higher education and research, and to increase the usefulness and advance the standards and ideals of the profession. The nature of its work is indicated by the titles of the committees, which include Academic Freedom and Tenure, Freedom of Speech, International Relations, Educational Standards, Author-Publisher Contracts, Professional Ethics, Relation of Junior Colleges to Higher Education, Co-operation with Latin-American Universities, Pensions and Insurance, Preparation and Qualification of Teachers, Encouragement of University Research, Library Service, and the Economic Welfare of the Profession. Membership: about 16,000. President: Frederick S. Denbler. General Secretary: Ralph E. Himstead. Headquarters: 744 Jackson Place, N.W., Washington, D.C. An annual meeting is held, usually in the last week of December.

**University Women, American Association of**, founded in 1882 for practical work in education, especially the raising of standards in higher education for women. Membership: over 68,000. President: Margaret S. Morris. General Director: Kathryn McHale. Headquarters: 1634 I Street, N.W., Washington, D.C. The number of local branches increased by 28 to a total of 891 on June 1, 1940. During the year the Association developed a program for local branches, relating their efforts to defense needs, and launched a movement for registration of members to secure information useful in connection with national defense. A nation-wide program of study and community activities was carried on by local groups, particularly on schools, the child and the family, international relations, the consumer, social welfare, other social and economic topics, and the arts. Eighteen new study guides were published in these fields in addition to the 40 previously issued. Approximately \$48,000 was added to the fellowship endowment fund, which now totals over \$574,500, and 13 research fellowships were awarded. Homes were offered for 4000 refugee children, and \$17,907 was contributed to aid women war refugees. A Code of Ethics for Volunteers was issued. The National Biennial Convention will be held in Cincinnati, Ohio, May 5-10, 1941.

**Veterans of Foreign Wars of the United States**, founded in 1899 to perpetuate the comradeship formed among men who have borne arms in America's wars and campaigns on foreign soil or in hostile waters, and to continue their patriotic service in behalf of the nation as a whole, of children, and particularly of disabled veterans and the widows and orphans of veterans. Membership: about 250,000. Commander-in-Chief: Dr. Joseph C. Menendez. Headquarters: Broadway at 34th Street, Kansas City, Mo. During 1940 the V.F.W. promoted the display of approximately 12,000 24-sheet billboard posters on signboards in every State proclaiming "Foreign 'isms' can't divide Americans—United we stand!—One Nation indivisible with liberty and justice for all," as a part of the V.F.W.'s nationwide educational campaign on Americanism. *Fifth Column Facts*, a detailed exposé of Communist, Nazi, and Fascist methods and organizations in the United States, was printed and more than 200,000 copies were placed within the first few weeks through the offices of more than 3500 local V.F.W. posts and 2000 V.F.W. Auxiliary units. Also included in the V.F.W. educational campaign were more than 600 full-page Memorial Day and Armistice Day newspaper editorials calling for a re-dedication of the spirit of Americanism and adherence to our national ideals and principles. V.F.W. legislative achievements in 1940 included enactment of the Philippine Travel Pay Bill providing for the payment of travel pay and allowances to a group of Philippine Insurrection veterans for services rendered in 1900-02. Another increased the pensions of approximately 30,000 World War widows whose veteran husbands died of service-connected disabilities, from approximately \$30 to approximately \$40 a month each. Another liberalization of veterans laws, obtained with the support of the V.F.W., was embodied in a Veterans' Administration ruling providing that total disability ratings may henceforth be applied to many cases not previously allowable.

Gold V.F.W. Citizenship Medals were awarded in 1940 to J. Edgar Hoover, Director of the Federal Bureau of Investigation, for his leadership in the exposure of Fifth Column sabotage of American ideals and institutions, and to Harry M. Warner, president of Warner Brothers Pictures. Robert Stotler, the year's outstanding Boy Scout, received the annual scholarship award and gold medal. About 100,000 students participated in the fifth annual national high school essay contest. The 41st annual national encampment was held, Aug. 25-30, 1940, at Los Angeles, Calif.

**Veterinary Medical Association, American**, founded in 1863 to promote veterinary science and its proper application. Membership: 6200. President: H. W. Jakeman. Secretary: L. A. Merrill. Headquarters: 600 South Michigan Ave., Chicago, Ill. The International Veterinary Congress prize for outstanding research was awarded in 1940 to Dr.

I. Forest Huddleson of Michigan State College. The 1940 meeting, held in Washington, D.C., was the largest in the association's history. The 1941 meeting is scheduled Aug. 11-15 at Indianapolis, Ind. See **VETERINARY MEDICINE**.

**Vocational Association, Inc., American**, founded in 1925 with the conviction that occupational education is a primary right and privilege of every citizen and that the public school must extend its services to include guidance, training for vocational competence, occupational placement, and the adjustment, training, and retraining of adults. Membership: 24,000. President: L. R. Humphreys. Executive Secretary: L. H. Dennis. Headquarters: 1010 Vermont Avenue, N.W., Washington, D.C. During 1940 the Association gave organized assistance to the effective development of vocational training for national defense industries. Over a quarter of a million persons were trained for occupations in defense industries in the last six months of the year and thousands were in training at the year's end. The annual convention will be held in Boston, Mass., in December, 1941.

**Vocational Guidance Association, Inc., National**, founded in 1913 to unite persons engaged or interested in any phase of vocational guidance. Membership: 3100. President: Mary P. Corcoran. Executive Secretary: Ralph B. Kenney. Headquarters: 425 West 123 Street, New York City. In November, 1940, a Conference on Defense and Vocational Guidance was held jointly with the Occupational Information and Guidance Service of the U.S. Office of Education in Washington. The 1941 national convention was scheduled at Atlantic City, February 19-22.

**Weights and Measures, American Institute of**, founded in 1916 to defend the English system of weights and measures against pro-metric propaganda. Membership: 85 corporations. President: W. R. Ingalls. Secretary: Robert F. Cogswell. Headquarters: 33 Rector Street, New York, N.Y.

**Wildlife Institute, American**, an educational and scientific organization for the restoration of North American wildlife, founded in 1935. President: Frederic C. Walcott. Secretary: J. Paul Miller. Headquarters: 822 Investment Building, Washington, D.C. The Institute maintains ten co-operative game management and wildlife research units in different States. Activities during 1940 included waterfowl investigations at Delta, Man., Canada, bass stream improvement in Indiana, initiation of a study of the Atlantic salmon on the Denny's River, Maine, and publication of the results of study on fish predators. The Sixth North American Wildlife Conference was scheduled Feb. 17-19, 1941, at Memphis, Tenn.

**Woman's Christian Temperance Union, National**, founded in 1874 to unite the Christian women of the United States for the education of public sentiment to total abstinence from the use of all alcoholic liquors, and to train the young in habits of sobriety. Membership: about 500,000. President: Mrs. Ida B. Wise Smith. Secretary: Mrs. Anna Marden DeYo. Headquarters: 1730 Chicago Avenue, Evanston, Ill. An outstanding project of the year was the holding of 25 Regional Conferences, by which every State in the Union was covered. The object was "training for service." Each local union in the United States (of which there are almost 10,000) was asked to make a survey of the social welfare conditions existing in the community and fill out a questionnaire showing the results. The facts revealed were used to show the conditions brought about by the entrenchment of saloons in the economic, political, and social life of the community.

An annual convention will be held in Grand Rapids, Mich., Aug. 28 to Sept. 3, 1941.

**Women of the U.S., Inc., National Council of**, founded in 1888 as a confederation of workers committed to the overthrow of all forms of ignorance and injustice, and to the application of the Golden Rule to society, custom, and law. Membership: 17 affiliated organizations; 5,000,000 individuals. President: Mrs. Harold V. Milligan. Executive Secretary: Mrs. Charlotte Payne. Headquarters: 501 Madison Avenue, New York City. During 1940 the Council presented a series of radio broadcasts over the NBC Blue Network, entitled "Peggy Wood's Quilting Bee"; organized a Women's Emergency Council to consider the role of women in national defense and developed a program entitled "What Women Can Do to Preserve Democracy"; celebrated September 16 as National Council of Women Day at the New York World's Fair, with the theme "The Efficiency of Democracy"; participated in the Women's Centennial Congress, December 17-19; and presented radio book reviews over 70 stations (to continue through 1941). A list of the ten best books on the crisis in democracy was selected and made public. The Council was chosen as the sponsoring organization of the talks heard during intermission throughout the Metropolitan Opera Saturday afternoon broadcasts during the 1940-41 season. An illuminated parchment was presented to Princess Juliana of the Netherlands, pledging the devotion of the Council's efforts to the cause of democracy.

**Women Painters and Sculptors, National Association of**, founded in 1889 to exhibit and display works of art by contemporary artists. Membership: 800. President: Bianca Todd. Executive Secretary: Josephine Droege. Headquarters: the Argent Galleries, which the Association main-

tains, 42 West 57 Street, New York City. The Association sponsors an Annual Exhibition, at which a number of prizes are awarded, general exhibitions, rotary shows, a sketch class, lectures, etc. The annual open meeting is held at the headquarters the second Wednesday in April.

**Women's Clubs, General Federation of**, founded in 1890 to bring into communication with one another the various women's clubs throughout the world. President: Mrs. Saidie Orr Dunbar. Headquarters: 1734 N Street, N.W., Washington, D.C. The Golden Anniversary of the Federation was celebrated in 1940. Study programs of the year were devoted to an Imaginary Tour of Latin America, used by 2126 clubs. The Purposes of Education in American Democracy, and Spiritual Values in Family Life. An actual Good Neighbor Tour to South America was made by 22 club women in the summer. The Federation developed a tentative platform for consumer business relations and co-operated with other groups in a consumer information program. Other events included participation in the White House Conference on Children in a Democracy, observance of Citizenship Days, essay, art, and other contests, youth improvement programs, and public safety programs. A triennial convention will be held at Atlantic City, May 19-24, 1941.

**Women Voters, National League of**, established in 1920 to promote political education through active participation of citizens in government. Membership: 31 affiliated State Leagues and 556 local Leagues. President: Miss Marguerite M. Wells. Secretary: Mrs. Paul Eliel. Headquarters: 726 Jackson Place, Washington, D.C. A biennial convention was held in New York City in April, 1940. The 1941 meeting of the General Council will be held in Washington, D.C., May 6-8.

**World Alliance for International Friendship through the Churches**, founded in 1914 to promote international goodwill and peace. Membership: about 1000. President: Rt. Rev. G. Ashton Aldham. General Secretary: Henry A. Atkinson. Headquarters: 70 Fifth Avenue, New York City. The organization published in 1940 a monthly *News Letter*, four *News Letter Supplements*, *Building a Peace Committee in the Church*, and *Worship Services for Peace and Brotherhood*.

**World Peace Foundation**, established in 1910 to promote international order and peace through publications, study groups, and a reference service. It has no membership other than the 15 Trustees. President: George H. Blakeslee. Director: S. Shepard Jones. Headquarters: 40 Mt. Vernon Street, Boston, Mass. The Foundation inaugurated a new pamphlet series in 1940, *America Looks Ahead*, and published *Document on American Foreign Relations, Vol. II*. Various round table discussions were held on American foreign policy.

**Young Men's Christian Associations, The National Council of**, formed as a national committee in 1866. The first local organization was formed in London in 1844 (in the United States in 1851) for the physical, mental, social, moral, and religious education of youth. Membership: 1,316,573. President: Ralph W. Harbison. General Secretary: Eugene E. Barnett. Headquarters: 347 Madison Avenue, New York City. Significant events of 1940 included the Annual National Council legislative meeting; the third National Hi-Y Congress of 1000 delegates from high school YMCA clubs, the National Young Men's Assembly presenting local young men's councils conferring nationally about jobs, war, government, education, marriage, and spare time, the 23d Silver Bay Industrial Conference on industrial relations followed by 15 field conferences; a special project in Citizenship and Public Affairs education among young people, adaptation of the normal service in military establishments to enlarged military and defense units and especially Selected Service Trainees; also participation through the World's Alliance of YMCA's in service to war prisoners on reciprocal permission in belligerent countries abroad, also national celebration of the 96th anniversary of YMCA founding by a Youth Service Project competition with awards presented by Mayor LaGuardia for the judges at the New York World's Fair.

**Young Women's Christian Associations of the United States of America**, established in 1906 to advance the physical, social, intellectual, and spiritual interests of young women. Membership: about 500,000. President: Mrs. Henry A. Ingraham. General Secretary: Miss Emma P. Hirth. Headquarters: 600 Lexington Avenue, New York City. In April, 1940, the 16th national triennial convention of the Y.W.C.A.'s of the U.S.A. was held in Atlantic City, N.J., bringing together 2200 delegates from 44 States, the Hawaiian Islands, and 10 foreign countries. By unanimous vote of this body, major emphasis in program during the coming triennium will continue to be on Religion, Democracy, and Building a World Community. An outstanding event of the convention was the observance of the 85th anniversary of the founding of the Y.W.C.A. in England, at which time a short radio talk by Queen Elizabeth of England was heard. During 1940 the Association in the United States continued financial assistance to the Y.W.C.A. in China, and also established a special fund for the purpose of helping Y.W.C.A.'s in Europe meet the heavy emergency demands created by the war. A temporary

office of the World's Council of the Y.W.C.A., headquarters in Geneva, Switz., was opened in Washington, D.C., in the autumn in order that communication with Associations throughout the world might be facilitated. In 1940 approximately 3,000,000 women and girls shared in the programs carried on by the 1400 local centers in the United States.

**Youth Commission, American**, formed in 1935 to investigate the problems of and develop a comprehensive program for the care and education of youth. Membership: 16. Chairman: Owen D. Young. Director: Floyd W. Reeves. Headquarters: 744 Jackson Place, Washington, D.C. During 1940 the Commission conducted (in co-operation with the American Institute of Public Opinion) a poll of public opinion on youth and education. Recommendations were made for public and private action in the fields of occupational adjustment of youth, community responsibility for youth, youth organizations, and youth and defense. Publications of the year were in the field of Negro and rural youth, occupational adjustment, community responsibility for youth, and the high school curriculum. Forthcoming publications are planned in the fields of recreation, family living, and work camps. See **EDUCATION**; **YOUTH MOVEMENT**.

**Youth Congress, American**, established in 1934 to serve as a co-operating center and a clearinghouse for all youth and youth-serving organizations. Membership organizations estimated to reach 4,500,000 young people. Chairman: Jack McMichael. Executive Secretary: Joseph Cadden. Headquarters: 230 Fifth Avenue, New York City; Washington Bureau, 907-15th Street, N.W., Washington, D.C. The Sixth Annual American Youth Congress was held at Lake Geneva, Wis., July 3-7, 1940. A National Youth Citizenship Institute was conducted in Washington, D.C., February 10-12. See **YOUTH MOVEMENT**.

**Youth, National Foundation for American**. See **YOUTH MOVEMENT**.

**Youth Needs, Campaign for**. See **YOUTH MOVEMENT**.

**Zionist Organization of America**, founded in 1897 to enlist public support for the upbuilding of a Jewish national homeland in Palestine and to foster a program of Jewish renaissance. Membership 50,000. President: Edmund I. Kaufman. Executive Director: Rabbi Isadore Breslau. Headquarters: 1720-16th Street, N.W., Washington, D.C. The destruction of European Jewish communities thrust upon the American Zionist Organization the sole responsibility for continuing the upbuilding of the Holyland. During 1940 headquarters were moved from New York City to Washington and a campaign for 150,000 members was launched. The 44th annual convention will be held in July, 1941.

**Zionist Organization of America, Women's**, listed under *Hadassah*.

**Zonta International**, a classified service club for women executives, organized in 1919 to encourage high ethical standards in business and to improve the legal, professional, economic, and political status of women. Membership about 4500. President: Mrs. May Moyers McElroy. Executive Secretary: Miss Harriet C. Richards. Headquarters: 59 E. Van Buren Street, Chicago, Ill. A new district was organized in 1940—District 5, comprising the States of Texas, Oklahoma, Arkansas, and Louisiana. The 20th Annual Convention was held at Estes Park, Colo., in June, and Zonta Week was observed November 3-8. The Amelia Earhart Scholarship for post-graduate study in aeronautical engineering was awarded to Miss Rose E. Lunn, a student at Massachusetts Institute of Technology. The 21st convention will be held at Memphis, Tenn., June 18-21.

**SOCIOLOGY**. See **LITERATURE, ENGLISH AND AMERICAN under Sociology**.

**SOCOTRA**. See **ARABIA under Aden Protectorate**.

**SOIL CONSERVATION SERVICE**. The Soil Conservation Service is helping farmers and public agencies to attack a wide variety of physical land problems, with a view to advancing social and economic conditions through control of erosion, conservation of rainfall, and desirable adjustments in the use of agricultural land.

An increasing amount of the Service's work in 1940 has been, and will continue to be, concentrated in local soil conservation districts. These local subdivisions of the States, organized by farmers under State law, have now been established in 38 States. Upon request, the Service goes into a district and plays an active part in its operations program on the land. It helps make preliminary surveys and assigns a technical staff to aid the farmers in developing and carrying out soil con-

servation plans. In addition, the Service may make equipment available, provide seed and seedlings for erosion control plantings, and furnish CCC labor to assist in getting conservation work started. On Nov. 1, 1939, the Service was extending active assistance to 148 districts covering approximately 83,000,000 acres; twelve months later, field technicians were stationed in 274 districts, comprising 165,000,000 acres. In these districts, more than 29,000 farm conservation plans were made during 1940, and field work was started on approximately 6,000,000 acres.

Closely related to the work in co-operation with soil conservation districts is the operation of erosion control demonstration projects. While the number of demonstration projects and number of CCC camps working on private lands remained unchanged, conservation operations were initiated on 6000 additional farms comprising about 1,500,000 acres in project and camp areas.

At the close of the year, erosion control work under the Service's guidance in projects, camps, districts, and other areas was either completed or under way on nearly 120,000 farms, covering more than 30,000,000 acres and located in every State, Hawaii, and Puerto Rico.

In its work of relieving social and economic maladjustments in rural areas by purchasing land unsuited to cultivation and developing it for some better adapted use, such as forestry, grazing, or wildlife, the Service this year purchased approximately 1,500,000 acres of land. Development operations were completed on approximately 3,000,000 acres. A total of approximately 11,000,000 acres have been purchased under this program.

The development of small water facilities, authorized by the Pope-Jones Act of 1937 for the 17 arid and semi-arid western States, progressed notably this year. With the Soil Conservation Service giving technical guidance, and the Farm Security Administration furnishing financial help, facilities such as wells, windmills, stock ponds, and water-spreading systems were constructed or repaired on more than 1600 farms and ranches. By the end of the year assistance under the water facilities program had been extended to some 3800 families, representing approximately 2,000,000 acres of land.

Flood control work on the land, involving treatment for erosion control and waterflow retardation, began in the latter part of the year on the watershed of the Los Angeles River in southern California. The Service is collaborating in this work with the Forest Service and the Bureau of Agricultural Economics. The three agencies have now completed preliminary examinations of 141 major watersheds, and detailed surveys are completed or under way in 41 of these to provide a basis for actual operations.

The year brought a great increase in the number of farm forestry projects established in predominantly agricultural areas. In these projects, the Service helps farmers build up their woodlands, both for income production and erosion control. At the same time, farmers are assisted in the development of conservation plans for crop lands and pastures. During the year 32 projects were started. So far, 35 farm forestry projects have been established in 31 States.

Under the supervision of the Service, 39 CCC camps are engaged in farm drainage work in 11 States. The enrollees work in public drainage districts clearing out ditches, repairing tile drains, and making other improvements in existing drain-

age systems. To date, about 9500 miles of ditches, and 345 miles of tile have been strengthened and improved.

Surveys of agricultural land to determine the type of soil, amount of slope, degree of erosion, and present use of the land are an essential preliminary to most of the Service's work. Lands surveyed in soil conservation districts and demonstration areas are classified as (1) suitable for cultivation without special practices, (2) suitable for cultivation with simple erosion control practices, (3) suitable for cultivation with complex or intensive practices, (4) suitable for uses that may involve short periods of cultivation, or (5) not suitable for cultivation. During the year, surveys were completed over 38,755 square miles, bringing the total area surveyed by the Service to approximately 62,500 square miles.

In addition to its action work on the land, the Service is also conducting a comprehensive program of research. Problems connected with soil conservation, flood control, farm drainage, and irrigation are being investigated in co-operation with State Agricultural Experiment Stations and to some extent with other Federal Bureaus at 127 field stations about the country. Significant research findings are used to implement the Service's operations program, and are made available to other agencies and to the public generally.

On July 1, 1940, soil conservation work on Federal lands such as Indian reservations and public domain areas was transferred by order of the President from the Soil Conservation Service to the Department of the Interior. Under this reorganization, the latter Department is charged with the responsibility for erosion control and water conservation work on all lands under its own jurisdiction. The Soil Conservation Service, however, will continue its operations on privately owned lands and on public lands not administered by the Interior Department.

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**SOILLESS AGRICULTURE (HYDROPONICS).** See BOTANY.

**SOILS AND SOIL CONSERVATION.** See AGRICULTURAL ADJUSTMENT ADMINISTRATION; AGRICULTURAL CHEMISTRY AND ENGINEERING, BUREAU OF; FERTILIZERS. KENTUCKY under *History*; LAND UTILIZATION, OFFICE OF.

**SOLOMON ISLANDS.** See AUSTRALIA; BRITISH EMPIRE.

**SOMALILAND, British.** A British protectorate in Africa, along the south shore of the Gulf of Aden; conquered by Italy during August of 1940. Area, 68,000 square miles; population (1938), 350,000, including 2700 non-natives. Chief towns: Berbera (capital), Hargeisa, Burao, Zeila, Erigavo.

**Production and Trade.** Chief agricultural crops: barley, maize, sorghum, wheat. Livestock raising was the principal occupation of the people. Livestock (1936 estimate): 2,500,000 sheep, 2,000,000 goats, 1,500,000 camels, 30,000 cattle, 2000 donkeys, and 1000 horses. Trade (1938): imports, £728,050 (cotton piece goods, dates, rice, and sugar were the main imports); exports, £207,548 (sheep, goats, skins, myrrh, and frankincense were the chief exports). Shipping entered in 1938 totaled 169,643 tons.

**Government.** Finance (1938): revenue, £206,074; expenditure, £227,341. Free grant-in-aid (1938) totaled £30,000. Under British rule the protectorate was administered by a governor (whose headquar-



ters were at Sheikh) and he was represented by a district officer in each of the administrative districts.

For the military campaign resulting in the British withdrawal in 1940, see *EUROPEAN WAR under Campaigns in Africa*; *ITALIAN EAST AFRICA under History*.

**SOMALILAND, French.** A French colony in Africa, at the southern entrance to the Red Sea. Area, 8492 square miles; population (1936 census), 44,240, including 27,380 Somalis, 4200 Arabs, 12,000 Danakils. Djibouti, the capital, had 20,000 inhabitants in 1939.

**Production and Trade.** The chief occupations of the people were fishing, salt mining, and the transit of goods to and from Italian East Africa. Trade (1938): imports, 147,700,000 francs (the chief imports were cotton yarns, cotton goods, cattle, coal, and sugar); exports, 85,300,000 francs (the main exports were coffee, hides, and salt). The 1938 transit trade was valued at 521,563,195 francs (franc averaged \$0.0288 for 1938; \$0.0251 for 1939). Shipping entered at Djibouti in 1938 totaled 2,823,096 tons. There is a railway from Djibouti to Addis Ababa, Italian East Africa, 496 miles in length.

**Government.** Finance (1939) · revenue and expenditure were estimated to balance at 26,000,000 francs in the local budget. A governor, assisted by an administrative council, controlled the government of French Somaliland.

**History.** The Italo-French armistice of June 24, 1940, provided for demilitarization of the French Somaliland coast for the duration of the war, the evacuation of French troops from the coastal zone, the surrender of their arms, and full Italian control and use of the port of Djibouti and of the Somaliland section of the French-owned Djibouti-Addis Ababa railway. General Gentilhomme, Governor of French Somaliland and commander-in-chief of the Anglo-French forces in French and British Somaliland, repudiated the Vichy Government's surrender and joined the "Free French" forces of Gen. Charles de Gaulle. He was unable to win the colony over to his course, however, and at the end of July General Germain took command of the French military forces and the civil administration on behalf of the Vichy regime. Shortly afterwards Italian forces from Italian East Africa entered the southern part of French Somaliland without opposition and used it as a base for their successful invasion of British Somaliland in August.

The Italian military commission charged with applying the terms of the armistice in French Somaliland arrived in Djibouti on August 31. It was reported to have received a hostile reception from the civilian populace. Early in September General Germain turned over the civil administration of the colony to M. Nouillat, an official from French Indo-China, and the military command to General Aymé. The British applied their naval blockade to the colony when it adhered to the Vichy Government and it was reported in October that a serious food shortage had developed.

See *FRANCE and ITALIAN EAST AFRICA under History*; *EUROPEAN WAR under Campaigns in Africa*.

**SOMALILAND, Italian.** See *ITALIAN EAST AFRICA*.

**SOUTH AFRICA, Union of.** A self-governing dominion composed of former British colonies in the southern part of Africa and ranking as a member of the British Commonwealth of Nations.

Capital, Pretoria (seat of administration); Cape Town (seat of the Legislature).

**Area and Population.** The area by provinces and the population by provinces and racial composition as officially estimated for June 30, 1939, are shown in the accompanying table.

SOUTH AFRICA AREA AND POPULATION  
[Estimated, June 30, 1939]

Province	Area, sq. miles	Europeans	Bontus	Asiatics & mixed
Cape of Good Hope	277,169*	818,700	2,130,400	734,900
Natal	35,284	199,200	1,640,800	212,200
Transvaal	110,450	897,600	2,645,400	81,200
Orange Free State	49,647	201,000	580,900	17,700
Total	472,550	2,166,500	6,997,500	1,046,000

\* Including Walvis Bay (430 sq. miles)

The census population of May 5, 1936, totaled 9,589,898 (European, 2,003,857; non-European, 7,586,041), as compared with a total estimated population of 10,160,000 (European, 2,116,500; non-European, 8,043,500) on June 30, 1939. European births registered in 1939 numbered 53,805 (25.4 per 1000); deaths, 19,846 (9.4 per 1000). Populations of the chief cities, including suburbs, at the 1936 census were, with the number of Europeans in parentheses: Johannesburg, 519,384 (257,671); Cape Town, 344,233 (173,412); Durban, 259,606 (95,033); Pretoria, 128,621 (76,935); Port Elizabeth, 109,841 (53,461); Germiston, 79,440 (32,564); East London, 60,563 (31,311); Bloemfontein, 64,233 (30,291). The same census showed that the home language of 1,120,770 persons (55.93 per cent of the European population) was Afrikaans, 783,071 (39.08 per cent) English, 50,411 (2.52 per cent) English and Afrikaans, 17,810 German, and 17,684 Yiddish.

**National Defense.** For defensive measures taken in the course of South African participation in the European War see *History*, below. Reports prior to Nov. 1, 1940, credited South Africa with 5000 active in armed service and a reserve of 15,000 trained in military service but inactive; combined total, 20,000; in air service, 1500 of the active troops. Citizens of European descent are liable to serve in war from the age of 17 years to 60; those under 25 years of age are liable also to periods of military training. Before the European War the statutory permanent force had, June 30, 1939, 287 officers and 4997 men, including 1568 in the South African Air Force. The Department of Defense estimated its expenditures for 1938-39 at £1,797,530 (South African). A feature of the military skill of the people is a system of rifle associations in which citizens not entered for active training but still under the age of 25 years get practice in the use of the rifle. In 1939 the rifle associations had 124,131 members. A South African Naval Service was maintained and had in 1939 headquarters at Simonstown.

**Education and Religion.** State-conducted and State-aided public schools numbered 4471 in 1937 for pupils of European stock and 4850 for others; pupils numbered, respectively, 381,550 and 546,225. Normal expenditures of these schools, 1939, £9,354,422, S.A. At Cape Town, Stellenbosch, Witwatersrand, and Pretoria are four universities; that at Pretoria, the University of South Africa, a Federal body, conducts five colleges in different parts of the Union. Universities' students numbered, in 1937, 8707. According to the census of 1936 the religious affiliations of people of European descent were chiefly: Dutch churches, 1,088,826;



Anglican, 345,103; Presbyterian, 82,283; Methodist, 140,658; Roman Catholic, 92,352; Jewish, 90,662.

**Production.** South Africa grows, for export, wool and other animal products, sugar, citrus fruits, and cereals. Its mines produce principally gold; also diamonds and several base metals. Its manufactures are largely engaged in processing its products and in providing what cannot readily be imported. The production of gold, the Union's greatest single source of wealth, increased under the influence of the European War; Great Britain supplied an eager market for the output. From 12,819,344 troy oz. for the calendar year 1939, itself a new maximum of yearly production, the yield of gold mounted to more than 14,000,000 oz. for 1940 (by early approximation). In terms of U.S. money these totals represented, in value of gold, respectively some \$450,000,000 and over \$490,000,000. Much of the value went to pay the workers on the mines and metallurgical works; mines paid an estimated \$12,000,000 in dividends in 1939, of which some \$8,500,000 was believed to have gone to stockholders in South Africa; another great sum went to pay South African taxes and the Union's appropriation of some \$5,000,000, the excess of producers' receipts over the 150 shillings an oz. guaranteed by the British Government. Production of other minerals included (1938) coal, 17,536,230 tons (\$4,729,423); diamonds, 1,238,608 metric carats (\$3,496,243); manganese ore, 422,757 tons (\$560,602). See also **GOLD**.

Production from farms, for the world's markets, was dominated by wool. The total output of wool, for the year ended with June 30, 1940, attained some 793,415 bales; this lacked somewhat of the total for the year previous. Most of it went into exports. About 5,000,000 boxes of citrus fruits are produced yearly for the foreign market. See also **DAMS**; **INDUSTRIAL CHEMISTRY**.

**Foreign Trade.** Imports of 1939 totaled \$91,341,108; exports, \$34,196,010, not to count gold. The chief articles of export, other than gold, were: wool, \$7,256,301; citrus fruits, \$1,667,855; hides and skins, \$1,737,630; sugar, \$1,840,518; diamonds, \$1,861,441. Chief imports were electrical machinery and material, \$4,210,573; foodstuffs, \$4,840,651; cotton piece goods, \$3,999,703; and great aggregates of machinery and textiles diversely classified. The United Kingdom sent \$37,203,000 of the imports of 1938 and took \$58,791,000 of the exports; the United States and Germany followed in importance.

**Finance.** The unit of money is the South African pound; its value in U.S. money averaged \$4.4017 for 1939 and \$3.98 for 1940. The Union's budget as prepared for the year 1940-41 totaled \$57,255,000 and included \$14,000,000 of special war-time expenditure. It involved expected issue of some \$22,500,000 of debt. A second budget for the same year, presented on August 28, called for military-expenditure of \$32,938,000, the issue of \$23,616,000 in bonds, and an increase of 20 per cent in the income tax. The Union's public debt was stated, Feb. 28, 1940, as \$102,700,000 external and \$184,300,000 internal. For the fiscal year ended with Mar. 31, 1940, the budget anticipated revenues of \$44,442,014 and expenditures of \$44,110,000; but the year ended with a surplus of \$1,050,000.

**Transportation.** Railway mileage in the Union and in South-West Africa on Mar. 31, 1938, totaled 13,620 (government, 13,213; private, 407). For the year ended Mar. 31, 1939, the Minister of Railways and Harbors estimated revenues at \$38,-

240,437 and expenditures at \$39,889,025. The highway mileage in 1939 was 88,949. A six-year program calling for the construction of 5400 miles of national roads at a cost of some \$20,000,000 was started in 1936. Up to Dec. 31, 1938, 1227 miles of these highways were constructed. The sum of \$4,500,000 was appropriated for continuation of this program during 1939-40. The South African cities are linked with Egypt, Europe, and London by Imperial Airways. The South African Airways, operating six services, carried 34,162 passengers and 3,005,639 lb. of freight and mails in 1938. During 1938 6182 vessels of 24,869,085 net registered tons entered the ports. See **PORTS AND HARBORS**.

**Government.** Executive power is exercised by the Governor General, appointed by the King on recommendation of the South African government, and by the Executive Council (cabinet), which is responsible to Parliament. Parliament consists of a Senate of 44 members (8 appointed by the Governor General and 36 elected) and a House of Assembly of 153 members, elected by white male and female suffrage for five years unless sooner dissolved. Governor General in 1940, Sir Patrick Duncan (assumed office March, 1937).

The line-up in the House of Assembly following the September, 1939, split in the United South African National party over participation in the European War was: National Government bloc, 85 (Smuts wing of United party, 69; Dominion party, 9; Labor party, 4; Native representatives, 3); Hertzog wing of United party, 39; Malanites, 29. Prime Minister, Minister of External Affairs, Minister of Defense, Gen. Jan. C. Smuts, who replaced Prime Minister J. B. M. Hertzog on Sept. 5, 1939. Other members of the cabinet were: Native Affairs, Deney's Reitz; Finance and Education, J. H. Hofmeyr; Commerce and Industries, R. Stuttaford; Agriculture and Forestry, Col. W. R. Collins; Interior and Public Health, H. G. Lawrence; Railways and Harbors, F. C. Sturrock; Posts and Telegraphs, Public Works, Sen. C. F. Clarkson; Labor and Social Welfare, W. B. Madeley; Lands, Sen. A. M. Conroy; Justice, Dr. Colin F. Steyn; Mines, Col. F. C. Stallard; Minister without Portfolio, Maj. P. V. G. Van der Byl.

#### HISTORY

**The Political Conflict.** The bitter controversy between the pro-war and anti-war elements in South Africa that broke out in September, 1939 (see **YEAR BOOK**, 1939), continued with mounting intensity during 1940. After declaring war on Germany on Sept. 6, 1939, Prime Minister Smuts had prorogued Parliament until January, 1940, and governed through a series of emergency decrees. When Parliament reassembled on Jan. 19, 1940, the Governor General announced that it would be asked to confirm the declaration of war and grant the government further powers for carrying on the struggle. General Hertzog, leader of the anti-war groups, immediately introduced a motion in the House of Assembly calling for termination of the state of war and adoption of a neutrality policy by the Union.

After five days of debate, the Hertzog motion was defeated on January 27 by a vote of 81 to 59. The debate was marked by a speech of General Hertzog defending Hitler and by Prime Minister Smuts' reply that South Africa could not withdraw from the war without sacrificing both its honor and its vital interests. Dr. D. F. M. Malan, leader of the Nationalist Republican party, supported the Hertzog motion and in addition de-

mandated that South Africa sever all connections with Great Britain immediately. Previously his party had stood for the "eventual" formation of a republic. He attacked General Smuts as leader of the English-speaking South Africans, who were "letting down" the Afrikaners by "playing the Empire's game." Former Defense Minister Pirow, supporting General Hertzog, warned Prime Minister Smuts that there would be serious consequences if South African troops were sent out of the country.

Following defeat of their motion, General Hertzog and Dr. Malan on January 28 agreed, subject to approval by the entire membership of both groups, to merge their parties as the Reunited Nationalist or People's party. They issued a statement asserting that "a republican form of government, separated from the British Crown, is best suited to the traditional aspirations of the South African people" and the only effective guarantee that South Africa would not be drawn again into Britain's wars. At General Hertzog's insistence, the statement declared a republic could be achieved only with the consent of the nation and on a basis of equal language and cultural rights for both the Boer and British elements of the population.

The Malan bloc, however, showed growing unwillingness to abide by this formula. In July the Malanites announced plans for a mass meeting "to consider active constitutional steps to establish a republic." General Hertzog curtly refused to participate in a step that seemed likely to lead to civil war. When the inaugural Congress of the new Nationalist party met early in November, the Malan group deleted the clause in the party platform calling for equal treatment for English- and Afrikaans-speaking South Africans. General Hertzog then left the new party and on December 12 he and his former Finance Minister, N. C. Havenga, announced their resignation from Parliament and retirement from party politics. There was a split among Hertzog's adherents, with some joining the Malanite movement for a Boer-dominated republic and others supporting the government bloc. This and the simultaneous British victory over the Italians in North Africa strengthened the position of the Smuts Government.

In the meantime, General Hertzog had continued his fight against Prime Minister Smuts' war policy. The latter, in support of his contention that Germany aimed at the reconquest of South-West Africa as a part of its plan for world domination, made public on February 7 further data concerning Nazi activities in both the Union and in South-West Africa. He said the funds collected—sometimes by threat and intimidation—from persons of German birth or extraction in these territories "for relief in Germany" had been retained by the Nazis for propaganda and other purposes in South Africa. He charged the Nazis with giving financial assistance to South African Fascist movements such as the Gray Shirts, who carried on an active anti-Jewish propaganda in rural districts.

General Smuts told Parliament that Kenya and Tanganyika were northern outposts of the Union, and that if need arose South Africa would give military aid to British territories right up to the Equator. He added that while South Africa could not remain disinterested regarding the future of the British colonies on the north, that did not necessarily preclude the ultimate establishment of another British Dominion in that part of Africa.

The German invasion of the Netherlands on May 10 caused some of General Hertzog's influ-

ential Afrikaner followers to switch their support to Prime Minister Smuts. Sensational Nazi military successes led the Prime Minister in mid-May to appeal to all citizens to support the government's firm policy. He declared there were some signs of subversive movements and warned that the government was setting up a special organization to deal strongly with the remnants of the "fifth column." He also warned a section of the press to cease helping the enemy under the guise of politics.

The day after Italy's entrance into the war, Prime Minister Smuts broadcast an announcement that South Africa was at war with Italy. Parliament was not consulted. About 200 Italians residing in the Union were interned and many more Germans were rounded up. On June 15 the Prime Minister assumed direct command over all South African defense forces. Three days later it was announced that a "small military force" had been sent to the border of Portuguese Mozambique as a "precautionary measure." On the same day the Prime Minister in a radio broadcast again pledged full support of Britain. He pointed out that Italy's action had brought the war closer to South Africa and that the Union's danger as a valuable economic and strategic prize was very great.

The collapse of France stirred the anti-war groups in South Africa to new efforts. On June 24 General Hertzog and Dr. Malan issued a joint letter, demanding the immediate summoning of Parliament and withdrawal from the war. On June 28 demonstrations called by General Hertzog were held in many centers of the Union and resolutions were passed urging the government to seek an "honorable peace" with Germany and Italy "without delay." One resolution asked the people to disobey a government order commandeering all rifles of military pattern.

Undeterred by this opposition, the government proceeded to speed up war preparations and extend further aid to the hard-pressed British. The opposition demand that Parliament be summoned was granted. When the legislators assembled at the end of August, General Hertzog again introduced his motion for immediate withdrawal from the war. He asserted that the war was already lost, that Britain stood no chance against the combined German and Italian forces, and that the patience of the Afrikaners with the government's "senseless policy" was nearing its limit.

General Smuts replied that the government would not be "deflected from our course by Hitler's victories or glorification of Germany." He declared there was every prospect of a British victory and said South Africa would fight on until that victory was achieved. On August 31 the House of Assembly upheld the government's policy, 83 to 65. On September 5 it passed by a majority of 24 votes the War Measures (Amendment) Bill, granting the government full powers to act on all matters connected with the war. The only exceptions made barred enforcement of the conscription powers in the Defense Act or infringement upon the rights and privileges of Parliament.

**War Contribution.** The preparations for military and economic support of the British war effort made in 1939 (see *YEAR BOOK*, 1939) were steadily expanded throughout 1940. In April the Union made available its air-training facilities to the Royal Air Force. A British air mission under Air Chief Marshal Sir Robert Brooke-Popham was sent to South Africa to supervise the joint

training of air recruits from South Africa, the British Isles, and the British colonies in Africa.

The South African Air Force began to play a part in actual warfare in East Africa immediately after Italy entered the conflict. Beginning July 14, a steady flow of troops and equipment from South Africa was concentrated in Kenya to prevent an Italian drive southward from Ethiopia and to relieve British troops for services in other parts of Africa. Under the direction of Hendrik van der Byl, Director-General of War Supplies, remarkable progress was made in mobilizing industry for the production of war material of all kinds. Military explosives, shells, air bombs, grenades, rifle ammunition, trench-mortars and guns, armored cars and other military vehicles, uniforms, boots, blankets, tinned food, and other equipment were turned out in large quantities. Part of this output went to supply British armies in Egypt and Palestine, thus relieving the strain on British industry.

A South African purchasing mission was sent to the United States to buy airplane engines, machine guns, and the more complicated types of artillery not produced in South Africa. Other armaments of this kind were obtained in Great Britain. At the same time preparations were rushed in South Africa for a greatly expanded economic production in the event the war spread to the nearby Portuguese and Belgian colonies. The first textile factories in South Africa were constructed by the Director-General of War Supplies' office.

A dozen other plants were built for the production of war supplies. The Iscor steel plant, opened at Pretoria in 1935, was expanded to a capacity of 440,000 ingot tons yearly, and a new steel plant was authorized. Construction of small freighters for service in African waters was begun. Schools were established for the training of thousands of additional industrial workers. The co-operation of both labor and capital was obtained, the manufacturers producing on the basis of cost plus a small percentage and the labor unions agreeing to eliminate strikes and job changing for the duration of the war. Four labor representatives, paid by the unions, worked in the Department of War Supplies to insure an adequate supply of labor for the factories. A Commandeering Law published May 25 permitted the requisitioning of buildings, supplies, foodstuffs, forage, horses, vehicles, and other articles necessary for maintaining the defense forces in the field.

A South African delegation was sent to the conference of British Dominions and colonies of the Middle and Far East, held in New Delhi, India, beginning October 25. Its objective was to coordinate and increase the flow of war materials and supplies to the Allied armies in Africa, the Near East, and the British Isles. On October 27 Prime Minister Smuts flew to Khartoum in the Anglo-Egyptian Sudan to confer with Anthony Eden, British Minister for War, who was inspecting preparations to meet the expected Italo-German drives toward the Suez Canal and the oil fields of Asia Minor.

**Other Economic Measures.** While the war proved a decided stimulus to the Union's industrial and mining enterprises, agriculture was adversely affected by the loss of European markets, particularly in France. The conflict also imposed a severe strain upon the government's finances, despite the sound position of the Treasury at the outbreak of war. The government took various measures to adjust the Union's economy and finances to the new situation.

To prevent the slowing up of defense industries through raw material shortages, the government in March obtained first claim on incoming cargo space from the British shipping authorities, and in return agreed to buy in Great Britain and the Empire whenever possible. In the budget estimates announced for 1940-41, several million pounds were set aside for the establishment of a new Industrial Development Corporation to aid the establishment of selected private industrial enterprises.

A revision of the system of taxing the gold mining industry was introduced in connection with the 1940-41 budget. The levy on sales of gold at prices above 150 shillings per ounce was withdrawn. Gold miners operating at a narrow margin of profit obtained relief while taxes were increased on high-profit mines. Under an agreement announced April 22, the Bank of England, acting for the British Treasury, undertook to buy all South Africa's gold output from the Union Government at the full official price. The Union Treasury's profit on this transaction was estimated at £2,000,000 or more annually.

With the proceeds of heavy taxes levied on the mining industry, the government extended large subsidies to agriculture. The farms suffered from a labor shortage as a result of recruiting and the rapidly increasing employment of native labor in the mines. To check this trend, the government relaxed its restrictions upon the importation of native mine labor from Mozambique. A Moratorium Act was promulgated for the benefit of volunteers serving with the military forces. Government control was extended over transactions in South African securities and foreign currencies. Arrangements were made with the British Government for the sale of South Africa's entire wool clip during the war and for a year thereafter.

**SOUTH AMERICA.** A continent comprising 10 republics (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, and Venezuela) and three colonies (British Guiana, French Guiana, and Surinam). Total area, about 6,934,356 square miles; population, 91,300,000 (Dec. 31, 1938 estimate). See EXPLORATION; PAN AMERICANISM; PAN AMERICAN UNION; and separate articles on each country and colony.

**SOUTH AUSTRALIA.** A State of Australia. Area, 380,070 square miles; population, exclusive of full blood aborigines, 597,387 (Mar. 31, 1940, estimate). Vital statistics (1939): 9618 births, 5739 deaths, 5670 marriages. Chief cities: Adelaide (322,990 inhabitants on Dec. 31, 1939), Port Pirie (11,677 in 1933), Mount Gambier (5542). Education (1938): 1077 State schools and 83,277 students; 184 private schools and 16,356 students; there is a State university at Adelaide.

**Production.** Chief agricultural products: Wheat (40,984,726 bu. in 1939-40), barley, oats, hay, grapes, wine, dried fruits. Livestock (1939): 9,940,570 sheep, 351,013 cattle, 190,013 horses, 119,660 pigs. Dairy output (1938-39): 20,716,584 lb. of butter, 18,457,598 lb. of cheese, 5,987,363 lb. of ham and bacon. Wool, as in the grease (1940): 102,000,000 lb. Mineral production (1938) was valued at £2,932,473, including ironstone (£2,582,171) and gold (£46,922). Manufacturing (1938-39): 2067 factories, 43,371 employees, £13,678,930 net value of production (Australian £ averaged \$3.8955 for 1938; \$3.5338 for 1939). There were 2558 route miles of railway on June 30, 1939.

**Government.** Finance (1939-40): Revenue, £12,756,000; expenditure, £12,919,000; public debt, £109,344,000. Executive power rests with a gov-

ernor, assisted by a council of responsible ministers. There is a parliament consisting of a legislative council of 20 members (10 re-elected every 3 years) and a house of assembly elected for a 3-year term. Governor, Sir Malcolm Barclay-Harvey (appointed Mar. 2, 1939); Premier, Thomas Playford.

**History.** It was announced on Aug. 7, 1940, that the public works committee of the State legislature had recommended the expenditure of £3,122,000 to build a pipe line (235 miles long) from Morgan on the Murray River to Whyalla on Spencer's Gulf to provide 1,200,000,000 gallons of water annually for Whyalla and 900,000,000 gallons for the intervening northern districts.

**SOUTH CAROLINA.** Area, 30,989 square miles; includes water, 494 square miles. Population (U.S. Census), April, 1940, 1,899,804; 1930, 1,738,765. Charleston (1940), 71,275; Columbia, the capital, 62,396. The urban population of the State rose (1930-40) by 95,031, to 466,111; the rural, by 66,008, to 1,433,693.

**Agriculture.** South Carolina's harvest of 1940 covered 5,124,000 acres of the principal crops; nearly three-fifths bore cotton or corn. Cotton, on 1,242,000 acres, grew 970,000 bales (\$47,045,000 in estimated return to the cultivators); corn, 1,736,000 acres, gave 24,304,000 bu. (\$17,985,000); tobacco, 82,000 acres, 81,590,000 lb. (\$12,565,000); tame hay, 730,000 acres, 539,000 tons (\$7,276,000); oats, 495,000 acres, 10,890,000 bu. (\$5,227,000); sweet potatoes, 63,000 acres, 5,040,000 bu. (\$3,780,000); potatoes, 28,000 acres, 3,192,000 bu. (\$2,745,000); wheat, 215,000 acres, 2,688,000 bu. (\$2,365,000); peaches, 1,915,000 bu. (\$2,202,000).

**Education.** For the academic year 1939-40, the number of South Carolina's inhabitants of school age (from 6 years to 20, inclusive) was stated as 677,587. Of the 481,750 reported enrollments in the public schools for that year, those of pupils in the elementary studies comprised 196,308 whites and 198,642 Negroes; in high schools, 69,537 whites and 17,263 Negroes. The year's expenditures for public-school education totaled, for whites \$14,975,108; for Negroes, \$2,570,226. The teaching force, 9662 whites and 5660 Negroes, averaged respectively, in pay for the year, \$978 and \$391.

**History.** More or less dissatisfaction with the State's still recent abandonment of prohibition of alcoholic beverages for a system of licensed liquor stores caused pressure on the Legislature to restore prohibition. The lawgivers passed an act calling for an advisory referendum vote of the people. This vote was cast at the State primary elections, much more widely attended than the general elections in November. The result (August 27) was a majority of about 3 to 2 for prohibition in a total of nearly 300,000, which approximated 30 per cent of the State's white population. Further action, if any, awaited the next session of the Legislature.

Against the opposition of U.S. Senator E. D. Smith, a pronounced anti-New Dealer, the State's Democratic convention voted (May 15) by more than 2 to 1, in favor of nominating President Roosevelt for a third term.

At the general election (November 5) the popular vote for President totaled 95,470 for Roosevelt (Dem.) and 4360 for Willkie (Rep.). Six Democrats, all incumbents but one, were elected U.S. Representatives. No State officers and no U.S. Senator were elected. Of the popular vote for Willkie given above, a considerable part (1727) was not Republican, but was cast for a separate and alto-

gether different list of electors under the designation of Jeffersonian Democrats.

**Officers.** South Carolina's chief officers, serving in 1940, were: Governor, Burnet R. Maybank (Dem.); Lieutenant Governor, J. E. Harley; Secretary of State, W. P. Blackwell; Treasurer, Jefferson B. Bates; Attorney General, John M. Daniel; Comptroller, A. J. Beattie; Superintendent of Education, James H. Hope.

**SOUTH DAKOTA.** Area, 77,615 square miles; includes water, 747 square miles. Population (U.S. census), April, 1940, 642,961; 1930, 692,849. Sioux Falls (1940), 40,832; Pierre (the capital), 4322. While the population of the State as a whole decreased (1930-40) by 49,888, the urban population, going against that trend, increased briskly, by 27,180, to 158,087, almost all the incorporated places of 2500 or over partaking in the increase; the rural majority of the population diminished by 77,068, to 484,874.

**Agriculture.** South Dakota's harvest of 1940 covered 13,652,000 acres of the principal crops. More than half of the area bore corn, wheat, and oats. Corn, on 2,784,000 acres, made 50,112,000 bu. (\$28,063,000 in estimated value to the cultivator); wheat, 2,707,000 acres, gave 26,221,000 bu. (estimated at \$17,306,000); oats, 1,936,000 acres, 53,240,000 bu. (\$11,180,000). Among other crops were barley, 1,666,000 acres, 30,821,000 bu. (\$10,171,000); tame hay, 778,000 acres, 765,000 tons (\$3,596,000); flaxseed, 293,000 acres, 1,904,000 bu. (\$2,456,000); rye, 470,000 acres, 5,640,000 bu. (\$1,861,000); grain sorghums, 443,000 acres, 3,544,000 bu. (\$1,559,000); potatoes, 32,000 acres, 2,016,000 bu. (\$1,210,000).

**Mineral Production.** More than nine-tenths of the minerals produced in South Dakota in 1938 was due to gold mined in the Black Hills. The remainder was mainly such stone, sand, and gravel as would meet needs in the State. The recoverable gold material mined in 1940, according to preliminary estimate, totaled 592,936 oz., valued at \$20,752,760, as against the total for 1939 of 618,536 oz., \$21,648,760. The gold ore contained, in each of the years of 1939 and 1940, silver valued in excess of \$100,000. About nine-tenths of the yearly total of gold continued to come from the ores of the Homestake Mine, in Lawrence County.

**Education.** For the academic year 1939-40 South Dakota's inhabitants of school age were reckoned at 186,251: of these, 135,597 were between 6 and 17 years old; the rest, between 17 and 21. Enrollments of pupils in public schools during the year numbered 136,447; of these, 98,441 in elementary study and the rest, 38,006, in high school. The year's expenditure for public-school education totaled \$12,312,609. The teachers, 8014, averaged in year's pay, \$757.86 for elementary and \$1020.81 for high-school positions.

**History.** The decline in the total of population between 1930 and 1940 (see above), amounting almost to 50,000 set the highest rate of loss, somewhat over 7 per cent, for any of the six States of the Union whose populations had shrunk. While it pointed to adversity, its most obvious cause, the dry years and consequent crop failures that had coincided with the depressed prices, foreclosures, and insolvencies of the earlier 'thirties, had passed. Economic conditions in the State were again tolerable.

The State's credit sufficed to enable it in 1940 to carry out in full the operation, begun in 1939, of refunding \$20,425,000 of its rural-credit bonds. This operation effected what was known as the

level debt-service plan. It issued, in place of outstanding bonds that were to mature before 1950, other bonds maturing only in the decade thereafter. The new bonds paid the same interest as the old ones until dates when the old ones would have matured; thereafter the new ones were to pay only 3 per cent per annum. This still required the State to pay out yearly, for a good many years, at \$2,500,000 or more, but it relieved the finances of the risk that a great part of the debt might come due when it could neither be paid nor borrowed over again.

At the general election (November 5) the State's popular vote for President gave 177,065 for Willkie (Rep.) and 131,362 for Roosevelt (Dem.). Harlan J. Bushfield (Rep.) was re-elected Governor, defeating L. W. Bicknell (Dem.).

**Officers.** South Dakota's chief officers, serving in 1940, were: Governor, Harlan J. Bushfield (Rep.); Lieutenant-Governor, Donald C. McMurchie; Secretary of State, Olive A. Ringsrud; Treasurer, W. G. Douglas; Auditor, W. W. Warner; Attorney-General, Leo A. Temmey; Superintendent of Public Instruction, J. F. Hines.

**SOUTHERN RHODESIA.** See RHODESIA, SOUTHERN.

**SOUTH GEORGIA; SOUTH ORKNEY.** See FALKLAND ISLANDS.

**SOUTH POLE.** See POLAR RESEARCH.

**SOUTH-WEST AFRICA.** A territory administered by the Union of South Africa under a mandate from the League of Nations. Total area, including the Caprivi Zipfel, 317,725 square miles; population (1938), 365,000. The census of 1936 showed (exclusive of Walvis Bay) 357,787, including 261,724 natives and 30,677 Europeans (of whom 9632 were German speaking and of these 6244 were British or South African subjects). Chief towns: Windhoek (capital), 10,651 inhabitants in 1936, Luderitz, Keetmanshoop, Swakopmund, Walvis Bay. Education (1938): 11,373 students in the 180 schools of all kinds.

**Production and Trade.** Stock raising is the chief industry. Agriculture, owing to the low rainfall, is almost impossible—except in the northern and northeastern portions of the country. Livestock (1938): 908,061 cattle, 3,074,257 sheep, 1,420,322 goats, 28,164 horses. Chief minerals: diamonds, gold, iron, lead, tin, copper, vanadium, tungsten. Trade (1939): imports, £2,220,000; exports, £3,348,000 (South African £ averaged \$4.4017 for 1939).

**Government.** Budget (1940-41): revenue, £607,000 (£748,300 for 1939-40); expenditure, £813,000 (£824,657). South-West Africa is included in the South African Customs Union and a lump sum based on the customs and excise taxes on goods consumed in the territory is paid over to the administration. The Union of South Africa parliament has vested the administration of the territory in the governor-general of the Union, and he has placed his powers in the hands of an administrator who is assisted by an executive council, an advisory council, and a legislative council of 18 members (12 elected by the voters, and 6 appointed by the administrator and approved by the governor-general). Administrator, Dr. D. G. Conradie.

**History.** South-West Africa was divided during 1940 by the conflict between pro-war and anti-war factions that agitated the Union of South Africa. In elections to the Legislative Council held toward the end of February the United party, supporting Prime Minister Smuts and his pro-war policy, won 10 of the 12 elective seats. The other seats went to the Nationalists, who advocated the Hertzog-Malan anti-war policy and who had the

support of the German element in the colony.

Prime Minister Smuts on Feb. 7, 1940, gave out further information concerning the activities of the Nazi overseas organization in South-West Africa. He said the Nazi movement in the colony was organized on the cell basis, with its own secret newspaper and a party "arbitrator" who usurped the functions of the regular courts. The Nazi leaders in South-West Africa either fled or were interned upon the outbreak of war in 1939. Further precautions against an attempted coup by the Nazis were taken during 1940. See SOUTH AFRICA, UNION OF, under *History*.

**SOVIET UNION.** See UNION OF SOVIET SOCIALIST REPUBLICS.

**SOYBEANS.** The production of soybeans for beans in the United States in 1940 was estimated by the U.S. Department of Agriculture at 79,837,000 bu., 12.5 per cent below the 91,272,000 bu. of 1939,\* and compared with the 1929-38 average of 27,318,000 bu. New high records were established again in 1940 for total acreage with 10,528,000 acres and acreage harvested for beans 4,961,000 acres versus 9,506,000 and 4,417,000 acres, respectively, in 1939. The lower production in 1940, in spite of the record acreage, was attributed to the low acre yield due to hot dry weather early in July and in August, especially in the important soybean States of Illinois, Indiana, and Ohio. Average acre yields were 16.1 bu. in 1940 and 20.7 bu. in 1939. States leading in yields of soybeans for beans were: Illinois 35,140,000 bu., Iowa 15,026,000, Indiana 10,989,000, Ohio 8,400,000, North Carolina 2,282,000, and Michigan and Missouri each with 1,176,000 bu. The season average price per bu. (preliminary) received by farmers was 75.8 cents in 1940 and the value of production was estimated at \$60,535,000 versus 81.4 cents and \$74,299,000 in 1939. Soybean hay production declined to 6,312,000 tons from 4,883,000 acres in 1940 from 6,565,000 tons from 4,612,000 acres in 1939. The area of soybeans grazed or plowed under in 1940 totaled 1,618,000 acres.

The 1940 crop of soybeans in Manchuria was officially estimated at 140,984,000 bu. (144,952,000 bu. in 1939).

**SPAIN.** A State of southwestern Europe. Capital, Madrid.

**Area and Population.** Area, 196,607 square miles, including the Balearic Islands (1935 sq. mi.) and the Canary Islands (1279 sq. mi.). The population in 1940 was estimated at 26,000,000 (23,564,000 at 1930 census), including the Balearic Islands (estimated pop., 381,594 in 1939) and the Canaries (286,154 in 1939). Living births in 1938 numbered about 453,584 (17.8 per 1000); deaths, 417,919 (16.4). Populations of the chief cities were (1934 estimates except as stated): Barcelona, 1,399,000 (1940); Madrid, 1,194,000 (1940); Valencia, 352,802; Seville, 238,727; Málaga, 203,844; Saragossa, 189,062; Bilbao, 175,898.

**Colonial Empire.** The principal divisions of the colonial possessions of Spain are listed in the

Colony (Capital)	Sq. mi.*	Population*
Spanish Guinea <sup>a</sup> (Santa Isabel)	10,124	120,000
Spanish Morocco <sup>a</sup> (Tetuán)	8,108	750,000
Western Sahara <sup>a</sup> (Villa Cisneros)	110,036	110,038
Total.....	128,570	890,000

\* Estimated. <sup>a</sup> Includes Rio Muni (on the mainland) and the islands of Fernando Po, Annobon, Corisco, Great Elobey, and Little Elobey. <sup>b</sup> Excluding Tangier which was occupied by Spanish troops on June 14, 1940, and incorporated with Spanish Morocco on Nov. 14, 1940. See TANGIER under *History*. <sup>c</sup> Includes Rio de Oro, Adrar, and Ifni.

accompanying table. For administrative purposes the Balearic Islands in the Mediterranean, the Canary Islands off the northwest coast of Africa, and the areas of Ceuta and Melilla in north Africa, are considered an integral part of Spain.

**Education and Religion.** The 1930 census showed 45 per cent of the adult population as unable to read or write. Under the Franco regime, the Roman Catholic Church was re-established as the official religion. The religious orders recovered their pre-republican legal status, properties, State subsidies, teaching rights, jurisdiction over cemeteries, and other privileges (see *History*). In 1935 there were 4,720,260 pupils in 42,766 elementary schools; 130,752 pupils in 111 secondary schools, and 31,905 students in 11 universities.

**Production.** Agriculture, mining, manufacturing, and fishing are the chief occupations. Spanish economy was badly disrupted by the civil war of 1936-39 and the European War (see *History*). The principal products in 1939 were (in metric tons), with 1940 estimates in parentheses. Wheat, 2,877,900 (3,300,000); barley, 1,408,300 (2,000,000); rye, 410,300 (700,000); oats, 478,600; corn, 843,300; rice, 178,100 (225,152,000 bu. in 1940-41); potatoes, 4,781,700 (average for 1930-34); beet sugar, 111,000 in 1939-40; wine, 17,200,000 hectoliters in 1937 (hectoliter equals 26.42 U.S. gal.); olive oil, 370,000 in 1939-40; wool and mohair, 27,200 in 1938; rayon and staple fiber, 1399; lignite, 204,000; coal, 6,753,000; pyrites (exports), 1,636,000; iron ore, 2,184,735 (average for 1933-39); pig iron and ferro-alloys, 500,000; steel ingots and castings, 600,000; copper ore, 820,000 tons (exports of Rio Tinto mines only); lead (smelter), 27,000; zinc (smelter), 11,300; quicksilver, 1450 (imports from Spain into principal importing countries). The chief manufactures are cotton textiles, paper, glass, etc. The 1940-41 orange crop was estimated at 24,443,000 boxes of 70 lb. each. Many other fruits, cork, and fishery products normally are exported.

**Foreign Trade.** Publication of Spanish trade statistics was suspended early in 1936 and not resumed until 1940, when data covering the last nine months of 1939 were made available. Converted into U.S. dollars, imports for April-December, 1939, were \$111,978,000 (\$287,256,000 for calendar year 1935); exports, \$78,287,000 (\$192,173,000, including gold and silver). Foodstuffs accounted for 42 per cent of the 1939 imports as against 14 per cent of the 1935 total. The relative proportion of all other major classes of imports showed a marked decline in 1939 as compared with 1935. The principal 1939 exports were (nine months): Foodstuffs, \$46,217,000; minerals, \$10,929,000; chemical products, \$6,794,000; wood and vegetable matter and their manufactures, \$5,027,000. Argentina supplied 27.9 per cent of the 1939 nine months' imports (2.5 in 1935); United States, 14 (16.8); Germany, 12.9 (13.7); United Kingdom, 5.1 (10.4); France, 1.7 (5.5). Of the 1939 exports, the United Kingdom took 25.4 per cent (21.7 in 1935); Germany, 24.8 (12.7); United States, 10.1 (9.5); Italy, 6.2.

**Finance.** According to a statement of the Minister of Finance on Aug. 6, 1940, the Franco Government's receipts during the civil war of 1936-39 were 3,684,000,000 pesetas and expenditures 11,944,000,000 pesetas. The deficit was largely covered by advances of 7,600,000,000 pesetas from the Bank of Spain. During the nine postwar months of 1939, receipts were 2,498,000,000 and expenditures 5,118,000,000 pesetas. In September, 1939, the Bank of Spain made another advance of 2,500,000,000 pesetas to the government.

Appropriations for the ordinary 1940 budget amounted to 5,960,245,000 pesetas (about one-fourth higher than the pre-civil-war budget). In addition, extraordinary expenditures of 1,200,977,000 pesetas were authorized for repairing civil war damages, defense, etc. Revenue for part of the ordinary and all of the extraordinary budget was obtained by borrowing. Subscriptions to 3-per cent five-year Treasury notes, opened July 8, 1940, totaled over 4,000,000,000 pesetas. The 1940 budget was extended through 1941 by a decree of Dec. 30, 1940. The foreign debt in August, 1940, was estimated at 1,250,000,000 gold pesetas. The average exchange rate of the peseta was \$0.1063 for the last nine months of 1939 and \$0.0932 for 1940.

**Transportation.** Spain in 1940 had about 10,340 miles of railway lines, 70,760 miles of roads, and air lines connecting Madrid and the other chief Spanish cities with Berlin, Rome, the Canary and Balearic Islands, with London and New York via Lisbon, Portugal, and with Tetuan and Melilla in Spanish Morocco. An 85,000,000-peseta appropriation for road construction was made on June 21, 1940. Railway communication with Italy and Germany across France was re-established as of Aug. 10, 1940.

**Government.** Following a victory of the Leftist parties in the Cortes elections of Feb. 16, 1936, a military revolt broke out July 17, 1936, which forced the capitulation of the Republican Government on Apr. 1, 1939. The republic established in 1931 was replaced by a Fascist dictatorship under Gen. Francisco Franco, leader of the revolt, as Leader (Caudillo) of the Empire, Chief of State, Commander-in-Chief of the Army, Premier, and head of the Falange Española (government party), in which were merged all political groups supporting the revolt and the army. All other political parties were outlawed. Under a series of decrees issued in 1937, 1938, and 1939 (see those *YEAR BOOKS*), General Franco exercised his dictatorial powers directly (he assumed power in 1939 to issue decrees without consulting his cabinet), through a cabinet, and through the governing organs of the Falange Española.

The cabinet was composed as follows at the end of 1940: Premier and Minister of Interior, General Franco; Foreign Affairs, Ramón Serrano Suñer; Acting Minister of Interior, José Lorente Sanz; Air, Gen. Vigón Suerodiaz; Navy, Vice-Adm. Salvador Moreno; Army, Gen. José Varela; Justice, Esteban Bilbao Eguia; Finance, José Larraz Lopez; Commerce, Demetrio Carceller Segura; Education, José Ibañez Martín; Public Works, Alfonso Peña Boeuf; Agriculture and Labor, Joaquín Benjumea Burín; Minister without Portfolio, Pedro Gamero del Castillo.

The organs of the Falange Española consist of a National Council of about 100 members, representing the various Nationalist political interests, and a Political Council of 19, composed of delegates to the National Council and serving as the permanent governing body of the party. Franco is president of the National Council and appoints its Secretary-General. It is empowered to determine the structure of both State and government party, control syndical organizations, etc. The president of the Political Council of the party is Ramón Serrano Suñer, Franco's brother-in-law, and the guiding spirit of the Falange Española.

## HISTORY

**Internal Developments.** Conditions within Spain went from bad to worse during 1940. Re-

construction after the civil war had barely started when the outbreak of the European War on Sept. 1, 1939, interrupted plans for pushing rehabilitation with German technical and economic aid. The collapse of France in June, 1940, enabled Spain to reopen overland communications with Germany and Italy. But the resultant economic exchange was more than offset by the extension of the British blockade to Spain at the end of July. The crops harvested in 1940 were considerably better than in 1939, but remained insufficient to feed the population, particularly in view of the continued dislocation of surface transportation systems. Moreover the continuance of the bitter internal dissensions that had produced the civil war, and the development of new tensions within the government itself, placed added difficulties in the way of national reconstruction. The government's lively preoccupation with military preparations and ambitions had a similar effect.

The net result was a general tightening of the hunger and privation that had afflicted the Spanish people since the outbreak of the civil war in 1936. By the end of 1940, large sections of the population were reported to be severely undernourished or facing starvation. Effective December 1 the bread ration for the rich and well-to-do was reduced to increase the quantity available for the poor. The government ordered the cultivation in 1941 of all lands that had been under the plow since 1900. Only the relaxation of the British blockade to permit imports of corn, obtained on credit from Argentina, and of Red Cross food supplies from the United States prevented actual famine in certain districts. The Civil Governor of Madrid on December 20 declared that "the hunger and misery of Spain grieves us to the heart," but could offer little hope for an improvement of conditions. This was because the Spanish Government was unwilling to give the political assurances and make the adjustments of foreign policy that would have opened the way for large-scale importations of food and other essential supplies from the United States, Latin America, and the British Empire countries.

**Political Trends.** The restriction of overseas imports into Spain by the British blockade was introduced after the Madrid Government showed every intention of throwing in its lot with the Axis powers in the hope of consolidating the Fascist system in Spain and securing territorial compensation at the expense of Britain and France. The British used the blockade as an effective weapon for cutting off transshipments of war materials to Germany through Spain and also for keeping Spain neutral by restricting imports to bare subsistence requirements. See GREAT BRITAIN under *History* for further details.

Britain's fear that General Franco would either join in the conflict, or permit German troops to cross Spain to attack Gibraltar, was deepened not only by Franco's foreign policies (see below) but also by the strengthening of the power of the pro-Axis Fascist section of the Falange Española as against the other elements in the government party—monarchists, some army officers, and clericals—who in general favored a policy of neutrality.

The pro-Axis trend was reflected in the replacement of the outspoken Air Minister, Gen. Juan Yagüe, on June 28 by Gen. Juan Vignón Suerodiaz. General Franco on October 17 ousted Col. Juan Beigbeder y Atienza, another pro-neutral army leader, from the key post of Foreign Minister. He appointed to the vacancy his brother-in-law, Ser-

rano Suñer, Minister of Interior and the strongly pro-Axis leader of the Spanish Fascist movement. Serrano Suñer declared that his appointment meant Spain's acceptance of the "new order" in Europe. Franco himself took over Serrano Suñer's former post of Minister of the Interior.

Earlier in the year the political pendulum appeared to be swinging away from the Fascists and their program. In opposition to the Fascists, the government on March 6 decreed the return to the grandees of the lands expropriated by the republic for distribution among the peasants. On January 27 the extensive properties and lands of the Jesuits, confiscated by the republican government in 1932, were restored by decree. This appeared to open the way for a settlement of the controversy over the appointment of Spanish bishops that had deadlocked negotiations for a concordat between the Vatican and the Franco Government late in 1939 (see YEAR BOOK, 1939, p. 719). Nevertheless the deadlock continued through 1940. The Vatican organ *Osservatore Romano* on October 5 issued an unprecedented rebuke to Serrano Suñer, who as special envoy of Franco had visited Rome for consultations with Italian officials without making the customary request for a pontifical audience. The wealthy were likewise antagonized by further heavy increases in taxes, decreed December 22, and by General Franco's order of July 17 increasing wages of day laborers by one-sixth.

**Treatment of Opposition.** Another sign of extremist domination of the government was the continued harsh repression of the elements that had fought to defend the republic. Vatican sources reported on January 25 that Spanish prisons and concentration camps still held 500,000 political prisoners, including a number of priests, and that 25 persons had been executed the preceding month.

The government on March 2 promulgated a law aimed primarily at Masonry. It provided for the dissolution of all secret orders, the confiscation of their properties, and imprisonment for six years of persons engaging in propaganda on their behalf. The police on June 19 announced the breaking up of "a vast and clandestine organization" supported by Spanish Communists living abroad. The execution of Luis Companys, former head of the autonomous government established in Catalonia under the republic, was announced October 16. Six days later five other prominent members of the former Republican Government were sentenced to death, despite appeals for clemency from some of the Spanish-American republics. These men were among about 90 prominent Catalan and Republican leaders who had taken refuge in France and were turned over to the Franco Government by the Pétain regime.

Seeking to check the rising tide of popular discontent, the government toward the end of the year arrested several hundred merchants and manufacturers charged with profiteering or hoarding and sent them to labor camps. Steps were also taken to tighten restrictions upon the press and other forms of communication.

**Expansionist Aims.** The serious internal situation served as an effective brake upon Spain's entrance into the European War on the side of the Axis so long as Britain appeared able to continue the struggle. But it did not curb the expansionist aims of the Franco Government nor prevent it from making all preparations for taking the greatest possible advantage of a British defeat.

The government continued to spend large sums upon its fighting forces. The Civil Guard, Spain's



famous rural police force, was placed under army control on March 17. On August 20 the compulsory military service term was increased to two years instead of one. War Minister Varela visited the strategically situated Canary Islands at the end of October and on December 29 General Franco authorized the "urgent" expropriation of lands at Las Palmas in the Canaries for the construction of a large military base. By a decree of December 6, all boys and youths between 7 and 22 years of age were organized in a Youth Front for political and pre-military training.

The extent of Nationalist ambitions was revealed during the French military debacle in June, when it seemed probable that Britain too would soon surrender. On May 13, a Foreign Office communiqué had reaffirmed Spain's policy of neutrality, proclaimed in 1939. A month later (June 13), following Italy's entrance into the war, General Franco substituted a policy of "non-belligerency" for that of neutrality. According to the newspaper *Arriba*, organ of the Falange Española, "non-belligerency" implied all aid to the Axis powers short of actual entrance into the war. On June 14 Spanish troops occupied Tangier (q.v.) in defiance of the Allied powers signatory to the treaty internationalizing that territory, and on November 14 it was incorporated into Spanish Morocco. There were reports that Spain was fortifying the Tangier Zone, with the aid of German engineers, and installing long-range guns capable of covering the Strait and bombarding the Rock of Gibraltar on the opposite side.

In mid-June, coincident with the announcement that Germany and Italy had invited Spain to participate in drafting the peace terms to be offered France, the Nationalist press called for the cession to Spain of Gibraltar, part of French Morocco, and the principality of Andorra in the Pyrenees.

Much emphasis was placed upon the opportunity that an Axis victory would present for the extension of Spanish influence in Latin America. General Franco on November 7 established a Council of Hispanicism to strengthen Spain's relations with Spanish America and the Philippines. Foreign Minister Serrano Suñer aroused some alarm and much criticism in Latin America by comparing the new Council to the Council of the Indies, through which Spain once ruled the American colonies. *Arriba* on October 13 proclaimed Spain's determination to defend the rights of the Latin American nations, protect the Spanish spirit there, and extend the "new order" being established in Europe to Latin America.

With this objective in view, the Spanish Government and press, acting in conjunction with Falangist branches in the Latin American countries, fought to curb the influence of the United States in Hispanic America and to disrupt the Pan American movement (see PAN AMERICANISM). The negotiations between Uruguay and the United States for the construction of inter-American defense bases in Uruguay with American aid provoked a furore of denunciation in Spain. However Spain's assumption of a "big brother" role toward the Spanish American nations was not attended with great success. See ARGENTINA, CHILE, COLOMBIA, CUBA, ECUADOR, MEXICO, and URUGUAY, under *History*.

**Negotiations with the Axis.** When German troops extended their occupation of France to the Spanish frontier on June 28-29, they received a cordial welcome and promises of material and

moral support from Spanish army officers and officials. During the summer and autumn, while the fate of Britain hung in the balance, the Spanish press prepared the country for entrance into the conflict on the side of the Axis and a joint Spanish-German attack upon Gibraltar. On July 17 General Franco told a gathering of officers that "there remains for us as a duty and a national mission control of Gibraltar, expansion in Africa and continuance in the policy of unity." There were accompanying demonstrations in Madrid and other cities demanding the return of Gibraltar.

While refusing German and Italian pressure for an immediate declaration of war, General Franco in September sent Serrano Suñer to Berlin and Rome to lay the foundations for closer Spanish collaboration with the Axis and to obtain specific pledges concerning the territorial compensation to be obtained in return. This involved an adjustment of conflicting Italian and Spanish claims in French Morocco, reported to have been effected through the influence of Hitler. The Rome press on October 1, during Serrano Suñer's visit, stated that Spain's role in the Axis was fixed, but that she would bide her time to "strike for her rights."

As British resistance stiffened and Axis difficulties grew, both Italy and Germany increased pressure upon General Franco for more active aid. In this they were supported by the Spanish Fascists. On October 23 Chancellor Hitler conferred with Franco at the Spanish border and reportedly sought to persuade him to allow German troops to cross Spanish territory to attack Gibraltar, without calling on Spain's military assistance. Franco was said to have replied that the crucial food shortage did not permit of even this limited co-operation with the Reich. However Spanish-German relations became increasingly close. The opening of a rail link across France permitted the shipment of considerable quantities of Spanish iron ore and other minerals, almonds, fruits, etc., to Germany in return for some manufactured articles. On November 18 Serrano Suñer returned to Berlin for further conferences with Hitler, during which territorial annexations were again discussed. Subsequently the Spanish press began to bring pressure upon the Vichy Government for territorial concessions in Morocco.

**Hostility to United States.** Spanish press attacks upon United States policies, particularly Washington's aid to Britain and support of inter-American co-operation, became extremely violent during November while the Uruguayan base issue was under discussion. However a hostile demonstration before the U.S. Embassy in Madrid by university students brought an apology from the Franco Government on November 22, and a curb on the anti-American press campaign. The primary reason for this change was the refusal of the State Department at Washington to proceed with negotiations for food shipments to Spain until the Franco Government adopted a more friendly attitude toward both Britain and the United States. Towards the end of the year Washington, with Britain's consent, agreed to permit the American Red Cross to send a few million dollars' worth of food and medical supplies to Spain. More substantial aid to Spain in the form of credits for the purchase of foodstuffs, cotton, etc., was prevented by Franco's adherence to his pro-Axis policies. The United States also objected to Spain's military occupation of Tangier (q.v.).

For the Spanish-Portuguese mutual assistance pact of July 30, see PORTUGAL under *History*. Also

see BELGIUM, FRANCE, GERMANY, GREAT BRITAIN, ITALY, and MOROCCO, under *History*; FASCISM; INDUSTRIAL CHEMISTRY; LABOR CONDITIONS.

#### SPANISH-AMERICAN LITERATURES.

World conditions have made it very difficult to assemble materials for such articles as these. Consequently this presentation of the year's activities must not be taken as exhaustive, nor must the omission of any country be held as evidence that it was non-productive in 1940.

The following works are of general interest: John Tate Lanning, *Academic Culture in the Spanish Colonies*; Dwight Carroll Miner, *The Fight for the Panama Route, the Story of the Spooner Act and the Hay-Herran Treaty*; Miles P. Duval, Jr., *Cádiz to Cathay: the Story of the Long Struggle for a Waterway Across the American Isthmus* (both books important and supplement each other); Duncan Aikman, *The All-American Front*; Lewis Hanke and Raúl d'Eça, *Handbook of Latin American Studies 1938*; John T. Whitaker, *Americas to the South* (objective and timely study of conditions in the Hispanic countries).

**Argentina.** Of the materials that have come to hand, the field of erudition shows the heaviest contributions, with verse in second place.

**Prizes.** The Comisión Nacional de Cultura awarded the prizes for Criticism, Philosophy, and Essays for the triennium 1937-39: the first to the important critical history *El Arte de los Argentinos*, by José León Pagano; the second to *La Ética formal y los valores*, by Carlos Astrada; and the third to *Tres Ensayos españoles*, by Ignacio B. Anzoátegui. The prizes for History for the same triennium were awarded as follows: to Ramón J. Carcano, *La guerra del Paraguay*; to Col. Juan Beverina, *Las invasiones inglesas al Río de la Plata*; and to Juan Alfonso Carrizo, *Cancionero popular de las provincias de Salta, Jujuy, y Tucumán, y cantares de Tucumán*. First prize in the poetry contest held in Buenos Aires by the journal, *Martín Fierro*, went to Juan Rodolfo Wilcock for his *Libro de Canciones y Poemas*. The Municipality of Buenos Aires' first prize in literature for 1939 was awarded to Augusto Mario Delfino for his group of short stories entitled *Fin de Siglo*.

**Drama.** Ricardo Rojas continued his triumph with successive editions of *Ollantay* (first performed with such acclaim in 1939). It should be remembered that Rojas began working on this play as early as 1909, his father, being governor of a Quechua-speaking province of Argentina. His more recent work, *Un Titán de los Andes*, sets forth his scholarly investigations concerning the transmission of the legend from earliest times down to the present. Ataliva Herrera (a poet of real distinction and grace) produced *Las vírgenes del Sol*, highly praised for his re-creation of the city of Cuzco, capital of Peru, as of November, 1532. Maestro Alfredo L. Schiuma set it to music and it was performed, and won great applause, in the Teatro Colón at Buenos Aires.

**Verses.** Julia Prilutzky Farny de Zinny produced *Viaje sin partida* (25 exquisite sonnets, a love story, by a woman graduate in law and a master analyst of the human soul), and J. Alfredo Fontao, *Lámpara de amor* (nearly fifty sincere, dainty poems all addressed to one lady).

**Erudition.** Biblioteca "La tradición Argentina" (appearing weekly) has already published 35 vols. of about 150 pages each. Other works of erudition that may be listed are: Madaline W. Nichols, *Sarmiento: a Chronicle of Inter-American Friend-*

*ship* (important contribution to inter-American studies, new information concerning this great Argentinian who did so much to give his countrymen a faithful interpretation of us); Enrique Larreta, *Tiempos iluminados* (charming book of reminiscences of outstanding moments in the life of the author from early childhood through his last diplomatic visit to Bordeaux); Aída Cometta Manzoni, *El Indio en la Poesía de América Española*; Manuel Gálvez, *Vida de Hipólito Yrigoyen, el hombre del misterio* (powerfully written); Alberto Rembao, *Mensaje, movimiento, y masa* (a spiritual book with a world vision of present day problems).

**Academia Argentina de Letras.** Early in the year, Juan P. Ramos, member-elect, was formally received, with the reading of his entrance discourse, *Juan María Gutiérrez*. At the request of the members-elect, the *Academia* at its meeting April 25, voted to receive formally this year only two of them, Juan Alvarez and José León Pagano, and leave the other two (Ramón J. Carcano and Enrique Banchs) for initiation in 1941.

**Necrology.** Argentina suffered several severe losses from among her men-of-letters, her statesmen, and her teachers and scholars.

Gullot, Víctor Juan. Novelist, dramatist, historian, orator, journalist, educator, statesman (elected four times as Deputy to the Chamber), and outstanding parliamentarian, died in August. Among his principal writings are: *Historias sin importancia* (second Municipal Prize, 1921); *El alma en el pozo* (first Municipal Prize, 1925); *Terror* (short stories, 1938); *La aventura del hombre* (seven plays, 1938); *Paralelo 55* (travel stories from his exile in the south); *Heróismo civil*, and an historical work, *Cabildos Coloniales*.

Onetti, Carlos María. Influential professor and investigator of Argentine and American literatures and folklore in the Instituto Nacional del Profesorado in Paraná, died July 25. His last work, *Cuatro clases sobre Sarmiento, escritor*, was published by the University of Tucumán and is considered very important. As a poet he is known for three inspired works: *El desfile amoroso*, *El barco de vela*, and *Provincianista con estrellas federales*.

García, Ginés. Brilliant poet, died July 18, at the age of twenty-five. His first book, *Las Ausencias*, appeared in 1935, when he was twenty. It was prologued by Roberto Giusti, Director of *Nosotros*, who went especially to San Nicolás, where the burial took place, and made an address setting forth his judgment of the poet's merits.

**Bolivia.** The materials that have reached us from Bolivia are chiefly erudition.

**Fiction.** Roberto Leiton, *Los Eternos Vagabundos* (sympathetic study of the tragedy of the Bolivian tin mines; many striking pictures of nature and the natives).

**Erudition.** Gustavo Adolfo Otero edits *Tihuanacu (Antología de los principales escritos de los cronistas coloniales americanistas e historiadores bolivianos)*, an enlightening sketch of 3000 years of pre-Colombian Tihuanacu culture and its spread from Easter Island, west of Chile, to the Río Negro in Amazonas. Abelardo Villalando Retamozo, *La Cuestión del Indio*, a keen study, with a purview of Bolivian history from ancient times to the present. Aquiles Vergara Vicuña, *El Mar, nexo de pas entre Bolivia y Chile*, a strong, documented plea for the return of the port of Arica to Bolivia.

**Chile.** Chile this past year was long on erudition as compared with other forms of literature, fiction taking second place.

**Erudition.** Luis Alberto Sánchez, *Garcilaso Inca de la Vega* (valuable, fascinating accounts, accompanied by a glossary of Quechua phrases); Domingo Amunátegui Solar, *Estudios Históricos* (interesting series of essays); Roberto Meza Fuentes, *De Días Mirón a Rubén Darío* (course at the University of Chile on the evolution of Hispanic-American poetry); Guillermo Rojas Car-

rasco, *Filología Chilena: Guía bibliográfica y crítica* (first prize of the Academia Chilena de la Lengua); Víctor M. Vergara, *La Isla de Pascua—Dominación y Dominio* (publicaciones de la Academia Chilena de la Historia), authoritative book concerning the history and complications of the ownership of Easter Island; Antonio Roco del Campo, *Panorama y Color de Chile* (to be recommended to foreigners who wish to get a background for understanding Chileans and their culture; Julio Vicuña Cifuentes, *Prosas de Otros Días*, a posthumous work collected (from many sources of original appearance) and published by the son, Julio Vicuña Luco.

**Fiction.** Luis Durand, *Mi Amigo Piden y Otros Relatos* (ten excellent short stories about country life in southern Chile); Sady Zanartu, *Chilecito* (23 short stories dealing with Chilean life, history, outlook on life, and social conditions of today); Juan Marín, *Orestes y yo* (psychological novel written by a doctor concerning a doctor and his wife and son, all three of them abnormal); Hugo Blym, *Puno* (a careful study of another phase of the Indigenist problem).

**Prizes.** The 1938 Chilean Writers' Society Prize went to Rubén Azócar for his novel, *Gente en la Isla*. The Faculty of Philosophy and Education in the University of Chile offered a reward for the best study of Alberto Blest Gana. Owing to the excellence of the best two studies the committee decided to split the prize between them, awarding one half to each author. The one by Hernán Díaz Arrieta (pen-name "Alone") appeared as *Don Alberto Blest Gana: Biografía y Crítica* (the best study thus far about Blest Gana or any Chilean author).

**Necrology.** The Academia Chilena de la Lengua lost heavily through death during the year.

**Silva Villdósola, Carlos.** Born in Cheihuaihue (Angol), studied in the Lyceo de Chillán, the Instituto Nacional, the Colegio de San Ignacio, and the Universidad Católica. Thereafter he devoted himself to journalism and was secretary of the Chilean Legation at London (1900-02). He belonged to the Société des Gens de Lettres, Paris, and held the decorations of the Legion of Honor, Commander of the Order of the British Empire, Knight of the Order of San Mauricio y San Lázaro, and officer of the Order of Leopold of Belgium. Possessed of an easy and picturesque style, he gave us two novels: *La Montaña and Brisas de mar*, a travel book, *En la nieve* (Santiago, 1913), a study, *Periodismo y letras en Chile* (1914), *Del dolor y de la muerte la guerra vista por un chileno* (1916), and *Le Chui et la Guerre*. Despite his brilliant qualities that would have permitted him to play an outstanding role in any congress, politics never tempted him. He died Dec. 22, 1939, at the age of 70.

**Barriga, Juan Agustín.** Writer and lawyer, born in Santiago, 1853, pursued his studies in the Instituto Nacional and in the University of Chile, early collaborated on the newspaper, *La Estrella de Chile*, becoming later one of the founders of the review, *Arte y Letras* (1884). He was also professor of the University of Chile and of the Catholic University, and served as deputy of the conservative party. Because of the political incidents of 1891, he was exiled and resided for a while in Montevideo and Buenos Aires. He was the oldest member of the Academia Chilena (Correspondiente de la Academia Española) since the Real Academia Española elected him directly Correspondiente in 1895, during a period when the Academia Chilena was inactive. He was also Correspondiente of the Real Academia Sevillana de Buenas Letras. Among his published works are *De la lengua castellana como instrumento de arte literario*; *Don Marcelino Menéndez y Pelayo*; and *Discursos y notas críticas*.

**Echenique Gandarillas, José Miguel.** Elected to membership in the Academia Chilena, he took possession of his chair, Nov. 18, 1937, but his membership in the Academy was of such short duration that his entrance discourse could not be published until the numbers 25 and 26 of Tome VII, published in 1940 and bearing the news of his death.

**Poblete Escudero, Egidio.** Man-of-letters and journalist, born in Los Andes, Nov. 25, 1860. After completing the Humanities course in the Seminary of Santiago, and serving in several administrative capacities, he became

professor in the Naval School, 1901-05. Thereafter he devoted himself almost wholly to journalism and figured on the editorial staff of *La Unión* of Valparaíso; of *El País*, of Concepción, of which he was also Director; and of *El Mercurio*, having made popular during this period the pseudonym of "Ronquillo." In 1928 he was made Secretary-General of the Central Chamber of Commerce. As Director and President of the Círculo de la Prensa of Valparaíso, he organized the Federación Nacional de Periodistas and the holding of the Congreso de la Prensa. He published poems, short stories, novels, and dramas. Among his other publications may be mentioned: *Humoradas* (collection of his articles); *Tratado del Derecho industrial*; *Cuentos de Ronquillo*; a translation of Virgil's *Aeneid* into harmonious Castilian verse; a very fine novel, *La Aventura de las Acacias*, and his drama, *La Mujer de César*. His verse translation of the *Aeneid* was so highly approved by Chileans and others that the Chilean Academy of the Language, of which he was a member, proposed him for the Nobel Prize, an act which will suffice to prove what his fellow academicians thought of him.

**Colombia. Erudition.** Max Grillo, *El Hombre de las Leyes* (estudio del General Francisco de Paula Santander en la Guerra de la Independencia); Ignacio E. Copete, *La Fiducia* (tesis de grado para obtener el título de Doctor en Derecho y Ciencias Políticas); Daniel Ortega Ricaurte, *La Hoya del Amazonas*, (obra laureada con el primer premio de la Sociedad Geográfica de Colombia y de la Universidad Nacional en el concurso de 1938); José Manuel Pérez Sarmiento, *Causas Célebres a los Precursores*, Tomo I; Nicolás García Samudio, *Crónica del muy Magnífico Capitán, Don Gonzalo Suárez Rendón*, publication of the Colombian Academy of History as a homage to the city of Tunja on the fourth centenary of its founding; Luis Augusto Cuervo, *Bailes de Antaño*, a bit of history of the social life of the country in connection with its social and native dances; Manuel José Forero, *Santander, Prócer de la Independencia Nacional*; B. Matos-Urtado, *Perfiles de Santander y un Diario inédito de su enfermedad y muerte (1840-1940)*; 1840 *Muerte de Santander* (Publicación Colombiana de Historia), highly illustrated and documented volume.

**Verse.** A. Ortiz-Vargas, *Las Torres de Manhattan*, a very attractive, sympathetic picture and analysis of what New York stands for in matters of culture, in the form of an epic poem; German Pardo García, *Selección de sus Poemas*, and *Presencia* which some critics claim is the finest expression of Colombian verse.

**Necrology.** The following death occurred during December of 1939:

**Goenaga, Florentino.** Man-of-letters and government official; born in Riohacha in 1859; died in Santa Marta, Colombia, Dec. 14, 1939. Studied in the Colegio del Espíritu Santo where he obtained the degree of Doctor of Jurisprudence and Professor of Political Science. As soon as he finished his career, he was called by the members of the Junta de Delegados Conservadores. He went to Spain in 1884 and remained there a year as an agrégé of the Colombian Legation. Back in his own country he served from 1886 to 1888 as fiscal of the Tribunal of Cundinamarca and was elected magistrate of the Tribunal of Magdalena. In 1890 he figured as deputy for Riohacha and Valledupar and in the congresses of 1892 and 1894 as Senator. In 1891 he was Rector of the University of Bolívar and 1893, the Prefect of Riohacha.

**Cuba. Erudition.** Gerardo Castellanos G., *Pensando en Agramonte: Habana—Camagüey*, scholarly work dealing with one of Cuba's most important historical personages; Carlos Enriquez, *Tilín García* (a novel of the *Guajiro* similar to *La tragedia del Guajiro*, by Ciro Espinosa, mentioned in the 1939 YEAR BOOK; Alberto Arredondo, *El Negro en Cuba*, a real study to evaluate the Cuban Negro as an integral part of the Island nationality; Francisco González del Valle, *Heredía en la Habana*, part of a series of "cuadernos de la historia habanera"; Alfonso E. Paez, *Recordando a*

*Heredia*, a series in one volume of illuminating critical essays on Heredia; Cosme de la Torre, *Cuarenta Años de mi Vida, 1898-1938* (the author had a share in the military rebellion which finally overthrew the Spanish dominion and in the restoration work which brought about the establishment of the republic).

**Fiction.** Enrique Serpa, *Días de Trinidad*, an important little volume first appearing as a series of newspaper articles in *El País*, now reappearing in book form as a direct result of a genuine demand on the part of several internationally-known Cuban men-of-letters; Lydia Cabrera, *Cuentos Negros de Cuba*, an important volume of 22 folk tales collected by the author—the first Cuban woman in the field of Afro-Cuban folklore—with a prologue by Fernando Ortiz, the Vice-Director of the Academia Cubana himself an authority on Afro-Cuban affairs.

**Dominican Republic. Erudition.** Pedro Henríquez Ureña, *Plenitud de España (Estudios de Historia de la Cultura)*, and *El Español en Santo Domingo*; Charles Callan Tansil, *The U.S. and Santo Domingo, 1798-1873*, important account of diplomatic history based on wide research in archives of France, Germany, Great Britain, and U.S.; Florida de Nolasco, *De Música española*, an attractive second work completing her first work on music; Manuel A. Peña Battle, *Las Devastaciones de 1605 i 1606 (contribución al estudio de la realidad dominicana)*, published by the Comisión de Publicaciones as a valuable addition to Dominican history; Manuel Rodríguez Obispo, *Gregorio Luperón e Historia de la Restauración*, important historical document published by the government to commemorate the first centenary of the death of the author; Leonardo Henríquez (son of the celebrated Dominican diplomat and historian, Max Henríquez Ureña), *Cartilla Diplomática*, a useful handbook for beginning diplomats; Pablo Peralta, *El Evangelio del Gaucho Juan Claridá*, the gaucho evangel of Juan Claridá constitutes a civic and lay moral for every day.

**Verso.** Enrique Henríquez, *Nocturnos i otros poemas*, a volume of unusually beautiful poems representing different ages and experiences of life; Carmen Natalia, *Alma Adentro*, a volume of exquisite poems that invite one to enter the very sanctuary of her dreaming soul; Américo Lugo, *Heliotropo*, the first edition, published in 1908, was highly praised by Manuel Arturo Machado. In this new edition the poet has given some additional material and the critics claim that beautiful as was the original, these new parts are still more beautiful.

**Ecuador. Erudition.** Pío Jaranillo Alvarado, *La Presidente de Quito*, Vol. II (memoria histórica-jurídica de los orígenes de la nacionalidad ecuatoriana y de su defensa territorial), these two volumes together with his earlier *El Indio Ecuatoriano* are of fundamental importance to a real knowledge of Ecuador; José Gabriel Navarro, *Contribuciones a la Historia del Arte en el Ecuador*, Vol. II, a second volume, handsomely illustrated, of this monumental history; Augusto Arias, *Páginas de Quito*, an exceedingly beautiful book describing the very inmost soul of Quito.

**Fiction.** Eduardo Moro Moreno, *Humo en las Eras*, a collection of five short stories, with a short introduction by Carlos M. Espinosa, portrays the condition of the Indian before the coming of the Whites.

**Necrology.** Included below is the death of Remigio Crespo Toral who died during July of 1939,

**Jiménez Mena, Nicolás.** Ecuadorian public official; born in Quito, Sept. 8, 1883; died in Guayaquil, May 2, 1940. Graduate, Faculty of Jurisprudence, University of Quito; chief of Archives, Ministry of Foreign Affairs; Under-Secretary, Ministry of Government; Secretary, Bureau of Telegraphs; Under-Secretary, Ministry of Public Works; member, Sociedad Jurídico-Literaria of Quito, Academia Nacional de Historia del Ecuador, Correspondent, Academia Nacional de Historia de Venezuela; Knight Commander of the Orden de Mérito del Ecuador; received national homage for his literary and journalistic accomplishments in 1937; author of several works, biographical, critical, literary, legal, and educational.

**Toral, Remigio Crespo.** Ecuadorian litterateur and statesman; born in Cuenca in 1860; died July 8, 1939, in Cuenca. While still a student, he was elected deputy to the Convention, soon gained reputation as notable orator. Re-elected five times he became Vice-President of the Chamber of Deputies in 1887 and President in 1888. He was a man of wide culture having traveled much throughout South America, the United States, and Europe; was a member of the Academia Ecuatoriana; inspired poet and keen critic; justly considered one of the great lights of Ecuador. Among his writings are *Últimos Pensamientos de Bolívar*, a poem awarded a prize by the University of Quito (1884); *América y España*, awarded a prize by the Academia Ecuatoriana in 1888, and *My Poema*.

**Guatemala. Fiction.** Elisa Hall, *Mostaza*, a sequel to her *Semilla de mostaza*, is to be followed by a third volume, *Mostaza en flor*. The two books already out, picturing Guatemalan national history with the broader appeal of Spanish colonial life in general, are very important as fiction, and as history; J. Fernando Juárez Muñoz, *El Secreto de una Celda*, a delightful historical novel by the Secretary of the Sociedad de Geografía e Historia de Guatemala, the plot of which is developed during 1716-17, and includes the earthquake of San Miguel.

**Erudition.** J. Antonio Villacorta C., *Historia de la Capitanía General de Guatemala*, hailed as the most complete history of colonial times that has appeared on the continent; José María Bonilla Ruano, *Mosdico de Voces y Locuciones Viciosas*; Máximo Soto Hall, *Los Mayas*, a careful study of the various aspects of the Mayan Indians and their culture; Chester Lloyd Jones, *Guatemala Past and Present*: the author made his first trip to South America on an educational mission in 1914, as a member of a group of educators sent by the American Association for International Conciliation. From that time until this, having been a constant student of inter-American questions he has been able to produce, concerning Central America and Guatemala, what is considered to be the most comprehensive study which has thus far appeared in English.

**Honduras. Erudition.** Nestor Bermudes, *Escritor de Honduras (perfiles fugaces)*, small quarto volume, 215 pages of text, brief sketches of Honduran Writers.

**Mexico.** From Mexico the past year the greatest number of works has been in erudition. Of general interest is a new scholarly journal, entitled *Revista de Literatura Mexicana*, first number July-September, 1940. It will appear quarterly. Director Antonio Castro Leal has a fine editorial board of natives and foreigners.

**Erudition.** *Veinte siglos de arte mexicano*, produced by specialists in the various branches and epochs of art, and by co-operation between the Government of Mexico and the New York Museum of Modern Art, with biographies of the artists and the corresponding bibliography, very important; Xavier Villaurrutia, *Textos y pretextos*, a poet's first book of criticism and one of the best published in Mexico in recent years; Verna Carleton Millan, *Mexico Reborn*, and Nathaniel and Sylvia Weyl, *The Reconquest of Mexico*, two very important books, complement each other, written from totally different points of view; Rafael

Heliodoro Valle, *Bibliografía de Ignacio Manuel Altamirano*, important work concerning versatile writer, number 8 of the *Bibliografías Mexicanas*; Fernando Ocaranza, *Juárez y sus amigos*, thoroughly documented study of this complicated period in Mexican life; Moisés Saenz, *México íntegro*, important study of many phases of Mexican life looking toward its unification; G. Gómez de Estavillo, *Recreación filológica (ensalada de lenguas)*, a jovial, humorous study of the peculiarities of certain languages, especially English, French, and Spanish; Genaro Fernández Mac Gregor (Member of the Mexican Academy, Correspondiente de la Española, and author of *Apunte Crítico sobre el Arte Contemporáneo; La Santificación de Sor Juana Inés de la Cruz; Carátulas; El Doctor Mora Redivivo: Selección de sus obras—Estudio Crítico; Genaro Estrada; and Novelas Triviales*) has recently published a volume of literary studies, *Mies Taráta*; Genaro Estrada, *Bibliografía de Goya*, a posthumous work, showing the enormous bibliographical notes that Estrada had accumulated and which are now published, with sincere devotion, by José Moreno Villa, but, as he himself notes in the last paragraph of his prologue, with an alphabetically arranged index; Carlos González Peña, *Historia de la literatura mexicana desde los orígenes hasta nuestros días*, second, corrected, and enlarged edition of this history, by a well known university professor and academician, first published in 1928, now considered the best balanced treatment we have of the development of Mexican literature, C. Rincón Gallardo, *Mangas y paños a la XVI edición del Diccionario de la Academia Española. Su vocabulario de equitación. Voces ignoradas Decires y refranes del charro mexicano. ¿México o Méjico?* Prologue by F. J. Santamaría; L. Fernández-Guerra y Orbe, *Don Juan Ruiz de Alarcón y Mendoza. Extracto con nuevos documentos y datos.* (ed. by A. Teja y Zabre); J. Jiménez Rueda, *Juan Ruiz de Alarcón y su tiempo*; Roscoe B. Gaither, *Expropriation in Mexico: the Facts and the Law*, sticking strictly to Mexican law, the author demonstrates the illegality of the expropriation law.

**Fiction.** Mariano Azuela, *Avanzada* Mexico is being watched by the Central American Republics and the South American Republics that are predominantly Indian, concerning the way she goes about the solution of the indigenous Indian problem. One critic expects *Avanzada* to be this year's best seller in Mexico and probably in all the rest of Spanish America. A. Izquierdo Albiñana, *Caos*, a poignant study of the delicate sensibilities of a mestizo whose inferiority complex produces "chaos" within him.

**Versé.** José Gorostiza, *Muerte sin fin*, a volume of some of the most living and crystal clear verse that has recently appeared in Mexico: the author develops musically a vision or a sensation of what life is, rather than a thought; Alfonso Reyes, *Villa de Unión (4 de julio de 1880)*, a kind of short story in three parts each treated in a different meter—hendecasyllables, hendecasyllables interspersed with heptasyllables, and romances.

**Nicaragua. Necrology.** The death of Dr. Santiago Argüello Barreto is recorded here.

**Argüello Barreto, Dr. Santiago.** A celebrated Nicaraguan juriconsult, poet, educator, diplomat, and man-of-letters; died July 4, 1940. Born in León, Nov. 2, 1874, he completed his legal studies at the age of twenty-two. Having served as local judge, district judge, president of the Court of Appeals of the West, Vice-Dean of the Faculty of Law, and President of the National Congress, he became in 1896, upon the organization of the Provisional Government, Minister of Foreign Affairs when only

twenty-four. Among his other works we may mention: *De tierra cálida* (verse); *Viaje al país de la decadencia* (prose); *Lecciones de literatura española*; *Ocaso* (drama); and *Ojo y alma* (verse).

**Panamá. Erudition.** Octavio Méndez Pereira, *Tierra firme*, an attractive book about Panama down to its capture in 1671 by the English pirate Henry Morgan, and Samuel Lewis, *Retazos*.

**Necrology.** The following deaths occurred during 1940.

**Miró, Ricardo.** Panamanian writer; born Nov. 5, 1883, died Mar. 2, 1940. Self-educated, he achieved high honors. Consul at Barcelona, chief of the National Archives, permanent secretary of the Academia Panameña; Officer of the Order of the Sun of Peru; founded (1907) the literary review *Nuevos Ríos*, which ran for many years; published *Flor de María* (1921). Among his other works the following are outstanding. *Preludios* (1908), *Los segundos preludios* (1916), *La leyenda del Pacífico* (1919, 1924).

**Andréu, Guillermo.** Panamanian journalist, diplomat, publicist, and litterateur; born Aug. 8, 1879; died in Hollywood, Calif., Oct. 2, 1940. Colonel, Panamanian army; member, Municipal Council; Secretary, Legation in Costa Rica, Sub-Secretary, Foreign Affairs; National Deputy; President, National Assembly; Secretary, Public Instruction; Minister Plenipotentiary, England, France and Spain, Colombia, and Cuba; and Secretary of Government and Justice, editor, *Biblioteca de Cultura Nacional*, founder, *El Heraldillo del Istmo, La Prensa*, and *El Tiempo*; member: Academias Panameñas de la Lengua and de la Historia; Sociedad de Artes y Letras de Cádiz, Past Grand Master of Grand Lodge (Masonic), Sovereign Grand Commander of the Supreme National Council of Thirty-third degree Scottish Rite, Shriner, Decorations. Order of Saint Saba (second class), Rumania; Order of Carlos de Céspedes (first class), Cuba; *Doctor Honoris Causa*, Faculty of Law and Political Sciences of Panamá; author of several books on a variety of subjects.

**Lewis, Samuel.** Illustrious Panamanian journalist, litterateur, scholar, and statesman, born Sept. 22, 1871, died Apr. 17, 1939. Secretary of State, Office of Foreign Affairs; Member, Commission for Preservation of National Monuments; Member Grand Council, Order of Vasco Núñez de Balboa; Member, Academias Panameñas de la Lengua (founder and director) and de la Historia (treasurer), and Corresponding Member, Academias de la Historia de Bogotá and de Caracas, Sociedad Geográfica de Lima, Sociedad de Geografía e Historia de Guatemala, and Ateneo de San Salvador. He was also Gran Cordon de la Orden del Libertador (Venezuela), Medalla de Honor de Instrucción Pública (Venezuela), Officer d'Instruction Publique (France), and Grand Cross of Vasco Núñez de Balboa (Panamá). Among his most important publications are. *Apuntes y conversaciones* (1925), followed by *Anotaciones al 'Tomborrio' de Agustín del Sar, and Retazos*, in preparation at the time of his death and published posthumously, in 1940, accompanied by many tributes published about the author.

**Peru. Fiction.** Ciro Alegría, *Los Perros hambrientos*, a keen study of shepherd life in the highlands of Peru; Luis E. Valcárcel, *Cuentas y Leyendas Incas* and *Garciلاس El Inca, visto desde el ángulo indio*, both of these books are real contributions to the problem of the Indian, the former treating it sentimentally and the second realistically, along with clear evidence of the author's own affection for the Indian; Fernando Romero, *Mar y Playa*, the author, although a sailor by profession, is an enthusiast in the folklore of the Negro in Peru. He helped organize La Insula, an institute for the study of folklore and Peruvian civilization. Angélica Palma, *La Sombra Alucinante*, a posthumous work published by her sister, Renée Palma. The volume takes its name from the first of two novelettes, the other of which is *Al azar*; the volume includes also a short story, *Dos hipótesis*. Although not of the author's best work, they do suggest her ability to do interesting psychological work without resorting to verbosity, and they are a welcome addition to our knowledge of the author.

**Versé.** César Vallejo, *España, aparte de mí este cáliz* (15 poems, with a preface "Profecía de América" by Juan Larrea), fine poems about the Spanish War.

**Puerto Rico. Erudition.** María Cadilla de Martínez, *Juegos i Canciones Infantiles de Puerto Rico*, a valuable book to put beside her earlier book concerning songs and popular games in the *Jardín de Borinquén*; Rubén Gotay-Montalvo, *Mientras Arde la Hoguera (apuntes de un corresponsal combatiente)*, a Puerto Rican law student's account of his experiences in the Republican army in Madrid and among the Aragonese peasantry.

**Drama.** Manuel Méndez Ballester, *El Clamor de los Surcos (Drama en Tres Actos)*, this play won first prize and Diploma of Honor of the Puerto Rican Ateneo in a contest for theatrical works held in 1938; first performance, Dec. 15, 1939, and by the same playwright, *Tiempo Muerto (Tragedia en Tres Actos)*, with a laudatory and critical essay by José A. Balseiro.

**El Salvador.** For reasons directly connected with the turmoil through which the World is passing at present, we have been in arrears of literary happenings in El Salvador for two or three years. The Academias Salvadoreñas de la Lengua y de la Historia, on Feb. 19, 1939, held a joint session to take action with the Committee from San Miguel (natal city of the great teacher, Francisco Gavidia) for the coronation of the illustrious Salvadorean. The coronation was approved and occurred Mar. 26, 1940. He had been previously granted a Gold Medal, a life pension, and later the title of Honorary Director of the National Library, wherein should hang his portrait.

**Necrology.** During a relatively long period the Academy was obliged to suspend its activities, and during that period it lost six of its members through death. In due time the vacancies of Velado, Masferrer, and Guzmán were filled by the election of Drs. Julio Enrique Ávila, Hermógenes Alvarado, and José Llerena h., respectively.

**Velado, Calixto.** The previous President of the Academy, the exquisite poet, who shone like a star of the first magnitude in the Parnassus of El Salvador.

**Guzmán, Dr. David J.** A notable physician, orator, naturalist, and statesman, serving as deputy, sub-secretary, minister of foreign affairs, and inspector general of primary schools. He organized the national museum and the national library of El Salvador, the museum of Nicaragua, and published numerous scientific works, such as, *Topografía física y médica de El Salvador*.

**Fortín, Dr. Miguel A.** Secretary of the Academy, a distinguished professional in the forum and the chair.

**Masferrer, Alberto.** A professor who made of his Chair and the Press a luminous point from which to spread abroad human justice, in chaste prose and verse.

**Belloso y Sánchez, Msgr. Alfonso.** An apostle so filled with faith that he considered nothing, however difficult, as "impossible" if it would work for the "public" welfare.

**Llana, Prof. Juan J.** He was a great teacher, a fine painter, and an authority on the linguistics of the pre-colonial languages.

**Pinto, Miguel, p.** After a life devoted to activities of positive profit to the nation and especially in the career of journalism, died in San Francisco on Aug. 10, 1940, whither he had gone in search of health.

**Fiction.** Ignacio Vázquez, *El Centauro*, a pleasing novel about Salvadorean life, by the talented Official Mayor of the Ministry of Government.

**Erudition.** Dr. Rafael González Sol, *Historia del Arte de la Música en El Salvador*; Miguel Ángel García, *Diccionario Histórico Enciclopédico de El Salvador* (vol IX of a highly praised work).

**Uruguay.—Erudition.** *Homenaje al poeta Federico García Lorca contra su fusilamiento. Prosas de Pablo Neruda y Emilio Oribe.* III aniversario. 1936-39. Carlos Vaz Ferreira, the learned Rector of the University of Montevideo, published two books containing five lectures that he delivered at the University of Buenos Aires, entitled *La actual crisis del mundo (desde el punto de vista racional)*

and *Transcendentalizaciones matemáticas ilegítimas*; Fernando García Estéban, *Vida de Florencio Sánchez*, a more detailed study of the Uruguayan playwright than any other biographer has given was made possible because the author had personal conversations with the widow and actual access to many letters unknown to previous authorities.

**Necrology.** The deaths are recorded of the following writers:

**Garrón, Eugenio.** Uruguayan journalist, writer, and statesman, took part in the revolutions of El Quebracho and Tricolor; was deputy and senator during various periods until the coup d'état of 1898. Thereupon he went to Paris and worked in the editorial office of *Le Figaro*, where he wrote frequently concerning American questions. In 1918 the government of Uruguay appointed him financial agent in Paris. Among other things, he published *Jean Orli, Une campagne; L'Europe dans l'Amérique Latine; La République Argentine: Son histoire, Sa vie économique, Ses finances, et L'Amérique du Sud au XX<sup>e</sup> siècle: L'Argentine et l'Uruguay*.

**Luis, Luisa.** Uruguayan poetess, critic, and journalist; died Apr. 10, 1940. She worked on the staff of *La Razón* of Montevideo, and her book *Senar* (1916), won high praise from the critics for its finished form, depth of sentiment, and human emotion. She wrote two other volumes of verse: *Inquietud* (1922), *Poemas de la inmovilidad* (1926), and two volumes of criticism *Dos grandes maestros. Rodó y Reyles* and *A través de libros y autores* (1925).

**Venezuela. Fiction.** Julián Padrón, *Madrugada*, his second novel, surpassing even his sensationally successful *La Guaricha*; marvelously clear-cut, restrained style.

**Verse.** Jacinto Fombona-Pachano (author of *El Batallón*, short novel; *El Canto del Hijo*, poem; *Virajes*, poems; and *Evolución de la Poesía Moderna Venezolana*, essay) published as the poetic fruit of his sojourn as a diplomat in the United States, the dainty little volume of verse entitled *Las Torres Desprevenidas*.

**Drama.** Julián Padrón, *Parásitas Negras (sainete en tres actos y siete cuadros)*, the author's second work for the theater, *Fogata* being his first.

**Erudition.** E. Gil Borjes, *Discursos en homenaje al Libertador*; Martín J. Gornes Mac-Pherson, *Sangre de Asia en América* (through excavations of his own the author is well-grounded in his discussions of the sources whence came the pre-Columbian visitors to South America). *Proclamas i Discursos del Libertador (Publicación Oficial por decreto del Presidente de la República)* (important volume of 452 pages highly illustrated). Thomas Rourke, *Man of Glory, Simón Bolívar*. The author had already proven his ability with a work entitled, *Gómez—Tyrant of the Andes*. The present work profits from the experience gained in writing the earlier book and Bolívar emerges in a way to earn the other part of the title. Mariano Picón Salas, 1941, a volume of essays by a distinguished Venezuelan who, after many years of exile in Chile, returned to his native land after the death of the dictator, Juan Vicente Gómez, and now deals with the past and present Venezuelan nation.

JOHN D. FITZ-GERALD.

**SPANISH GUINEA.** See SPAIN under *Colonial Empire*.

**SPANISH LITERATURE.** The general state of unrest throughout the world has made it very difficult to assemble materials for articles such as this. For that reason it is more appropriate than ever to say that the treatment is not exhaustive. Nevertheless, some things have reached us and the following are not without interest in the Hispanic field.

**Verse.** José D. de Quijano, *El Madrid del 800* and *Blasón (Versos de la Cárcel)*; José Carner, *Nabi (Poema)*, originally written in his native



Catalán, in 1939 he translated it into Castilian; Federico García Lorca, *Poeta en Nueva York*, with four original sketches, a poem by Antonio Machado and a prologue by José Bergamín—frankly pro-loyalist

**Fiction.** Ricardo León, *Varón de Deseos* (2d ed.), *Jauja* (2d ed.); *Bajo el Yugo de los Bárbaros* and *Roja y Gualda* (both 2d eds. of works that first appeared 1932 and 1934 respectively as first two volumes of a series *Jornadas de la Revolución*); Ramón J. Sender, *El lugar del Hombre*, a powerful novel of the turmoil of the world today, and of the turmoil within Spain; Joaquín Álvarez Quintero published late in 1939 a volume of tales (*cuentos*), *Con Los Ojos*; José Herrera Petere, *Niebla de Cuernos* (lawyer, and officer on the staff of the Loyalist Army, pro-Loyalist); A. Palacio Valdés, *Album de un viejo* (segunda parte de la "novela de un novelista"), a posthumous work in one volume; José María Pemán, *Romance del Fantasma y Doña Juanita*, a novel, with illustrations by Teodoro Delgado.

**Drama.** *Dies comedias del siglo de oro: An annotated omnibus of ten complete plays by the most representative Spanish dramatists of the Golden Age* (ed. by H. Alpern and J. Martel); Lope de Vega, *El Palacio confuso* (together with a study of the Menaechmi theme in Spanish literature by C. H. Stevens); Guillén de Castro, *Las Mocedades del Cid* (ed. by G. W. Humphrey with introductory notes); Tirso de Molina [Gabriel Téllez], *El Burlador de Sevilla, El condenado por desconfiado, La prudencia en la mujer* (ed. with introduction by P. Henríquez Ureña). Joaquín Álvarez Quintero finished several comedies that were to be produced during that season, but none was published during the year; José María Pemán, *La Danza de los velos* (comedia en tres actos y en prosa), and *De ellos es el mundo . . .* (pelicula representable en un acto y cinco cuadros).

**Erudition.** Erudition has been more prolific than the other branches. Angel González Palencia, *La España del Siglo de Oro*; Luis Torres and A. Ruiz Castillo, *Miguel Fleta: el Hombre, el "Drvo," y su Musa*; Leonardo Martín Echeverría, *España: El País y los Habitantes*, highly illustrated, with 155 intercalated figures, 160 plates, and 14 maps *hors texte*; Adolfo Salazar, *Música y sociedad en el siglo XX: Ensayo de crítica y de estética desde el punto de vista de su función social*; Marqués de Santillana, *Prose and Verse*, chosen by J. B. Trend, with an excellent *Introduction*; Lope de Vega, *Del monte sale (quien el monte quema)*, (Palaeographic ed. with excellent studies and notes by Emilio Le Fort Peña); Agustín de Rojas, *El natural desdichado* (with introduction and notes by James White Crowell); *Cinco ensayos sobre don Juan* (ed. with prologue by A. Castro, contains essays by Gregorio Marañón, Ramiro de Maeztu, José Ingenieros, Azorín, and Ramón Pérez de Aya), Juan Ruiz de Alarcón, *La Verdad sospechosa* (ed. by P. Henríquez Ureña and J. Bogliano); María Zambrano, *Pensamiento y poesía en la vida española*; Eugenio d'Ors, "Nuevo glosario"—"La tradición, Introducción a la vida angélica (cartas a una soledad), *Glosas a Portugal* (all the foregoing published in Buenos Aires), and two new editions of his artistic studies, *Tres horas en el Museo del Prado*, and a new work, *Jardín Botánico*; José María G. de la Torre, *Ricardo León o el genio de la lengua* (Ensayo crítico del libro "El Amor de los Amores"); Lucy Elizabeth Weir, *The Ideas Embodied in the Religious Drama of Calderón*, a careful study of an important ques-

tion; Salvador de Madariaga, *Christopher Columbus*, an important work presenting Columbus as a real human being, in the author's own English; Isabel de Palencia, *I Must Have Liberty*, important for an understanding of Spain's present position in the world, author has grown with the country and helped it to develop—in the author's own English; Marqués de la Cadena, *El gran cardenal de España, D. Pedro González de Mendoza* (estudio histórico-biográfico); Jesús Bal y Gay, *Romances y Villancicos españoles del siglo XVI*, an important work arranged in modern notation for piano and voice; Flérida de Nolasco, *De Música Española*, based on Julián Ribera's work on the *Cantigas* of Alfonso el Sabio, she has identified several Cuban and Dominican dance forms; José Bergamín, *El Alma en un hilo* (Vol. 3 of a series entitled, *Disparadero español*); Narciso Alonso Cortés, *Cofrades de Santa María de Esgueva* (Miscelánea Vallisoletana, 6ª Serie), valuable studies by the Director of the Academia de Bellas Artes de Valladolid; Gregorio Marañón, *Don Juan*, another of the psychological studies of great characters in history and legend, to which this great physician and surgeon has accustomed us; Américo Castro, *The Meaning of Spanish Civilization*, inaugural lecture as Professor of Spanish at Princeton University; Augustus Campbell Jennings, *A Linguistic Study of the Cartulario de San Vicente de Oviedo*; Alfonso Martínez de Toledo: *El Arcipreste de Talavera, o sea El Corbacho* (newly edited according to the Escorial Codex, by Lesley Byrd Simpson); Ronald Hilton, *Campoamor, Spain, and the World*, an important study of an interesting period in the history of Spanish culture; Baltasar Gracián, *El Criticón* (edición crítica y comentada por M. Romera-Navarro), (the third volume); Pedro Salinas, *Reality and the Poet in Spanish Poetry*, six lectures given in 1937 at the Johns Hopkins University, delightful and thought provoking; Victor R. B. Oelschlager, *A Medieval Spanish Word-List*; John Tate Lanning, *Academic Culture in the Spanish Colonies*, a soundly documented account of the creation and rise of universities in Spanish America; John Van Horne, *Bernardo de Balbuena—biografía y crítica*, a patient work of love carried to fulfillment over a score of years; and two very important works by the great master of Romance philology and Spanish literature and history, Ramón Menéndez Pidal: a long hoped for sixth edition, corrected and enlarged, of his *Manual de Gramática Histórica Española*, and a new printing of the second edition of his *Antología de prosistas españoles*.

The Royal Spanish Academy. On Jan. 15, 1915, Ricardo León took formal possession of his chair in the Spanish Royal Academy of the Language. At about that date in 1940 the Academy celebrated, with due ceremony, the twenty-fifth anniversary of that earlier event.

JOHN D. FITZ-GERALD.

**SPANISH MOROCCO.** See MOROCCO; SPAIN under *Colonial Empire*; TANGIER under *History*.  
**SPANISH MUSEUM.** See HISPANIC SOCIETY.

**SPELMAN FUND.** See **BENEFACCTIONS.**

**SPITSBERGEN.** See **NORWAY.**

**SPORTS.** See separate article on each sport; also, **NEGROES.**

**SQUASH RACQUETS, SQUASH TENNIS.** See **COURT GAMES.**

**SSB.** See **SOCIAL SECURITY BOARD.**



**STAMP COLLECTING.** On May 6, 1940, the postage stamp was 100 years old. The adhesive designed by Rowland Hill created philately, the hobby of stamp collecting. The year 1940 was a twelve-month of strife and little, relatively, was done to observe an event that revolutionized one of the earliest forms of communication—the letter.

In Britain, where the postage stamp was born, a great international exhibition was cancelled because of war and the celebration was limited. The embattled Britons did note the event, however, with a special series of stamps incorporating the design of Hill, Queen Victoria on the "Penny Black," the first stamp, with that of more recent issues showing a profile of King George VI. Several other nations also issued stamps for the anniversary, but the international aspect of the celebration was shattered by gun-fire and bombs.

In the Americas, nations of the Pan American Union observed twenty-five years of amicable relations, most of them issuing stamps for the occasion. In Europe, conquered people saw their stamps defaced by strange printing of the conqueror.

In Poland, Belgium, the Netherlands, Denmark, Norway, and Luxemburg native issues were surcharged in German, replaced by new stamps from Germany or their values raised to care for the increased cost in distribution. Lithuania, Latvia, and Estonia surrendered to Russia and their stamps, too, took on a new look. Finland, which opposed the Soviet Republics, used stamps to raise funds for its lost cause.

Stamps of France were overprinted and Germany once more considered Alsace and Lorraine part of the Reich, surcharging German stamps for use in these districts. Rumania dropped a king for a satellite and a dictator and posthumously honored the slain leader of forces which drove it into domination by Germany. Rumania, under pressure, surrendered soil to the U.S.S.R., Hungary, and Bulgaria and these nations marked their gains with stamps.

Britain's blockade of the axis powers forced Germany to route its international mail through Russia and Japan. Italy sent its mail by air, via Africa and the South Atlantic to South America and up that continent's west coast to escape British censorship and confiscation.

Among peaceful pursuits observed was the opening of air mail service between the United States and New Zealand and the appearance of a new name among postage stamp issuing countries—Pitcairn Islands, the major island of the group being the home of the historic mutineers from H.M.S. *Bounty* and Captain Bligh.

While other nations were subjected to conquerors, the United States saw fit to remember that slavery no longer existed within its borders with a stamp celebrating Abraham Lincoln's Emancipation Proclamation. The United States also commemorated the activities of thirty-five of its citizens who by peaceful means had become its "Heroes of Peace," as the series was called—educators, artists, poets, authors, scientists, composers, and inventors being among those honored. Stamps marked the fiftieth anniversaries of the admission to statehood of Idaho and Wyoming, the four hundredth anniversary of Coronado's explorations of the southwest, and the historic services of the Pony Express. Along less peaceful lines, the United States commemorated its effort to re-arm with three stamps.

The world's most valuable stamp, the one-cent-

magenta British Guiana of 1856, was sold by the heirs of the late Arthur Hind for a price reported at \$40,000.

The nations of the world issued more than 2000 stamps in 1940.

DAVID LIDMAN.

**STATE, U.S. Department of.** See **PAN AMERICANISM**; **UNITED STATES** under *Administration*.

**STEAM-GENERATING UNITS.** See **POWER PLANTS**.

**STEEL.** See **IRON AND STEEL**; also, **ELECTRICAL INDUSTRIES**.

**STEROLS.** See **BIOLOGICAL CHEMISTRY**.

**STOCK EXCHANGE, STOCK PRICES.** See **FINANCIAL REVIEW**.

**STORMS.** See **HURRICANES**.

**STRAITS SETTLEMENTS.** See **BRITISH MALAYA**.

**STRATEGIC MATERIALS.** See **DEFENSIVE PREPARATIONS**; **GEOLOGY**; **MARKETING**; **RECONSTRUCTION FINANCE CORPORATION**.

**STRAWBERRIES.** See **FERTILIZERS**.

**STRIKES.** See **LABOR CONDITIONS** under *Strikes*; also, **CALIFORNIA, CONCILIATION SERVICE, U.S.**; **DEFENSIVE MEASURES, U.S.** under *Attitude of Organized Labor*; **NATIONAL LABOR RELATIONS BOARD**; **AUSTRALIA, BULGARIA, CANADA, DENMARK, FRANCE, MEXICO, NEW ZEALAND, and SOUTH AFRICA** under *History*.

**STUDENT AID.** See **NATIONAL YOUTH ADMINISTRATION**; **UNIVERSITIES AND COLLEGES**.

**STUDENT WORK PROGRAM.** See **NATIONAL YOUTH ADMINISTRATION**.

**STYLE.** See **FASHION EVENTS**.

**SUBMARINES.** See **EUROPEAN WAR**; **NAVAL PROGRESS**.

**SUBVERSIVE ACTIVITIES.** See **DIES COMMITTEE**; **FEDERAL BUREAU OF INVESTIGATION**; **IMMIGRATION, EMIGRATION, and NATURALIZATION**.

**SUBWAYS.** See **FOUNDATIONS**; **MUNICIPAL OWNERSHIP**; **NEW YORK** under *New York City*; **RAPID TRANSIT**.

**SUDAN.** See **ANGLO-EGYPTIAN SUDAN**; **FRENCH WEST AFRICA**.

**SUEZ CANAL.** A sea-to-sea canal across the Isthmus of Suez, providing passage for ships between the Red Sea and the Mediterranean. Operated by the Suez Canal Company, holding a concession from the Egyptian Government; normal main route between maritime Europe and the ports of the Indian and western Pacific oceans.

Use of the Suez Canal fell off progressively during the first 16 months of the European War. For September, 1939, shipping traffic was less than half of the volume of September, 1938; and for August, 1940, the number of vessels using the canal, only 43, came to less than one-tenth of the corresponding number, 458, for August, 1939, the last month before the start of the war.

In the entire calendar year 1939 (of which the last third fell within the European War), the canal passed 5227 ships totaling 29,573,000 net tons. In 1938, ships' passages numbered 6127; their aggregate net tonnage was 34,523,084; their passengers numbered 464,126. Great Britain accounted for 50.4 per cent of the tonnage of 1938, Italy for 13.4; Germany, the Netherlands, France, and Norway followed in importance. Of that year's tonnage of shipping, the northward-bound exceeded the southward by some 1,100,000 tons. Actual weight of goods transported through the canal, somewhat

less than the tonnage just stated, came to 28,779,000 tons.

A convention of 1888 exempted the canal from blockade in time of war; but the blockading operations of both the belligerent parties in the Mediterranean rendered it impracticable for belligerents of either side to make general use of the canal in 1940. In September, 1940, the Suez Canal Company suspended the payment of dividends.

See EGYPT under *History*; EUROPEAN WAR.

**SUGAR.** The sugar-beet crop in the United States in 1940 was estimated by the U.S. Department of Agriculture at 11,969,000 tons of beets from 921,000 acres, expected to produce about 1,729,000 tons (equal to 1,850,000 raw ton basis) of sugar, compared with the 10,781,000 tons of beets, 917,000 acres, and 1,643,000 tons of sugar in 1939, the 1929-38 average of 8,937,000 tons of beets from 792,000 acres and 1,300,000 tons of sugar. The acre yield was 13 tons versus 11.8 tons in 1939 and 11.3, the 10-year average. The 1940 sugar yield per acre harvested was indicated at 188 tons, compared with 1.79 tons in 1939 and 181 tons in 1938, but sugar recovery was indicated at a lower figure than in 1939 and 1938. Production of beet sugar in leading States was estimated for California 448,000 short tons, Colorado 310,000, Montana 166,000, Michigan 161,000, Idaho 142,000, and Nebraska 111,000 tons. Production of sugar-cane for sugar in 1940 was marked by a very adverse season in Louisiana and a favorable outturn in Florida. The 1940 sugar-cane crop of the two States, including cane for seed, was grown on 259,000 and 30,400 acres respectively, and was estimated as 3,335,000 and 1,216,000 tons, equivalent to 242,000 and 116,000 tons of sugar. Molasses as a sugar-cane by-product totaled 24,786,000 gal. Sugar-cane sirup produced in eight southern States totaled 14,809,000 gal and the sorgo sirup made in 16 States amounted to 11,865,000 gal. Maple products reported by 10 States included 2,628,000 gal of sirup and 629,000 lb. of maple sugar. The 1940 maple season in general was both late and short in most States producing maple products. In New England operations were hampered by deep snows and storms.

World sugar production, as depicted in *The World Sugar Situation* (U.S. Dept. Agri., 1940), increased sharply from 1918 to 1930, declined slightly during the early depression years, and then increased sharply to a new record high in 1936. Production in 1939 was indicated to be the third largest on record. Sugar production in the principal importing countries increased steadily from 1918 to 1936; that in the principal exporting countries fluctuated widely but the general level increased very little in the last decade.

The world's cane-sugar production for the 1940-41 season, according to estimates of Willett and Gray issued Jan. 18, 1941, amounted to 18,570,894 tons. Production in leading world areas was: Louisiana 209,821 tons, Florida 105,715, Puerto Rico 810,325, Virgin Islands 7500, and Hawaii 865,000; Cuba 2,300,000; Dominican Republic 375,000; Mexico 295,000; Peru 450,000; Argentina 500,000; Brazil 1,272,405; British India, gur (low grade) 3,100,000, and white sugar 1,212,000; Java 1,750,000; Japan 1,176,530; Philippine Islands 1,087,000; Australia 825,000; Mauritius 326,000; and Natal 510,000 tons. The world's beet-sugar production in 1940-41 was estimated to total 10,867,750 tons, including United States 1,543,000; Canada 90,000; Germany 2,400,000; Czechoslovakia 520,000; Poland 500,000; U.S.S.R. (Russia and Ukraine)

2,700,000; Great Britain 485,000 and Ireland 90,000; Italy 475,000; Sweden 300,000; France 238,000; Belgium 250,000; Netherlands 285,000; and Denmark 245,000 tons. The grand world total for 1940-41 was estimated at 29,438,644 tons compared to 30,339,831 tons in 1939-40 which comprised 19,210,603 tons of cane-sugar and 11,129,228 tons of beet-sugar. See AGRICULTURAL ADJUSTMENT ADMINISTRATION; CUSTOMS, BUREAU OF.

**SUICIDES.** See VITAL STATISTICS.

**SULFANILAMIDE AND DERIVATIVES.** See BIOLOGICAL CHEMISTRY; MEDICINE AND SURGERY; VETERINARY MEDICINE.

**SULLIVAN COLLECTION.** See ART under *Art Sales*.

**SULPHUR.** According to the Freeport Sulphur Company, the domestic industry had on hand in 1940 an adequate supply of sulphur for all of the varied needs of national defense. This condition was in marked contrast to that prevailing in 1918 when the supply of sulphur was one of the major worries of the Government. In 1940 the industry had a two-year supply above ground and ample resources.

Production for 1940 is estimated at 2,753,000 tons. Shipments amounted to 2,554,000 tons, of which 725,000 tons was exported. Inasmuch as production was in excess of total shipments, substantial tonnage was added to stocks above ground, which were probably in excess of 4,000,000 tons. This reserve was augmented by the importation of about 38,000 tons of sulphur shipped into the Pacific Northwest from Trail, B.C.

H. C. PARMELEE.

**SUMATRA.** See NETHERLANDS INDIES under *Area and Population*.

**SUPERMARKETS.** See MARKETING.

**SUPREME COURT, U.S. Literature.** The Supreme Court's Sesquicentennial was observed in Washington, February 1, with addresses by the Chief Justice, the Attorney General, and President Beardsley of the American Bar Association (309 U.S. v-xv; 26 *A.B.A.Jnl.* 171, 199, 203, 207-8, the latter containing a list of all of the Court's members). "The First Decade," 7 *U. of Chicago L. Rev.* 631 (Charles Warren); "Mr. Justice Miller (1862-90)," pp. viii, 456 (Chas. Fairman; reviewed, 26 *A.B.A.Jnl.* 59); "Chief Justice Fuller," *ib.* 691 (F. J. Loesch); "Mr. Justice Brandeis," (1916-39), 16 *Tenn.L.Rev.* 441 (R. B. C. Howell); "Tradition and Judicial Review," 26 *A.B.A.Jnl.* 208 (K. C. Umbreit); "American Democracy and the Supreme Court," 14 *Temple U.L. Quar.* 210 (F. Paddock).

**Work.** The October, 1939, term ended June 3, 1940, with 946 cases disposed of, in 151 of which individual opinions were written and in 97 more *per curiam* opinions. The October, 1940, term began on October 7. Justice Murphy had meanwhile taken his seat on February 5. (See an "Appraisal" by Dean Bates, 26 *A.B.A.Jnl.* 107). "Business at the October Terms, 1937, 1938," 53 *Harv.L.Rev.* 579 (H. M. Hart); also as to 1938, 26 *Va.L.Rev.* 1, 274, 697 (Moore & Adelson); "Review of Three Judge Court Decisions," 8 *G.W.L.Rev.* 31. On May 16, Chief Justice Hughes explained to the American Law Institute the functions of the Administrative Office of the United States Courts (1939 YEAR BOOK 420) which now works in two divisions, (1) Business Administration and (2) Procedural Studies and Statistics. (26 *A.B.A.Jnl.* 472, 723).

**Decisions. Constitutional.** Current articles

picture the present as a period of constitutional change; e.g. "Constitution Making by the Supreme Court Since 1929," 15 *Ind.L.Jnl.* 179 (H. E. Willis); "Recent Developments in Federal Jurisprudence," 73 *U.S.L.Rev.* 513 (A. Holtzoff); "Shifts in Constitutional Doctrines," 25 *A.B.A.Jnl.* 629 (F. J. Hogan); "Changing Constitutional Phases," 19 *Boston U.L.Rev.*, 509 (T. R. Powell); "Some Aspects of Am. Constitutional Law," 53 *Harv.L.Rev.* 529 (*id.*). The Supreme Court's decisions (1939 YEAR BOOK 420) that ratification of constitutional amendments is a political question, are discussed in 53 *Harv.L.Rev.* 134; 39 *Columbia L.Rev.* 932; 26 *A.B.A.Jnl.* 617; 24 *Minn. L.Rev.* 393; 17 *N.Y.U.L.Quar. Rev.* 122; 13 *So. Cal.L.Rev.* 122.

**Sovereignty.** A State statute purporting to void claims against a decedent's estate if not filed within a specified time, may not be invoked against the United States. *U.S.v.Summerlin*, 310 U.S. 414. And its immunity from suit, except by permission, applies to a cross-claim (in a proceeding by it) in excess of the original claim. *U.S.v.U.S. Fidelity & Guaranty Co.*, 309 U.S. 506.

**Separation of Powers.** A second award of compensation under a private act of Congress, passed nearly five years after the original award under the Longshoremen's Act, does not invade the judicial function nor infringe due process. (Const. Am'dt. V) *Paramino Lumber Co. v. Marshall*, 309 U.S. 370.

**Constitutional Provisions Construed.** (Numerals at left indicate article, section, and paragraph of U.S. Const.)

1,8,(1). The legislative power "to lay . . . imposts," is exclusive and, when delegated to the President, is not subject to judicial review. *U.S. v. George S. Bush & Co.*, 310 U.S. 37. (But see *Panama Refining Co. v. Ryan*, 293 U.S. 433.)

1,8,(3) (interstate commerce) is infringed by a State statute imposing a sample-room tax on a non-resident retailer, "the actual effect of which is to discriminate in favor of intrastate business," (*Best & Co v. Maxwell*, 311 U.S. 454). A complaint of "conspiracy to monopolize the bill-posting business on the Pacific coast . . . to the great injury and damage of plaintiff," states a cause of action under the Sherman Act (*C. E. Stevens Co. v. Foster*, 311 U.S. 255) which also supported the prosecution in *U.S. v. Socony-Vacuum Oil Co.* (310 U.S. 150) of 12 or more oil companies and various individuals charged with having "combined and conspired" to raise artificially prices of gasoline, etc. A jury found them guilty and the district court's sentence (\$5000 fine for each corporation and \$1000 for each individual) was affirmed by the Supreme Court, reversing the Court of Appeals. But the Sherman Act was held inapplicable to a "sit-down" strike (*Apex Hosiery Co. v. Leader*, 310 U.S. 469). Whether payment of mileage, earned by leased tank-cars and credited to the lessee constitutes a "rebate" under the Elkins Act, is an administrative problem, and when suit is brought therefor the court should await the ICC's determination (*Gen. Am. Tank Car Corp. v. El Dorado Terminal Co.*, 308 U.S. 422).

1,8,(17). The "exclusive legislation" which Congress may exercise over a Post Office site is political only. Until actually exercised on a given subject (e.g. Labor) the existing State laws continue (*James Stewart & Co., Inc. v. Sadrakula*, 309 U.S. 94). IV, 1, requiring "full faith and credit" for judgments, "precludes inquiry into the merits of the cause (in which the judgment was rendered),

the logic or consistency of the decision, or the validity" of its basic principles. *Milliken v. Meyer*, 311 U.S.

**Amendment V.** Eminent Domain "is within . . . the constitutional power" of the U.S. Government; its contractee is not liable for acts in the exercise thereof and right of recovery in the Court of Claims provides for compensation (*Yearsley v. Ross Construction Co.* 309 U.S. 18).

**Amendment XIV.** Price-fixing by statute is not necessarily invalid (*Mayo v. Canning Co.*, 309 U.S. 310, 318), and a State statute penalizing conspiracies to fix prices, except for "agricultural products or livestock," was held not to infringe the "equal protection clause" (*Tigner v. Texas*, 310 U.S. 141, overruling *Connolly v. Union Sewer Pipe Co.*, 184 U.S. 540). An oil proration order of the Texas Ry. Commission was challenged as "confiscatory," and the challenge was upheld by both district and circuit courts. The Supreme Court, with two dissents, reversed their judgments, pointing out the technical character of the question and declining "to supplant the Commission's judgment, even in the face of convincing proof that a different result would have been better." (*Ry. Com. v. Rowan*, 310 U.S. 573).

**Amendment XIV, 1** is not infringed by State legislation requiring insurance by licensed companies to be obtained "through regularly constituted, registered resident agents or agencies" who shall receive "the usual and customary commissions," not more than half of which may be shared by non-resident, licensed brokers; although the policy may have been "negotiated outside (the State) with an assured whose residence is outside . . . by an agent or broker living outside" (*Osborn v. Oslin*, 310 U.S. 53, with two dissents). In *Hansberry v. Lee*, 311 U.S. 32, "due process" was held lacking where a State court pronounced final, as to petitioners, a judgment upon an agreement (not to sell land to colored people) to which they were not parties and which imposed no joint liability.

So religious freedom was held to be infringed by a State act penalizing the solicitation of funds from the public generally, for a religious or similar purpose, or within the county where the recipient organization ("Jehovah's witnesses") is located; except with the approval of the Public Welfare Council's secretary (*Cantwell v. Connecticut*, 310 U.S. 296). But a requirement that public school teachers and pupils salute the national flag, infringes neither Amendment I nor XIV, both of which were held to be infringed by anti-picketing legislation of Alabama (*Thornhill v. Ala.*, 310 U.S. 88) and California (*Carlson v. Cal.*, 310 U.S. 106; county ordinance). These decisions led to the annulment of Oregon's popularly adopted anti-picketing law. A State statute was found not to be invalid for vagueness in *Minn. v. Probate Court*, 309 U.S. 270, 274.

**Procedure.** In the following cases the doctrine of *Erie R. Co. v. Tompkins*, 304 U.S. 94 (1938 YEAR BOOK 393) was applied by directing that the decision of an intermediate State court be followed: *West v. Am. T.&T. Co.*, 311 U.S. 223; *Six Companies v. Joint Highway Dist.*, 311 U.S. 180; *Fidelity etc. Trust Co. v. Field*, 311 U.S. 169; *Stoner v. N.Y.L. Ins. Co.*, 311 U.S. 464; the doctrine is inapplicable to a State court's interpretation of Federal law, *Kloeb v. Armour & Co.*, 311 U.S. 199; *Deitrick v. Greaney*, 309 U.S. 190; nor is a suit to enforce the statutory liability of joint stock land bank shareholders, subject to the State

statute of limitations. *Russell v. Todd*, 309 U.S. 280.

**Remedies.** The ground of Federal jurisdiction must clearly appear in a petition for *certiorari*. *McGoldrick v. Gulf Oil Corp.*, 301 U.S. 2. "Mandamus is the proper remedy" to compel a U.S. district judge to call associates, pursuant to Jud. Code sec. 1266, and pass on the constitutionality of a statute. *Ex parte Bransford*, 310 U.S. 354.

**Parties.** A private market dealer is not a "party in interest" who may sue to enjoin unnecessary extension of a railway line under Transportation Act (1920) sec. 402 (20). *L. Singer & Sons v. U.P.R. Co.*, 311 U.S. 295; nor may a private person sue, without consent of the United States, on the bond of a postmaster, though his negligence is alleged (*U.S. v. Nat. Surety Corp.*, 309 U.S. 165). But the defrauded purchaser of a "security" may sue to enjoin the transfer of issuer's corporate assets, regardless of "the amount in controversy or citizenship of the parties" and although the Securities Act of 1933 (sec. 12, 2) merely authorizes him "to recover the consideration paid," etc. (*Deckert v. Independence Shares Corp.*, 311 U.S. 282). Where the purchaser of a farm at a sale under Bankruptcy Act sec. 75, was not made a party to the farmer-debtor's appeal from the order of confirmation, the proper course is not dismissal, but citation of the purchaser (*Miller v. Hatfield*, 309 U.S. 1).

**Notice.** Under the Miller Housing Act of 1935, a material-man may recover on a contractor's bond, by sending (though not by registered mail as the act requires) a written notice which reaches one of the contractors, though not addressed to them (*Fleisher etc. Co. v. U.S.*, 311 U.S. 15). Designation of an agent for service of process "in any action in the state," includes one in the U.S. district court (*Okla. Packing Co. v. Okla. Gas & El. Co.*, 309 U.S. 4).

**Trial.** In *Smith v. Texas*, 311 U.S. 128, a Negro's conviction of rape was reversed upon a showing that in the same year and the previous one no Negro had served on the local grand jury, and not more than one in any of the preceding years. Likewise, confessions extorted from an accused, vitiate conviction (*Chambers v. Florida*, 309 U.S. 227; *White v. Texas*, 310 U.S. 530). But denial of a motion for continuance, after competent counsel have been assigned to the accused, is not a denial of "due process" (*Avery v. Alabama*, 308 U.S. 444).

**Findings and Judgment.** A decree enjoining, until final hearing, enforcement of the Florida Citrus Act was reversed for lack of "findings of fact upon . . . vital issues," under Procedural Rule 52(9) (*Mayo v. Lakeland etc. Co.*, 309 U.S. 310). But, in determining whether it shall grant or deny a license for broadcasting (not a common carrier activity) the FCC need not find whether economic injury to an existing station would result (*FCC v. Sanders etc. Station*, 309 U.S. 470). Under Procedural Rule 50(b) the grant of a motion for judgment is not a denial of an alternative motion for a new trial (*Montgomery Ward & Co. v. Duncan*, 311 U.S. 243). A decree pursuant to legislation subsequently declared unconstitutional, is, nevertheless *res adjudicata* (*Chicot Co. Drainage District v. Bank*, 308 U.S. 371), and alleged invalidity of the result of invoking a statute, whose constitutionality is not assailed, presents no question for the three judge court provided by sec. 266 of the Judicial Code (*Ex parte Bransford*, 310 U.S. 354). Legislative history of the "enlistment allowance" under

Act of June 10, 1922, reviewed and found to have been suspended during the fiscal year ending June 30, 1939, by a proviso of the appropriation act (*U.S. v. Dickerson*, 310 U.S. 554).

**Review.** "An order (of a district court) denying a motion to quash a subpoena duces tecum directing a witness to appear before a grand jury," is not a "final decision," which, alone, the circuit court is authorized to review (*Cobbledick v. U.S.*, 309 U.S. 323). A Deputy Commissioner's finding that a decedent was not "a member of the crew," under sec. 3 of the Longshoremen's Act, and that his widow was entitled to compensation, was upheld as supported by evidence (*So. Chicago etc. Co. v. Bassett*, 309 U.S. 251). An FCC order refusing consent to the assignment of a radio-station license, is not an order refusing such license and is not appealable (*FCC v. Columbia Broadcasting System*, 311 U.S. 132). Applicable legislation, enacted while a case is pending, for review, will be applied by the appellate court (*Carpenter v. Wash Ry. Co.*, 309 U.S. 23). Where it is uncertain whether a State court decided a case under the State or the Federal Constitution, the Supreme Court will remand the case for clarification (*Minnesota v. Nat. Tea Co.*, 309 U.S. 551).

**Miscellaneous. Bankruptcy.** By general order, the Rules of Civil Procedure are made applicable in bankruptcy, so far as practicable" (Stone J. in *SEC v. U.S. Realty Co.*, 310 U.S. 434, 468). The SEC may be permitted to intervene in proceedings under ch. xi of the Bankruptcy Act, though it has no pecuniary interest therein (*ib.*). A farmer-debtor's petition under sec. 75 of the Act, subjects him and his property to the U.S. district court's exclusive jurisdiction; without its consent, no State court may exercise jurisdiction thereof (*Kalb v. Feuerstein*, 308 U.S. 433). Leave to sell property under deeds of trust, without entry of the required stay order, is reversible error (*Borchard v. Cal. Bank*, 310 U.S. 311). The farmer-debtor must be given opportunity to redeem at a value fixed by the court, before a public sale of his property is ordered (*Wright v. Union Central L. Ins. Co.*, 311 U.S. 273; but cf. *Union etc. Bank v. Byerly*, 310 U.S. 1). A U.S. district court which granted a lien on railway property, under reorganization in another bankruptcy court, was upheld in *Warren v. Palmer*, 310 U.S. 132. The court may order sequestration of disputed oil and refer the question of title to the highest court of the State in which the oil is located (*Thompson v. Magnolia Petroleum Co.*, 309 U.S. 478). A prior execution lien on the debtor's property is not automatically released by an adjudication in bankruptcy, but may be preserved for the benefit of the bankrupt's estate (*Fischer v. Pauline Oil & Gas Co.*, 309 U.S. 294). Where a plan for composition of a municipality's debts was confirmed without fully informing creditors of its fiscal agent which owned a considerable block of the municipal bonds and acted in a dual capacity, confirmation was set aside (*Am. etc. Ins. Co. v. Avon Park*, 311 U.S. 138). Appeals from compensation orders may not be taken as of right, but are discretionary with the Court of Appeals (*Dickinson Industrial Site v. Cowan*, 309 U.S. 382). The time for appeal runs from the denial of a motion for rehearing, considered on its merits (*Bowman v. Lopereno*, 311 U.S. 262).

**Contracts.** A clause in a telegraph contract, limiting to \$500 the company's liability for delay, etc., prescribes a maximum and not liquidated damages (*Western U. Tel. Co. v. Nester*, 309 U.S. 582). A State statute regulating the withdrawal of building

and loan association shares is a valid exercise of the police power, paramount to the issuer's obligation to permit withdrawal (*Veis v. 6th Ward B. & L. Ass'n.*, 310 U.S. 32; dist. *Treigle v. Acme etc. Ass'n.*, 297 U.S. 189). "Public Contracts Act," requiring contractor to pay prevailing minimum wages "in the locality . . . as determined by the Secretary of Labor," vests no right in prospective bidders, even though such determination may have been erroneous" (*Perkins v. Lukens Steel Co.*, 310 U.S. 113).

Use of a machine which infringed no existing patent when first marketed, will not be enjoined, although it comes within the terms of a subsequently enlarged and reissued patent (*Sontag Chain Stores Co. Ltd. v. Nat. Nut Co.*, 310 U.S. 281).

**Powers.** The "general power of appointment" mentioned in the 1926 Revenue Act (sec. 302, f) covers a power to "appoint to anyone, including his own estate and his creditors" (*Morgan v. Com'r.*, 309 U.S. 78).

**Public Domain.** The government's grant to San Francisco of lands and rights in the Hetch-Hetchy Valley, conditioned upon non-transfer to a public utility, was held to have been unlawfully used and such use was enjoined in *U.S. v. San Francisco*, 310 U.S. 16. In *U.S. v. Nor. Pac. R. Co.*, 311 U.S. 317 the Court found various breaches of the conditions upon which a land grant of 1863 had been made to the company and remanded the cause to the district court for further proceedings.

**Territories.** The limit of corporate land ownership to 500 acres, by the Puerto Rico Organic Act (sec. 39), which is not "a law of the United States" and provides no penalty, is nevertheless enforceable by *quo warranto* proceedings, authorized by the territorial legislature (*Puerto Rico v. Rubert Hermanos, Inc.*, 309 U.S. 543) which, "in the exercise of its police power," may "prohibit bulk shipments of distilled spirits"; but not the use of trademarks thereon, affixed outside the territory, which would infringe the Inter-American Trade Mark Convention of 1929 (*Bacardi Corp. v. Domenech*, 311 U.S. 150). The Puerto Rican Supreme Court's ruling that awards under the local Workmen's Compensation Act may be enforced by distraint and may not be enjoined, found not "clearly and inescapably wrong" (*Bonet v. Texas Co.*, 308 U.S. 463).

**Waters.** In *U.S. v. Appalachian Power Co.*, 311 U.S. 377, the New River (Va. and W.Va.) was declared a navigable stream and so subject to Federal control; though two lower courts had held the contrary and 41 States joined in supporting them. "Flood protection, watershed development, recovery of the cost of improvements," as well as navigability, said Reed, J., "are parts of commerce control." Wyoming asked that Colorado be adjudged in contempt for diverting from the Laramie River more water than a previous decree permitted. The Supreme Court denied the petition without resolving the merits but admonished Colorado to keep strictly within the limits (*Wyoming v. Colorado*, 309 U.S. 572). Upon application of Illinois and the Chicago Sanitary District for more water from the St. Lawrence-Great Lakes watershed, a special master was appointed "to make a summary inquiry . . . and report" (*Wisconsin v. Illinois*, 309 U.S. 569).

**Boundaries.** The rule of prescription applied and that of "thalweg" (using the "thread," center, of a boundary stream) recognized; but the latter yields to the rule that a boundary is unalterable by avulsion (sudden and violent change), and the boundary between two States fixed at the center of

the original Mississippi main channel, now dry (*Arkansas v. Tennessee*, 311 U.S. 1).

See **INSURANCE**; **NATIONAL LABOR RELATIONS BOARD**; **WAGE AND HOUR ADMINISTRATION**. For comment on decisions see articles on each subject, as **ELECTRIC LIGHT AND POWER**.

C. SUMNER LOBINGER.

**SURETY BONDING.** See **INSURANCE**.

**SURGERY.** See **MEDICINE AND SURGERY**.

**SURINAM (NETHERLANDS GUIANA).** A South American colony of the Netherlands. Area, 54,291 square miles; population (Dec. 31, 1938), 173,089, including Negroes and Indians living in the interior. Education (1938): 122 schools and 20,911 students. Capital, Paramaribo, 52,760 inhabitants.

**Production and Trade.** Chief products: sugar, coffee, rice, maize, bauxite, gold, balata, bananas, salt, and cacao. Livestock (1938): 22,272 cattle, 4766 goats, 7196 swine. Trade (1938): imports, 6,861,756 guilders; exports, 6,609,139 guilders (guilder averaged \$0.5501 for 1938; \$0.5334 for 1939). Shipping (1938): 435 ships aggregating 486,001 register tons cleared.

**Government.** Finance (1940): local revenue, 4,189,000 guilders; state subvention, 3,328,000 guilders; expenditure, 7,517,000 guilders. The executive authority of Surinam is under the control of a governor who is aided by an advisory council. There is a representative body known as the States of Surinam, consisting of 15 members (10 elected by the voters, and 5 appointed). Governor, Dr. J. G. Kielstra (appointed Aug. 16, 1933). See *CURACAO* under *History* for the effect of the European War on the status of the Netherlands West Indies.

**SURPLUS MARKETING ADMINISTRATION (SMA).** The Surplus Marketing Administration is an agency of the U.S. Department of Agriculture. Under provisions of President Roosevelt's Third Reorganization Order effective June 30, 1940, administrative functions and responsibilities of the Federal Surplus Commodities Corporation and of the Division of Marketing and Marketing Agreements of the Agricultural Adjustment Administration were consolidated in the Surplus Marketing Administration. Funds derived from a sum equivalent to 30 per cent of the gross customs receipts of the previous year, as designated by Section 32, Public Number 320, approved Aug. 24, 1935, and additional funds which may be appropriated by Congress, are provided to carry on the various activities of this agency.

The Surplus Marketing Administration administers surplus removal and marketing agreement programs, developed to assist farmers in dealing more effectively with agricultural marketing problems complicated by war in Europe and Asia. Surplus removal programs are designed to encourage increased domestic consumption and to develop wider market outlets for farm products. Marketing agreement programs seek to stabilize markets and improve returns to producers by establishing more orderly selling conditions.

Several mechanisms have been developed by the Department for the purpose of dealing with agricultural surpluses. Principal among them are the food and cotton stamp plans, the school lunch program, and the low-cost milk program for moving increasing quantities of farm products into consumption among needy families. Also important are programs for direct purchase and distribution of surplus commodities, for diverting surpluses to by-products and to develop new uses and new out-

lets, and for encouraging exports, primarily of cotton goods and of wheat and wheat flour.

The Food Stamp Plan, started in May, 1939, has been extended gradually throughout the country. Where this plan is in operation, increased buying power in the form of blue-colored food stamps is placed in the hands of families eligible for public aid. These blue stamps are exchanged at local stores for foodstuffs officially listed as being in surplus. In order to obtain the free blue stamps, participants are in general required to buy specified amounts of orange-colored stamps to be used in the purchase of any food product. This requirement assures the continuance of normal expenditures for food. The blue stamps given with the orange-colored stamps bought make possible a 50 per cent increase in food buying power which is directed at moving designated agricultural surpluses into consumption through regular trade channels. Instead of the 5 cents a meal, which is about the average they have been spending, persons taking part in the plan have at least  $7\frac{1}{2}$  cents for each meal.

By the end of December, 1940, the Food Stamp Plan had been extended to 267 areas throughout the United States, and was actually operating in 226 of these areas. Nearly 3,000,000 low-income consumers were taking part in the plan, and new buying power at the rate of about \$5,000,000 a month was being spent for officially listed surplus foods at local stores in these areas. It is expected that by the close of the current fiscal year the Food Stamp Plan will have been extended to some 300 areas, and will be serving about 5,000,000 needy persons. New buying power at the rate of more than \$10,000,000 a month will then be made available for the purchase of listed surplus foods.

The general operating principles of the Food Stamp Plan are followed in the Cotton Stamp Plan. Under the plan for cotton, eligible persons have the opportunity of buying green-colored stamps in the same approximate amount that they formerly spent for clothing and household goods made from cotton. Minimum and maximum purchase rates are fixed and within those limits, for every dollar's worth of green-colored stamps bought, a dollar's worth of brown-colored stamps is given free. Both stamps are good in any retail store in the areas where the plan operates, in exchange for any product made entirely from American cotton and manufactured in this country.

Started in May, 1940, the Cotton Stamp Plan is being carried out on an experimental basis. By the end of December, it had been extended for testing in 16 areas, and operations were under way in 11 of these areas. While additional areas are to be designated for the Cotton Stamp Plan during the current fiscal year, extension of the plan will be gradual until its overall merit is firmly established.

An increasingly important outlet for surpluses of foodstuffs is being provided by the school lunch program for undernourished children. This activity depends largely on the co-operation and initiative of local civic, fraternal, educational, and welfare organizations. These groups assume the responsibility of operating the school lunch program in their respective localities. Surplus foods bought by the Surplus Marketing Administration and shipped to State welfare agencies for distribution to the needy are made available for use in the school lunches. Foods needed in addition to the surplus commodities are bought or otherwise obtained by the local sponsoring groups in order to provide the school children with well-balanced noon meals.

The school lunch program is being expanded materially. The objective for the current year is to reach 6 million undernourished children with the lunches made in whole or in part from surplus commodities. Last year about half this number of children were served in the peak month.

Under the direct purchase and distribution programs, a wide range of surplus farm products has been made available for distribution by State welfare agencies to public-aid families and for use in the school lunches. During the last fiscal year more than 3,000,000,000 lb. of surpluses of over 40 agricultural products were bought under the direct purchase activities. This involved a total expenditure slightly in excess of 117 million dollars. Direct purchases of agricultural surpluses are made as need arises for improving marketing conditions for individual commodities.

An opportunity for needy families to increase their consumption of milk is afforded by the low-cost milk programs operating in Boston, Chicago, Washington, New Orleans, and New York City. These programs supplement operations under Federal marketing agreement programs regulating the handling of milk in the respective markets. They are made possible by a Federal subsidy payment to handlers and a special price to producers for milk that is sold for use by eligible families at about 5 cents per quart. The low-cost milk programs bring into fluid consumption surplus milk which otherwise would be used for manufacturing purposes at lower prices to farmers. Further extension of low-cost milk programs to other marketing areas is contemplated.

New uses and wider outlets for agricultural surpluses are being encouraged for a number of farm products. During the current fiscal year, new uses being developed include those for making cotton bale covers, the use of cotton in the manufacture of insulation material, and the use of cotton in making writing paper. Surplus peanuts are being diverted to oil and other by-products, and the manufacture of starch is being encouraged through the diversion of surplus potatoes from regular trade channels. Surplus walnuts are being diverted to the shelling trade. Wider market outlets are being developed through a program for winter pears. Another program is encouraging sales of Puerto Rican Coffee in continental United States markets.

Export subsidy programs are operating on a more or less limited basis largely because of unsettled world conditions. One program is encouraging sales of cotton products to foreign countries. Exports of wheat and wheat flour are being assisted through another program which now applies to exports of wheat from Pacific coast ports to the Philippines or to European destinations, and to wheat flour from that area to the Philippines, and from all parts of the continental United States to any country or place in the Americas and adjacent islands, except Puerto Rico, Alaska, and the Canal Zone, and to islands east of the Americas lying on or west of 40° west longitude.

Marketing agreement programs are continuing to play an important part in stabilizing selling conditions for a wide range of agricultural commodities and in improving returns to producers. Altogether, 46 programs are in effect, 29 for milk and dairy products, and 17 for fruits, vegetables, and other crops. During the last fiscal year, the farm value of commodities sold under marketing agreement programs exceeded 400 million dollars.

Additional marketing agreement programs are expected to become effective during the course of

the current fiscal year. At the request of industry groups, preliminary steps are under way for the development of these new programs for a few fluid milk markets and for certain crops grown in concentrated producing areas. Operations under marketing agreement programs will continue to be supplemented by surplus removal activities.

MILF PERKINS.

**SVALBARD.** See NORWAY.

**SWAZILAND.** See BRITISH EMPIRE.

**SWEDEN.** A constitutional monarchy of Scandinavia. Capital, Stockholm. Sovereign in 1940, Gustaf V, who succeeded to the throne Dec. 8, 1907.

**Area and Population.** Sweden has an area of 173,341 square miles and a population estimated on Jan. 1, 1940, at 6,341,000 (6,250,506 at 1935 census). Live births in 1939 numbered 96,866 (15.3 per 1000); deaths, 72,753 (11.5); marriages, 56,725 in 1938; immigrants, 5756 in 1938; emigrants, 2062 in 1938. Estimated populations of the chief cities on Jan. 1, 1939, were: Stockholm, 570,771; Göteborg, 275,763; Malmö, 151,247; Norrköping, 69,434; Hålsingborg, 61,365.

**National Defense.** See *History* below.

**Education and Religion.** Schooling is compulsory and there is practically no illiteracy. Of 761,287 children of school age (7 to 14 years) in 1936, 666,060 were attending elementary schools. In 1938-39 there were 36,560 students in government high schools and 12,855 in universities. The Lutheran Protestant Church, to which 6,124,490 persons adhered in 1930, is recognized as the State church. There were also 6653 Jews, 4763 Roman Catholics, 3981 Methodists, 805 Baptists, and 1499 others.

**Production.** Under normal conditions, approximately half the working population is engaged in agriculture and the remainder chiefly in fishing, lumbering, manufacturing, and commerce. The 1940 harvest was 20 per cent lower than the average for the period 1936-39, reducing agricultural income about 375,000,000 crowns below normal years. The 1939 harvest was valued at 1,228,000,000 crowns. Estimated yields of the chief crops in 1940 were (in metric tons): Wheat, 454,500; barley, 192,600; rye, 296,100; oats, 1,133,900; potatoes, 1,868,300 in 1939; beet sugar, 275,400 in 1939-40. Livestock statistics for 1939 were: 2,976,000 cattle, 1,316,000 swine, 373,000 sheep, 616,000 horses, and 50,000 goats. Production of the sea fisheries in 1938 was 124,200 metric tons, valued at 31,700,000 crowns. Wood pulp output in 1938 was 3,061,000 metric tons.

The major industrial products in 1938 (in metric tons unless otherwise specified) were: Iron ore, 8,500,000; pig iron, 714,000; steel (ingots and castings), 972,000 (1,200,000 in 1939); coal, 431,000; copper ore, 9300 (10,500 in 1939); zinc, 34,600; lead, 8600; aluminum, 1900; manganese, 2100; pyrites, 186,000; tungsten, 110; margarine, 59,000; wool and mohair, 600; rayon, 7961; silver, 35.1 in 1939; gold, 7300 kilograms in 1939; beer, 41,950,000 gal.; alcohol, 11,914,000 gal.; electricity, 8,150,000,000 kilowatt-hours; paper, 979,000 metric tons in 1937. Income from operations of the Swedish merchant marine was 416,000,000 crowns in 1939 (236,200,000 in 1938). Shipping tonnage launched in 1939, 94,000.

**Foreign Trade.** Merchandise imports in 1939 were valued at 2,489,000,000 crowns (2,081,700,000 in 1938) and exports at 1,879,000,000 (1,843,300,000 in 1938). Principal exports were iron and

steel, machinery, paper, wood, minerals. In 1938 the exports were distributed chiefly as follows (in crowns): Great Britain and Ireland, 446,915,000; Germany, 328,779,000; United States, 165,785,000; Norway, 124,927,000; Denmark, 87,883,000; Finland, 86,437,000. Of the imports (valued in crowns), Germany supplied 480,940,000; Great Britain and Ireland, 376,319,000; United States, 336,749,000; Denmark, 118,070,000; the Netherlands, 114,794,000. See *TRADE, FOREIGN*.

**Finance.** For the fiscal year ended June 30, 1940, there was an actual deficit of 924,000,000 crowns. Estimates for 1940-41 were: Ordinary receipts, 1,692,400,000 crowns; capital receipts, 306,700,000; ordinary expenditures, 1,456,700,000; capital expenditures, 306,700,000. A deficit of 1,700,000,000 crowns was anticipated. Public debt, 4,518,000,000 crowns on Dec. 31, 1940 (2,701,376,000 on Aug. 28, 1939). The Swedish crown (krona) averaged \$0.2399 in 1939 and \$0.2380 in 1940.

**Transportation.** Sweden in 1940 had about 10,381 miles of railways, over 53,000 miles of highways (see *ROADS AND STREETS*), and air lines connecting with the principal cities of northern Europe. The State railway lines in 1939 carried 12,508,450 metric tons of freight and 50,645,587 passengers as against 21,965,757 metric tons of freight and 36,967,667 passengers carried by the private lines. The State lines reported a surplus of 21,570,424 crowns; private lines, surplus of 15,292,884 crowns. The Swedish Air Lines in 1939 carried 48,029 passengers (46,845 in 1938). The merchant marine as of June 30, 1940, comprised 1310 steam and motor vessels of 1,503,426 gross tons, a net decrease of 1.9 per cent since the outbreak of the European War. War losses up to Dec. 30, 1940, totaled 79 vessels of 186,300 gross registered tons and 459 lives. A ship canal across the Falsterbo Peninsula to connect the Kattegat with the Baltic Sea was under construction in 1940.

**Government.** The Constitution of 1809, as subsequently amended, vested executive power in a hereditary King, acting under the advice of a Council of State (Cabinet), which is responsible to the Diet or Riksdag. The Upper Chamber of the Riksdag has 150 members, one-eighth of whom are elected annually by provincial and city councils; the Lower Chamber, 230 members, elected by direct male and female suffrage for four years. The coalition cabinet appointed Dec. 13, 1939, consisted of: Premier, Per Albin Hansson (Social Democrat); Justice, Prof. K. G. Westman (Agrarian); Foreign Affairs, Christian Guenther (Social Democrat); Defense, P. E. Sköld (Social Democrat); National Economy, G. H. Eriksson (Social Democrat); Communications, Gustaf Andersson (People's party); Finance, E. Wigforss (Social Democrat); Education, Gösta Bagge (Conservative); Agriculture, A. Pehrsson-Bramstorp (Agrarian); Commerce, J. F. Domö (Conservative); Social Affairs, F. Gustav Moeller (Social Democrat); Ministers without Portfolio, N. Quensel (Agrarian) and Thorwald Bergquist (People's party).

#### HISTORY

**Policy Toward Finland.** Despite vigorous criticism of its non-interventionist policies by former Foreign Minister Rickard Sandler and a substantial bloc of minority opinion, the Hansson Government clung to its careful "keep out of war" policy throughout 1940. It permitted some 10,000 Swedish volunteers to help the Finns in their brave



struggle against the Russian invaders (see *EUROPEAN WAR*) and encouraged the shipment of large military and non-military supplies from or through Sweden to Finland. But the government rejected Finland's despairing appeals for help from the Swedish army and air force. It refused to permit the passage of Allied troops across Sweden to aid Finland. With the support of King Gustaf, it rebuffed Sandler's appeal of January 17 to the Riksdag, urging the occupation of the Aland Islands by Swedish troops to forestall the establishment of a Soviet base.

When Finland was worsted in the unequal struggle with Russia, the Swedish Government served as the intermediary through which the onerous Finnish-Soviet peace of March 12 was concluded (see *FINLAND under History*). The Swedish people extended further extensive private aid to Finland for relief and reconstruction purposes when the Russo-Finnish war was ended. But the Hansson Government quickly dropped a proposal for a Finnish-Norwegian-Swedish mutual defense pact when Moscow expressed its opposition.

**German Invasion of Norway.** Sweden's "hands off" policy in the Russo-Finnish war was motivated by fear of a German attack and the consequent conversion of Scandinavia into a main theater of the European War. The same fear induced Stockholm to follow an identical policy of armed neutrality when Germany occupied Denmark and invaded Norway on April 9. See *DENMARK and NORWAY under History*.

On February 25 the Swedish, Norwegian, and Danish Foreign Ministers, meeting in Copenhagen, had agreed to "act as a unit" in safeguarding their neutrality (see *DENMARK under History*). But coincident with her attack upon Norway, Germany warned Sweden to avoid intervention and the Swedish Parliament agreed to preserve strict neutrality in a secret session on the night of April 9. A few days later Premier Hansson firmly rejected a German demand to use Swedish territory and the Swedish telephone and telegraph system to supply and communicate with German troops fighting in Norway. King Gustaf wrote Hitler personally that Sweden would defend her neutrality at all costs. Swedish armed forces were mobilized despite German assurances that Swedish neutrality would be respected. German airplanes that repeatedly flew over Swedish territory were fired upon. Elaborate precautions were taken against "fifth column" activities in Sweden.

**Results of Neutrality.** As a result of these policies, Sweden managed to stay out of the spreading European conflict during 1940. But with Norway and Denmark in German hands, Sweden was cut off from all economic and political contact with the Allied and neutral countries of Western Europe and the Americas. From both the military and economic point of view Sweden was at Berlin's mercy. At the same time Sweden's defenses against Russia were markedly weakened by Finland's defeat. There was ever-present danger that the Soviet Government would complete the conquest of Finland at the first favorable opportunity. Believing that Germany's defeat by the Allies would open the way to Soviet domination of the Continent, many Swedes were led to hope for a German victory.

The difficulties and dangers of Sweden's new position in Europe were brought home to her people with increasing force as the year advanced. Early in July the Swedish Government, over the protest of Great Britain, agreed to provide trans-

port facilities for war materials and unarmed German soldiers traveling between Germany and Norway. On July 9 Dr. Alfred Rosenberg, official German Nazi philosopher, announced the Reich's intention of taking all the Scandinavian peoples into the "greater Germanic unity of the North Sea and Baltic room," which would present "a common political and economic front toward the outside."

The German press adopted an increasingly threatening tone toward Sweden, warning that the Reich could not countenance "unfriendly" accounts of European events in Swedish newspapers. These incidents aroused indignation in Sweden. Premier Hansson on July 28 and other leading Swedes expressed the nation's determination to remain free and independent. But growing economic pressures forced the Swedes to readjust their economy and their national policies.

With its trade restricted to Germany, German-occupied territories, Finland, and the Soviet Union, the Swedes on July 12 concluded new trade agreements with the Reich and Norway based on the Nazi trade principles. Exchange rates and prices were fixed arbitrarily to Germany's advantage. Sweden undertook to sell the Reich greater quantities of paper, pulp, and lumber than Germany required, with the knowledge that the Germans would probably resell part of them to other countries in competition with Sweden. Moreover the Swedes were obligated to buy German luxury goods they did not need at prices fixed in Berlin.

These same principles were applied in a more comprehensive Swedish-German trade pact of December 16 and in trade agreements that the Reich Government concluded with Sweden on September 10 on behalf of Belgium and the Netherlands and in December on behalf of Denmark. Toward the end of September the Swedish Government yielded to German attacks upon the Swedish press. It confiscated three issues of a liberal newspaper that had expressed doubt as to the accuracy of official German reports concerning German air losses. Similar action was taken against a newspaper that printed accounts of alleged British terrorism in Iceland.

**Relations with Russia.** The Swedes sought to lessen this growing pressure from the Reich by establishing closer relations with the Soviet Union. After months of negotiation, Sweden on September 9 extended a 100,000,000-crown credit to Russia for the purchase of Swedish machine tools and signed another agreement for increased trade. Sweden agreed to purchase 75,000,000 crowns worth of Russian oil products, fodder, manganese ore, etc., annually while Moscow was to take 100,000,000 crowns worth of Swedish machinery and other steel manufactures. But the Stockholm authorities continued to watch Soviet activities in Finland and the Baltic States with deep uneasiness. On August 16, when a new Soviet attack upon the Finns seemed likely, Foreign Minister Guenther delivered a speech indicating that in this case Sweden might abandon neutrality and join forces with Finland. Beginning September 1 Sweden undertook to furnish Finland with 50,000,000 crowns worth of iron, steel, and other products for reconstruction purposes and to provide an additional credit of 25,000,000 crowns.

**Defense Preparations.** Throughout this trying period, the Swedish government and people worked feverishly to strengthen their defenses against attack from without and "fifth column" activities within. War industries operated at top

capacity to make good the shortages resulting from shipments of military supplies to Finland and to provide new defense equipment. The army general staff was reorganized March 21, with Maj. Gen. Iva Holmquist succeeding Lieut. Gen. Per Sylvan as Commander in Chief. More conscripts were called to the colors for extended training.

In May a Home Defense Corps of 50,000 men was established to deal with invasion by parachutists and troop-carrying airplanes. Defense organizations of various kinds were formed for all physically-fit Swedes over 16 years of age. On May 8 a 100-mile mine belt protecting the entrances to Stockholm and other ports was laid. On May 24 the government announced that the 1936 rearmament program, scheduled for completion in 1945-46, had been in the main "more than carried out." The Riksdag on April 17 approved a 685,000,000-crown defense budget for 1940-41 and authorized the government to exceed this sum if necessary. A defense loan of 500,000,000 crowns, launched May 1, was over-subscribed by August. On August 2 the Riksdag was called in extraordinary session to consider further emergency defense measures and increase defense appropriations. The defense program received a setback when 110 military planes ordered in the United States were requisitioned by the Washington Government on October 22. Subsequently about 32,000,000 crowns were appropriated for the construction of two cruisers and a number of destroyers and submarines.

**Economic Readjustments.** Closely related to the defense program were the measures taken to adjust Sweden to its new economic position. On February 24 Parliament imposed rigid restrictions on the export of capital and on dealings in gold and foreign exchange to check the flight of capital. A decree of January 31 revalued the gold holdings of the Riksbank at the daily market price of gold and placed all the bank's gold holdings in the reserve for the support of the currency.

Rationing of coal, coke, petroleum products, and certain other essentials was instituted immediately after the German invasion of Norway. A government price control board was established, and the scope of price control, like rationing, was progressively extended. Stocks of many staple commodities were expropriated by the government. Effective May 8, the government was authorized to proclaim a financial moratorium at its discretion. In June legislation was passed empowering the King in Council, the Riksbank, and other government organs to carry on at home or abroad in the event of war. Meanwhile the State assumed ever wider emergency powers, including control of foreign trade, shipping, and land transport. Income and many other taxes were drastically increased while non-essential State and municipal expenditures were curtailed.

Economic conditions became steadily more difficult. Foreign trade was halved. The belligerents sank or confiscated 85 Swedish vessels worth \$25,000,000 up to Sept. 1, 1940, and activities of the remaining merchant vessels were greatly curtailed. Prices continued to rise while national income declined. Industrial production fell (except in war industries) and unemployment was held in check only through expansion of the armed forces.

**National Elections.** The popularity of the government's course in the face of these difficulties was demonstrated in the quadrennial elections to the Riksdag held on September 15. The Social Democrats under the leadership of Premier Hans-

son won 19 additional seats, while the conservative Agrarians lost 8 seats and Socialists and Communists together lost almost half of their 1936 popular vote. The setback to the Communists was attributed to the Soviet attack upon Finland while the Socialists had shown pro-German tendencies. The standing of the parties in the new Riksdag, with the previous standing in parentheses, was: Social Democrats, 134 (115); Conservatives, 42 (44); Agrarians, 28 (36); People's party (Liberals), 23 (27); Communists, 3 (5); Socialists, 0 (3).

The unity of all political parties, except the Communists and the pro-Nazi National Swedish Union, in defending Sweden's independence and democratic institutions was shown at a joint demonstration of about 150,000 persons in Stockholm on May Day. Leaders of all the pro-democratic parties spoke from the same platform, appealing for national unity and mutual sacrifice. A bill to outlaw the Communist party, introduced by the Conservatives in January, failed to receive government support. At the convention of the pro-Nazi National Swedish Union early in October, Leader Sandström announced that because of the German occupation of Norway, the party was ready to make "a decisive contribution to Swedish national life." He indicated that the shortage of funds that previously handicapped the movement had been overcome.

See DENMARK, GERMANY, and GREAT BRITAIN under *History*; CO-OPERATIVE MOVEMENT; EUROPEAN WAR under *Finnish Campaign*; INDUSTRIAL CHEMISTRY; LABOR CONDITIONS; MUSIC.

**SWEDISH LITERATURE.** See SCANDINAVIAN LITERATURE.

**SWIMMING.** The shattering of four world's and many national records, a double victory by the University of Michigan in the national A.A.U. indoor and National Collegiate A.A. championships and the meteoric rise of a new aquatic marvel in the person of 15-year-old Miss Mary Mooreman Ryan of Louisville, Ky., were outstanding developments in the 1940 world of water sports.

Adolf Kiefer, representing the Chicago Towers Club, reduced his back-stroke marks for 100 yards from 0:58.8 to 0:58.1 and 100 meters from 1:04.8 to 1:04.7. The Yale varsity team of Richard Kelly, Edward Pope, Russell Duncan, and Howard Johnson cut the time for the 400-yard free style relay from 3:31.3 to 3:30.7, and then the three last-named and William Sanburn shaded the figures from 3:59.2 to 3:54.4 for the 400-meter relay. The 400-yard record was also shattered by Edward Hutchens, John Gillis, Charles Barker, and Gus Sharamet, all of Michigan, who traversed the course in 3:31.

The Wolverines captured the A.A.U. laurels by overpowering the Towers Club, 28 to 24, and the N.C.A.A. pennant by outpacing Yale, 45 to 42.

Miss Ryan reduced the American long course standards for 400 yards from 5:32.5 to 5:30.1, 880 yards from 11:33.2 to 11:26.4 and the one mile from 23:47.4 to 23:15, a mark not far removed from the world's record of 23:11.5.

Outstanding among the new records were long course marks of 2 13.1 for 220 yards free style by Otto Jaretz of the Towers Club; 9:17.3 for the 880-yard relay by members of the Alexander House C.A. of Hawaii and a 20-yard course standard of 1:01 for the 100 yards breast stroke by Richard Hough of the Princeton A.A.

Among the sensational marks set by women were 2:30.3 for 220 yards free style set by Miss

Brenda Helser of the Multnomah A.A.A. of Portland, Ore.; 1:24.2 for 100 meters breast stroke, by Miss Lorraine Fischer of the New York Women's S.A.; 220 yards in 3:09 by Miss Fujiki Katsutani of Hawaii, and 3:28.6 for the 300-yard medley relay by a New York W.S.A. trio. Besides these, there were long-course marks of 1:18.4 for 110 yards back stroke by Miss Gloria Callen of the latter club, and 4:45.7 for the 400-meter relay by Multnomah girls.

In springboard diving, Al Patnik of Ohio State University, was tops; in platform work, his teammate, Earl Clark, was without a peer. Miss Marjorie Gestring of Los Angeles captured both the outdoor women's crowns, defeating Miss Helen Crlenkovich of San Francisco, the indoor champion.

For the second successive year the Alexander House C.A. won the men's national A.A.U. team championship. In the college field, Michigan carried off the Big Ten honors, Yale was all-powerful in the East and Southern California was supreme on the Pacific Coast.

**SWITZERLAND.** A federated republic of central Europe. Capital, Bern (Berne).

**Area and Population.** Switzerland has an area of 15,944 square miles and a population estimated at 4,216,000 on Jan. 1, 1940 (4,066,400 at the 1930 census). The urban population in 1937 was estimated at 1,760,000. Living births in 1938 numbered 63,790 (15.2 per 1000); deaths, 48,576 (11.6 per 1000); marriages, 31,031 (7.4 per 1000). Estimated populations of the chief cities on Jan. 1, 1939, were: Zurich, 329,780; Basel, 162,559; Geneva, 123,286; Bern, 121,976; Lausanne, 89,632; St. Gallen, 63,491; Winterthur, 58,410; Lucerne, 54,123. The 1930 census showed 2,924,313 German-speaking Swiss; 831,097 French-speaking; 242,034 Italian-speaking; and 44,158 Romansch-speaking.

**National Defense.** All males from 18 years of age to 60 serve compulsorily in a national militia. The militia numbers about 480,000. An air force of some 5000 men and 400 aircraft is maintained. See also under *History*.

**Education and Religion.** The system of public education varies by cantons. In the academic year 1938-39, pupils in primary schools numbered 460,222; in secondary and special schools, about 90,000; the universities of Basel, Zurich, Bern, Geneva, Lausanne, Fribourg, and Neuchatel had among them 8854 students. Literacy is virtually universal among competent natives of according age. The census of 1930 reported 2,230,303 Protestants, 1,666,350 Roman Catholics, and 17,973 Jews.

**Production.** The census of 1930 showed 404,239 persons engaged in agriculture, 819,018 in manufacture and trades, and 164,989 in commerce. About 12 per cent of the land is arable; meadows cover some 4,161,000 acres; forests, 2,372,000. The chief agricultural products of 1939, in millions of Swiss francs, were: Milk, 451; cattle, 244; pigs, 167; fruit, 67; poultry products, 63; the value of all agricultural production of the year, 1,269. The industries included the making of cheese, condensed milk, watches and clocks, and embroidery.

**Foreign Trade.** Switzerland, before the war broke out in Europe in 1939, normally imported much of its requirement of cereals, fruits, vegetables, and mineral substances; it exported chiefly machinery, clocks and watches, and cotton textiles. Trade did not in most respects fall much out of normal for the calendar year 1939. Imports

amounted to 1,889,358,000 Swiss francs (for 1938, 1,606,902,000); exports, to 1,297,577,000 (for 1938, 1,316,572,000). Germany sent (1939) 440,240,000 francs of the imports and took 191,529,000 of the exports; France sent 275,344,000 and took 140,106,000; Italy sent 135,178,000, took 80,675,000; the United Kingdom sent 109,304,000, took 164,506,000; United States sent 132,685,000, took 129,678,000.

**Finance.** The Federal revenue of the fiscal year 1940 was estimated at 513,200,000 Swiss francs; expenditure, at 584,300,000; revenue of 1939, at 511,800,000; expenditure, at 600,700,000. The Federal public debt (not to count the debt of the Federally owned railways) included, Jan. 1, 1940, 2,237,575,000 Swiss francs bonded and 487,517,179 floating; total, 2,725,092,179; or, with railroad debt included, 5,841,396,529. The Swiss franc, the monetary unit, as quoted in U.S. money, averaged \$0.2268 in value in 1940.

**Transportation.** There were in 1937 about 3660 miles of railway (2800 miles electrified) and (in 1939) 10,448 miles of highways (see *ROADS AND STREETS*). Civil aviation statistics for 1938 were: Miles flown, 3,354,530; mail carried, 1,386,489 lb.; freight and baggage, 1,338,201 lb.

**Government.** The Constitution of 1874 provides a republican confederation of 22 cantons or States. The Federal Assembly consists of two chambers; one, the Council of States, is composed of 44 members—two from each canton; the other chamber, the National Council, has 187 members, all elected at four-year intervals by the obligatory vote of males who have attained 20 years of age. The Federal Council consists of seven members, all elected quadrennially by vote of the united chambers of the Federal Assembly; by similar vote, but annually, are chosen, from among the seven, a President of the Confederation and a Vice-President of the Federal Council. Each of the Federal Council's seven members is assigned to the direction of one of the seven Federal administrative departments. Dr. Marcel Pilet-Golaz was President in 1940.

### HISTORY

The totalitarian tide swept completely around Switzerland during 1940 and threatened momentarily to engulf the sturdy little democracy. But the Swiss held firm against the menace of invasion, the plotting of "fifth column" elements within, and the progressive strangling of their commerce which raised the specter of economic ruin and starvation. On the night of August 1 they celebrated the 649th anniversary of Swiss union and freedom by lighting bonfires on hundreds of mountain peaks and with torchlight and lantern parades in the cities. The nation's military and civil leaders pledged anew their determination to defend Swiss neutrality and independence at all costs.

**The May-June Crisis.** During the first four months of the year large Swiss forces stood on guard along the German frontier to repel a possible German invasion of France through Swiss territory. After the German attack on Norway and Denmark, 60,000 more men were called to the colors (April 18). With the beginning of Hitler's offensive against the Low Countries on May 10, full mobilization and a "precautionary state of war" were proclaimed.

For the next few weeks Switzerland lived in imminent danger of attack. Large German forces of tanks and troops were massed on the frontier and German airplanes repeatedly flew over Swiss

territory, a number being shot down by Swiss fighter planes. On May 14 the British and French legations in Berne burned their files in anticipation of a German invasion. On May 16 the Swiss-German frontier was closed. In mid-June, after Italy entered the war and German troops were sweeping around the rear of France's Maginot Line, the Swiss officials suddenly tightened all military precautions and warned the public of a possible parachute invasion. Nothing happened except the flight of about 60,000 French and Polish troops across the Franco-Swiss frontier in the last days of the fighting in France. On June 28 the crisis seemed over and partial demobilization of the Swiss armed forces of more than 400,000 men was ordered. Nevertheless large forces continued to man the frontier defenses throughout the rest of the year.

**Economic Isolation.** The entrance of Italy into the war and the collapse of France isolated Switzerland politically and economically from the democratic world and all non-European markets. The trade previously carried on in American ships touching Mediterranean ports was cut off. Some 20 Greek ships had been chartered by the Swiss Government in May to carry on Swiss trade through Genoa, Italy. But obstructions interposed by the British blockade and by Italian authorities hampered the ships' operations. Then the outbreak of the Italo-Greek war in October tied up the chartered vessels.

The railway through unoccupied France remained Switzerland's only connecting link with non-belligerent countries until the Evires railway bridge over the Rhone River was blown up early in September. It was over two months before the bridge was rebuilt and the railway reopened. Meanwhile the Swiss Government's effort to establish a motor-truck route across France and Spain to Portugal had to be abandoned for lack of gasoline.

**Pressure from Axis Powers.** Switzerland was thus left at the mercy of Germany and Italy economically. They seized the opportunity to press for acceptance of their "new order" in Europe. In order to obtain German coal, Switzerland was reported to have surrendered part of her gasoline stocks to the Reich. Late in August the Swiss Government dropped its ban on the admission of Chancellor Hitler's official newspaper, the *Voelkischer Beobachter*, imposed some years previously when Swiss papers were barred from Germany. Contrary to Swiss expectations, Germany retained its ban on Swiss newspapers and Nazis increased their demands that Switzerland end its "arrogant policy" and "find a new relationship" to the Reich.

From July on, the Italian press and radio likewise adopted a menacing tone toward Switzerland. They warned of "grave complications" unless the Bern authorities took a "more realistic attitude" toward the European political situation and curbed the alleged pro-British bias of the Swiss press. The Italians also threatened to intervene unless the Swiss Government prevented night flights of British bombers across Switzerland en route to and from Italy. The Swiss made repeated protests to London and received assurances that British pilots would be instructed to avoid Switzerland, but violations of Swiss air limits at night continued.

**Economic Measures.** To protect the republic's economic and financial position, the government concluded new trade and payments agreements with Germany, Italy, and some of the German-occupied countries on the best terms available. A special office was established April 27 for the more

thorough supervision of exports and imports. To prevent the freezing of Swiss capital in conquered territories, the government on July 8 assumed supervision over capital deposited in Switzerland from Belgium, the Netherlands, France, Denmark, Norway, and Luxemburg. It required all outgoing payments to those countries to clear through the National Bank. The price-control and rationing systems were extended. On October 4 the government took over the entire crop and all stores of bread grains. A week later the sale of butter to retailers was temporarily halted. A decree ending all sales of wool articles temporarily was issued October 31.

Meanwhile prices continued to rise and emergency defense costs imposed a severe strain upon the country's finances. In July the Federal Assembly adopted special emergency capital and income taxes for national defense. Effective Jan. 1, 1941, a capital tax was imposed ranging from a minimum of 5 francs annually on bank deposits and security holdings of 10,000 francs to 2500 francs on 1,000,000 francs. The supplementary income tax raised this form of taxation to a higher level than in most belligerent countries.

**Anti-Democratic Agitation.** The Swiss also experienced growing difficulty with anti-democratic minority groups, particularly pro-Nazi elements receiving financial aid and encouragement from Berlin. On February 29 Robert Tobler, head of the pro-Nazi Swiss National Front, was arrested on a charge of transmitting military information to Germany. A colonel attached to the War Ministry and six accomplices were arrested for German espionage April 21. On May 11 foreigners in possession of fire arms were ordered to turn them over to the police. A week later several hundred persons were arrested in a nation wide round-up of those who failed to comply.

An increase in Communist propaganda led the Federal Government on August 6 to ban all Stalinist, Trotskyist, and anarchist activity and propaganda under heavy penalties. The Swiss Communist party and all its branches and affiliated associations were ordered dissolved on November 27. The pro-Nazi Swiss Nationalist movement, led by Ernst Hofmann, became increasingly aggressive in its attacks upon the Swiss Government and democratic institutions after the collapse of France. On September 12 Hofmann and an associate issued a communiqué stating that they had been received by President Pilet-Golaz as the "first step toward political appeasement in Switzerland." This stirred up severe criticism of the President and he was obliged to explain his action before the chairmen of the Swiss political parties.

After arrests of Nazis secretly affiliated with the Nationalist movement and the banning of their organizations, Hofmann and four associates in a letter to President Pilet-Golaz on November 12 demanded assurances that the party would be allowed freedom of press and assembly, the "public rehabilitation" of its arrested members, and damages for members "hurt morally or economically" through police measures. The government responded with a decree of November 19 dissolving the Nationalist party, forbidding it to reorganize under another name, and banning its newspaper and all its propaganda and activities.

**Other Political Events.** In a referendum held December 1 the voters rejected, 429,952 to 342,838, a government bill making pre-military training obligatory for all youths from 16 to 19 years of age. The first referendum on woman suffrage, held

in one of the cantons the same date, resulted in an adverse vote of 17,120 to 7819.

The resignations of two members of the Federal Council, War Minister Rudolf Minger and Minister of Justice and Police Johannes Baumann, lent unusual importance to the parliamentary session of December 10, at which two new Federal Councillors and a President were elected. Ernest Wetter of the conservative Radical-Democratic party was elected President for 1941, while Edouard von Steiger of the Farmers, Workers, and Middle Class party and Karl Kobelt, an Independent, were chosen for the vacancies on the Federal Council.

See GERMANY under *History*; LABOR CONDITIONS; MUSIC.

**SYNTHETIC PRODUCTS.** See CHEMISTRY, INDUSTRIAL; MINERALOGY; NATIONAL DEFENSE ADVISORY COMMISSION; RUBBER.

**SYRIA AND LEBANON.** A territory on the east coast of the Mediterranean between Turkey and Palestine, mandated to France by the League of Nations on July 24, 1922. Administrative center of the French High Commissioner, Beyrouth (Beirut).

**Area and Population.** The area and population of the Syrian Republic, its sub-divisions, and the Republic of Lebanon, are shown in the accompanying table. It excludes the Sanjak of Alexandretta (Hatay Republic), with an area of 1930 square miles (pop. about 228,000), ceded to Turkey by France June 23, 1939.

SYRIA AND LEBANON—AREA AND POPULATION

<i>Political Unit (Capital)</i>	<i>Area, sq. mi. *</i>	<i>Population<sup>b</sup></i>
Republic of Syria (Damascus)	72,560	2,487,000
Syria Proper (Damascus) ...	67,550	2,044,000
Latakia (Latakia)	2,310	372,000
Djebel Druse (El Suweideh)	2,700	71,000
Republic of Lebanon (Beyrouth)	3,470	862,600
Total . . . .	76,030	3,349,600

\* Approximate. <sup>b</sup> Estimates of December, 1938, for the Republic of Syria and its subdivisions, census of 1935 for Republic of Lebanon. \* Excluding about 15,000 nomads who spend part of their time in Djebel Druse

The people are mainly Arabs and Arabic is the chief language, but there are considerable numbers of Turks, Kurds, Turkomans, Circassians, Armenians, Iranians, and Jews as well as about 28,000 Europeans. The chief cities, with 1935 populations, are: Damascus, 193,912; Aleppo, 177,313; Beyrouth, 134,655; Homs, 52,792.

**Education and Religion.** Statistics on education (1937): Primary, 2611 schools (253,763 pupils); technical, 146 (15,916); secondary, 31 (1485); universities, 3 (1316). Religions: Moslems, 1,514,755; Christians, 505,419; Alawites, 27,930; Druses, 86,125; Jews, 16,526; Ismailians, 14,882.

**Production.** Agriculture and livestock raising are the main occupations. Production (in metric tons): Wheat, 607,000 in 1939; barley, 370,000 in 1939; oats, 5400 in 1939; corn, 27,500 in 1938; rice, 3000 in 1938; potatoes, 41,600 in 1938; tobacco, 3400 in 1938; cotton-seed, 17,600 in 1938; cotton, 8400 in 1938; sesamum, 5300 in 1938; olive oil, 15,300 in 1938; hemp, 4760 in 1937; wool, 4400 in 1940. Livestock (Jan. 1, 1938): 2,273,520 sheep, 89,900 camels, 345,228 cattle, 152,221 asses, 1,659,514 goats. Some flour, soap, silk thread, etc., is manufactured.

**Foreign Trade.** Including transit trade, merchandise imports in 1938 were equivalent to \$283,200,000 (old U.S. gold dollars) and exports to

\$117,600,000. Trade is mainly with France, Great Britain, the United States, and neighboring countries in normal times; in 1940 it was reduced to a fraction of its normal value by the war.

**Finance.** Syria and Lebanon have separate budgets and also a "common interests" budget covering Customs, posts and telegraphs, etc. Actual receipts of the "common interests" budget declined from 12,237,189 Syrian pounds in 1938 to 7,742,500 in 1939. Budget estimates of the Syrian Republic for 1940 were 11,746,000 Syrian pounds; of the Lebanese Republic, about 6,500,000 Syrian pounds (6,369,000 in 1939). The Syrian pound (equal to 20 French francs), exchanged at \$0.576 in 1938 and \$0.0502 in 1939.

**Communications.** Syria and Lebanon in 1939 had about 890 miles of railway line, 7072 miles of roads, and bus connections between Beyrouth and Baghdad (Iraq). Air connections with France were severed in 1940. Beyrouth is the chief port.

**Government.** The French High Commissioner in July, 1939, suspended the Constitutions of the Syrian and Lebanese Republics and appointed councils to rule under his direction (see 1939 YEAR BOOK, p. 748-749). Latakia and Djebel Druse, which were semi-autonomous districts of the Syrian Republic, continued to be administered by French governors, assisted by partly nominated and partly elected councils. See *History* for 1940 developments.

## HISTORY

**Syria Accepts Armistice.** The capitulation of the Pétain Government in France to Germany on June 22, 1940, and to Italy on June 24 threw Syria and Lebanon into great political confusion and severe economic difficulties. Throughout the first half of the year, Gen. Maxime Weygand, commander of the French forces in Syria and Lebanon, continued to strengthen and train his army of several hundred thousand men, concentrated in the Near East to reinforce the British in Egypt and the Turks. The presence of this army, combined with native preference for an Anglo-French victory, curbed the nationalist ferment that had caused the suspension of the Syrian and Lebanese constitutions in 1939.

On May 19 General Weygand returned to France to take command of the hard-pressed French armies, and it was at his recommendation that Marshal Pétain asked the Germans for an armistice. The Italo-French armistice of June 24 provided for the demobilization and disarmament of all French forces in Syria except those needed to maintain order within the territory. Gen. Eugene Mittelhauser, who had succeeded Weygand as commander of the Near Eastern forces early in June, had declared in a radio speech of June 23 that his army would continue the war. Most of his officers were reported to favor this course. But a personal message from Weygand caused Mittelhauser to change his mind. On June 27, with the approval of High Commissioner Gabriel Puaux, he announced the cessation of hostilities. The French flag, he said, would continue to fly over the mandated territory.

**Political Tensions.** The cessation of hostilities and the adherence of the highest French officials in Syria to the Pétain regime divided the French army and civilian officials in Syria, revived the native independence movement, subjected the territory to the British blockade, and made it a center of the Near Eastern struggle between Britain and her allies on the one hand and the Axis

powers on the other. General Mittelhauser, who seemed lukewarm in his support of the Pétain Government, permitted many of his own officers and troops as well as the Polish and Czech contingents in Syria to cross into Palestine to join the British. He was replaced in mid-July by General Fougère. The French officers, soldiers, and civilians who remained in Syria and Lebanon were divided into three groups—those supporting the Pétain regime, those urging that the territory throw in its lot with the British empire or else support the Syrian independence movement, and those wishing to return to their families in France and abandon Syria to its fate.

Great Britain, Turkey, the independent Arab countries, and the native nationalists of Syria and Lebanon all feared that the Axis powers, acting through the Pétain regime, would seek to use Syria and Lebanon as a base for the subjugation of all Asia Minor. On July 1 the British Government announced that it "could not allow Syria or the Lebanon to be occupied by any hostile power or to be used as a base for attacks upon those countries in the Middle East which (it was) pledged to defend, or to become the scene of such disorder as to constitute a danger to those countries." Unofficially the Turks took a similar position. The Syrian nationalists, supported by the Arab States, renewed their agitation for independence. After a visit to Ankara, the Iraqi Foreign Minister on July 5 declared that Iraq and Turkey favored Syria's complete independence from France.

In carrying out the demobilization of the army, the pro-Pétain administration at Beyrouth disarmed first of all those Syrian and French units whose political reliability was suspected. In mid-July the leaders of the Syrian nationalist movement were removed to Beyrouth from Damascus and placed under police observation. The situation became more explosive with the arrival in Beyrouth late in August of an Italian military mission to supervise demobilization under the terms of the Franco-Italian armistice pact. British resistance to the German *blitzkrieg* had strengthened anti-Pétain sentiment in French circles in Syria and the sweeping demands made by the Italian military mission intensified the opposition of both French and Syrians. These demands were said to have included delivery to Italy of all airdromes and military and naval bases, repatriation to France of officers hostile toward the Axis, and Italian control of travel, communications, the censorship, production, foreign trade, and of the munitions and supplies of the French army in Syria and Lebanon.

High Commissioner Puaux and General Fougère resisted the Italian demands. Mussolini subsequently replaced the original mission with a mixed commission of army officers and diplomats, but they achieved no better results. To allay Turkish suspicions of the Italian activities in Syria, the French chargé d'affaires in Ankara on September 18 gave formal assurances that the Pétain Government would not abandon any military position that would endanger Syria's security.

Finding it increasingly difficult to maintain order, the French administration late in September began large-scale arrests of Syrian nationalists and supporters of the "Free French" movement. The censorship was tightened and residents in the mandated territory were forbidden to listen to foreign news broadcasts. On orders from Vichy, the High Commissioner on October 22 issued decrees barring Jews from positions in the government services, State enterprises, and the newspaper, radio, and motion picture professions. At the demand

of the armistice commission, the government in November also barred exit visas to some 3000 Greeks desirous of returning to Greece for service against Italy.

During November and December, news of Italian reverses in Greece, the Mediterranean, and Egypt (see *EUROPEAN WAR*) further strengthened the agitation in Syria and Lebanon against the Italian armistice commission and the Vichy Government. High Commissioner Puaux attempted to calm the fears aroused in Vichy by this development. In a radio address on November 20 he declared that the French in Syria recognized Marshal Pétain as their leader and that the French army would fight only in self-defense. Effective November 30, heavy penalties were imposed on cities and villages whose inhabitants volunteered for service in foreign (i.e., British and Greek) armies.

Nevertheless M. Puaux had ventured to criticize some of the Vichy Government's policies and it was decided that a more loyal and sterner hand was needed to curb pro-British sentiment. On November 25 Marshal Pétain appointed Jean Chiappe, former prefect of the Paris police, to replace M. Puaux as High Commissioner. Chiappe was killed on November 27 when the plane carrying him to Syria crashed in the Mediterranean. A French communiqué affirmed, and British sources denied, that the plane was shot down by a British pursuit plane. The Vichy Government then appointed Gen. Henri Dentz as High Commissioner to Syria and commander-in-chief of the French military forces there (December 9). He was placed under the direct command of Gen. Maxime Weygand, French pro-consul in North Africa.

**Economic Conditions.** The growth of pro-British and Syrian nationalist sentiment was linked to the rapid deterioration of the economic situation in Syria and Lebanon following acceptance of the armistice. Through British influence Syrian trade with Palestine and Egypt was cut off and on July 6 the flow of oil through the pipeline from Kirkuk, Iraq, to the port of Tripoli was stopped. All sea communications with France, Italy, and the Western Mediterranean were ended. With French gold reserves in foreign hands and Syrian gold and foreign exchange reserves depleted, the government was obliged to resort to inflation of the currency to pay the armed forces and meet other obligations.

The currency depreciated rapidly and in spite of government efforts to fix prices, ration supplies, and curb profiteering, economic and financial conditions became rapidly worse. Prices soared, hoarding became widespread, truck and automobile transportation was severely restricted, and internal and external trade came to a virtual standstill.

See *EUROPEAN WAR* under *Effects of the Fall of France*; FRANCE, IRAQ, PALESTINE, and TURKEY under *History*.

**TACOMA NARROWS BRIDGE.** See BRIDGES; INSURANCE.

**TAHITI.** See FRANCE under *Colonial Empire*.

**TAIWAN.** See FORMOSA.

**TAJIK SOVIET SOCIALIST REPUBLIC.** See UNION OF SOVIET SOCIALIST REPUBLICS under *Area and Population*.

**TANGANYIKA TERRITORY.** The former German East African area now administered by Great Britain under a League of Nations mandate. Area, 363,600 square miles; population (1938), 5,260,484, including 9167 Europeans and 33,974 Asiatics. Capital, Dar-es-Salaam, 33,147 in-

habitants. Tanga, Lindi, Mikindani, and Kilwa are important seaports.

**Production and Trade.** Chief agricultural crops: coffee, cotton, groundnuts, sesame, cottonseed, copra, and sisal. Other important products included simsim, ghee, hides and skins, gold, diamonds, and timber (pencil cedar, camphor, mahogany, ebony, etc.). Livestock (1938): 5,052,207 cattle, 1,648,384 sheep, 2,827,766 goats. Trade (1939): imports, £3,039,673; expenditure, £4,585,658, including gold (187,254 oz.) valued at £980,346. In 1939 there were 1376 route miles of railway line.

**Government.** Budget (1940): estimated revenue, £2,126,000; estimated expenditure, £2,452,000. Tanganyika is under the administration of a governor, assisted by an executive council of 10 nominated members. There is a legislative council consisting of 13 official members and not more than 10 non-official members. Governor and Commander-in-Chief, Sir M. A. Young.

**History.** Troops from Tanganyika participated in the campaign along the Kenya-Italian East Africa border following Italy's entrance into the war (see EUROPEAN WAR under *Campaigns in Africa*). New defense forces were raised following the collapse of France and the majority of male Germans in the mandated territory, who had been paroled, were again interned. In August the Legislative Council unanimously approved the conscription of all male British and British-protected persons from 18 to 45 years of age for military or civil service. The war brought Tanganyika into still closer economic and political relations with Kenya and Uganda, reviving the campaign for unification of the three territories. Early in March a delegation from Tanganyika arrived in London to seek British aid in the marketing of the territory's products. Also see KENYA under *History*.

**TANGIER.** A former internationalized district in northwestern Africa, including the port and city of Tangier, occupying part of the southern shore of the Strait of Gibraltar. It was occupied by Spanish troops on June 14, 1940, and was formally incorporated in Spanish Morocco on November 23 (see *History*). Area, about 225 square miles; estimated population on Jan. 1, 1938, 80,000—mostly Moslems but including some 17,000 Europeans and 7000 Jews. The city of Tangier had about 45,000 inhabitants.

Commerce, agriculture, fishing, and cigarette-making are the chief occupations. Leading crops are wheat, barley, and chickpeas. Imports in 1938 were valued at 94,693,830 French francs; exports, 11,380,286 francs. A French-controlled railway connects the city of Tangier with Fez, French Morocco, and with the French North African railway network. Highways and roads extend about 65 miles. The Tangier port works were in process of modernization in 1940.

Tangier was neutralized and demilitarized by the convention signed by Spain, France, and Great Britain on Dec. 18, 1923. This statute was modified by a protocol signed at Paris July 25, 1928, at which time Italy also adhered to the convention. The convention was concluded for a period of 12 years and was automatically renewed for a similar period from May 14, 1936. It set up an autonomous regime in Tangier, with legislative powers exercised by an international assembly of 27 members. The assembly delegated administrative powers to an administrator. A committee of control, composed of the consuls of the powers adhering to the Tangier Convention, had veto and certain other powers. The Sultan of Morocco was repre-

sented by a Mendoub, who served as ex officio president of the assembly and controlled the administration of native affairs. The 1939 budget provided for revenues of 29,795,500 French francs and expenditures of 29,653,312 francs. Administrator Le Fur (French) was succeeded by Dr. Emanuel Amieva (Spanish) at the end of July.

**History.** The entrance of Italy into the European War on June 10, 1940, and the subsequent collapse of France enabled the Nationalist Government of Spain to seize control of Tangier without opposition by either Britain or France. In 1939 a Spanish threat to occupy Tangier had been met by Anglo-French naval concentrations at Gibraltar (see YEAR BOOK, 1939, p. 750). On June 14, 1940, some 3500 Spanish troops marched unhindered into Tangier. On the same day Madrid announced that "with the object of guaranteeing the neutrality of the international zone and the city of Tangier, the Spanish Government has decided to take charge provisionally of the surveillance, police, and public safety services of the international zone."

While the Franco Government declared this action was taken in agreement with Britain, France, and Italy, German sources and the Spanish press asserted that Britain and France were not consulted until after they were presented with a *fait accompli*. Madrid officials assured both Britain and France that the international administration of the Tangier Zone would be continued and the rights of interested powers respected. However the commander of the Spanish forces in Tangier, Col. Antonio Yuste, on November 3 made the Spanish peseta legal tender. The following day he abolished the International Assembly, the International Committee of Control and the Mixed Office of Information. At the same time he assumed the post of Military Governor of Tangier, representing the High Commissioner of Spanish Morocco. On November 9 Colonel Yuste abolished the international gendarmerie, replacing them with native troops under Spanish officers as in Spanish Morocco. The incorporation of Tangier in Spanish Morocco was completed November 23 when the cabinet in Madrid approved legislation to that effect.

Great Britain and the United States made formal representations to the Madrid Government concerning Spain's violation of the Tangier Statute, and reserved their rights. The British Government was reported in December to have reached an agreement with Madrid safeguarding the important British interests in Tangier. Spanish forces in the occupied zone were strengthened during the last months of the year, but allegations that the zone was being fortified with Axis aid were discounted by the British Under-Secretary for Foreign Affairs in the House of Commons on December 11. The British Government also took an active interest in two damaged Italian submarines which took refuge in Tangier harbor during November.

The Spanish military occupation was followed by an acute food shortage, which added to the resentment of both natives and foreigners against the Spaniards. See SPAIN under *History*.

**TARIFF COMMISSION, U.S.** The U.S. Tariff Commission is an independent fact-finding body created by Act of Congress in 1916. The provisions of that Act as it related to the Tariff Commission were re-enacted and extended to include the so-called flexible provisions in the Tariff Act of 1922. With minor modifications these pro-



visions were again re-enacted in Sections 330 to 338 of the Tariff Act of 1930, which is the present tariff law. The law provides that not more than three of the six commissioners may be of the same political party. The work of the Commission consists principally of general investigations and reports under Section 332 of the Tariff Act of 1930; co-operation with the Government departments under Section 334; cost studies under Section 336—the so-called flexible provisions—for the purpose of adjusting tariff rates; investigations under Section 337 to determine if unfair competition exists in the importation of goods or the sale of imported merchandise and the effect of such competition on domestic industry; and investigations under Section 338 to ascertain if other nations are discriminating against the commerce of the United States.

During 1940 the Tariff Commission issued a report on war and its effect on imports, which compared the imports during the first year of the war with the trade in earlier periods. In this and other work done during the year the Commission has co-operated closely with the National Defense Commission.

In view of the current interest in a definite policy of Western Hemisphere defense, the Commission has in progress a study of the foreign trade of Latin America. When completed the series will consist of 23 volumes. Many of these have already been issued. A Spanish translation of part I of the report, which deals with the trade of Latin America as a whole, was made for the use at the Habana Conference. As a further means of adapting its activities to current needs, the Commission has also prepared a Graphic Analysis of the Foreign Trade of Latin America and a Reference Manual of Latin American Commercial Treaties.

An investigation of the needlework industry of Puerto Rico was instituted by the Commission in November, 1940, at the request of the Administrator of the Wage and Hour Division of the Department of Labor. The purpose is to determine what if any changes in rates of duty are necessary in order to maintain minimum wage rates in Puerto Rico.

In addition to the activities set forth above the Commission has made a study of Italian commercial policy and foreign trade, and has under way analyses of recent trade policies of Germany, Japan, and other foreign countries.

As part of a program to issue commodity surveys of products that are important from a tariff view point, the Commission issued three reports during 1940. The survey respecting *silverware* shows the United States to be the world's leading producer and consumer of silverware as well as an important market for certain types of foreign-made goods. *Starches and dextrines* were the subjects of another of these surveys printed during the past year. The report deals with production, distribution, trade and uses of various of these products, and the degree of competition existing among them, including the competition between tapioca and domestic starch. In the survey concerning *glues, gelatins, and related products*, recently issued, it is shown that the United States has become self-sufficient in the production of practically all of these products.

Cost investigations were undertaken during 1940 with respect to the differences in costs of production of domestic and foreign crab meat and of certain types of embroidered and unembroidered wool-knit gloves and mittens. Upon completion of these investigations, reports will be sent to the President

and if the findings of the Commission warrant, the President will issue proclamations changing the rates of duty on imports of these articles as provided for in the Tariff Act of 1930.

As provided for in Sections 337 and 338 of the present tariff law consideration was given to alleged unfair methods of competition in the importation and sale of certain commodities, and every effort has been made to keep advised regarding acts of foreign countries which might be considered discriminating against foreign trade of the United States.

The Commission, under the provisions of Section 350, works in close co-operation with other Government agencies concerned with the trade agreements program. Considerable information was supplied to the committees of Congress when the extension of the Trade Agreements Act was under consideration early in 1940.

Under other special provisions the Commission has done work during the past year on investigations concerning wheat and wheat products and cotton and cotton products and has issued a large amount of material concerning trade agreements and other phases of the tariff problem. A list of these and earlier reports of the Tariff Commission is available upon request.

RAYMOND B. STEVENS.

**TARIFFS.** See CUSTOMS, BUREAU OF; TARIFF COMMISSION, U.S.

**TASMANIA.** An Australian State. Area, 26,215 square miles; population (Mar. 31, 1940), 239,574, exclusive of full-blood aboriginals. Vital statistics (1939): 5004 births, 2426 deaths, 2264 marriages. Chief cities: Hobart (capital) and suburbs, 65,450 inhabitants (Dec. 31, 1939); Launceston and suburbs, 33,350.

**Production.** Chief agricultural products: Wheat, oats, peas, fruits, potatoes, hops, hay. In 1939 the State had 2,500,000 sheep. Wool (as in the grease) output (1940): 18,000,000 lb. Dairy products (1938-39): 11,835,500 lb. of butter, 3,399,626 lb. of cheese, 2,273,601 lb. of bacon and ham. Mineral production (1938) was valued at £1,889,804 of which copper accounted for £580,238, zinc for £356,452, tin for £244,037, and gold for £195,071. Manufacturing (1938-39): 944 factories, 13,802 employees, £5,398,659 net value of production.

**Government.** Finance (1939-40): Revenue, £3,055,000; expenditure, £3,053,000; public debt, £27,244,000. The executive authority is vested in a governor, aided by an executive council of responsible ministers who are members of parliament. There is a legislative council of 18 members elected for a 6-year term, and a house of assembly of 30 members elected by proportional representation for a 3-year term. Governor, Sir Ernest Clark (term extended to Aug. 5, 1942); Premier, R. Cosgrove (Labor). See AUSTRALIA.

**TAXATION.** The increase in national defense outlays from \$1,579,000,000 in the fiscal year ended June 30, 1940, to an estimated \$10,811,000,000 for the fiscal year beginning July 1, 1941, brought about drastic changes in the tax structure. The Federal Government adopted the policy of increasing current taxation sufficiently to cover the non-defense costs of the government and the maintenance, as distinct from the expansion, of the Army and Navy. This end was sought through increases in tax rates that would not go so far as to cause a curtailment of consumption. Larger revenues were to be raised for the Treasury from an increase in national income, rather than the diversion of any

major part of the existing national income to finance the cost of armament. The President warned, however, in his budget message to Congress early in January, 1941, that, at a later stage of the defense program, when full national productive capacity would be approached, sharp increases in taxes might be sought to curtail consumption, so as to avoid inflationary price increases at that time. The new tax legislation enacted in 1940, therefore, did not constitute a full wartime tax program, but rather an initial step in that direction, with equal reliance placed upon larger yields from existing taxes.

At the same time, the Administration sought through taxation to prevent the evolution of "a new crop of war millionaires." This objective was pursued apart from the desire to raise additional revenues or to limit consumption.

**Federal Taxation.** Two major revenue acts were passed during 1940. The first Revenue Act of 1940, which became law on June 25, effected a number of tax increases to finance national defense. The new defense taxes were designed specifically to provide funds for repayment of special defense obligations up to a maximum of \$4,000,000,000 that the Treasury was authorized to issue, over and above the national debt limit of \$45,000,000,000 then in effect.

The law raised the corporate income tax rate from 18 to 19 per cent, and effected a number of increases in personal income surtax rates. The personal income tax exemption was reduced from \$1000 to \$800 for single persons, and from \$2500 to \$2000 for married persons or heads of families. Title II of the act imposed for a period of five years, for the financing of defense, an increase of 10 per cent in income taxes, the corporate excess profits-capital stock tax, the estate and gift tax, and a wide variety of excise taxes. The impost on distilled spirits was raised from \$2.25 to \$3 a gal., and on still wines from 5-25¢ to 6-30¢ a gal. See ALCOHOLIC LIQUORS.

The second Revenue Act of 1940, enacted October 8, effected even more sweeping changes in Federal taxation. The normal income tax rate for all but small corporations was increased from 20.9 per cent, including the defense tax, to 24 per cent. With the approval of the national defense authorities, taxpayers were authorized to amortize within a five-year period new productive facilities certified as acquired for national defense purposes. This assured that investments made to facilitate the filling of defense contracts could be written off against profits earned from such contracts within the period when such contracts were expected to be forthcoming. The limitation of 10 per cent on profits from naval contracts, contained in the Vinson Act, was suspended. The most revolutionary feature of the act, however, was the imposition of a new excess profits tax, similar to the war profits tax of twenty years earlier, to carry out the announced objective of the Administration to prevent abnormal profits from armament contracts.

The Excess Profits Tax of 1940 is applicable to corporations, with such minor exceptions as mutual investment companies, foreign personal holding companies, registered diversified investment companies, and aviation companies whose income is zero after deducting United States mail contract income. All corporations subject to the tax are required to pay, in addition to the normal tax, a graduated excess profits tax on earnings over and above the excess profits tax credit. The cor-

poration has the option of using as an excess profits tax credit either 95 per cent of its average earnings during the base period 1936-39 or 8 per cent of its invested capital. A number of adjustments are outlined in the law for the determination of the amount of income subject to the excess profits tax, and only 50 per cent of the borrowed invested capital may be included in determining invested capital. Upon the adjusted excess profits net income, however computed, the rates imposed are as follows:

First \$20,000.. . . .	25 per cent
Next 30,000 .. . . .	30 " "
Next 50,000 .. . . .	35 " "
Next 150,000 .. . . .	40 " "
Next 250,000 .. . . .	45 " "
Above 500,000 .. . . .	50 " "

General provision was made for relief by administrative authorities for "hardship cases," and it was stated at the time that the law was passed that amendments to remedy inequities would be passed, applicable to 1940 returns. These amendments were adopted by Congress in March, 1941. It was widely recognized that the excess profits tax failed to reach the added income of many corporations receiving defense contracts, whereas it imposed substantial added burdens upon other corporations which did not benefit from defense in any way, but which did have sharp increases in earnings over the 1936-39 level and had a relatively low invested capital as defined by the law.

The yields from Federal income taxes for the fiscal years ended June 30, 1939 and 1940 compared as follows:

FEDERAL INCOME TAX RECEIPTS  
[Fiscal Years Ended June 30]

	1939	1940
Corporation Taxes	\$1,122,540,800 61	\$1,120,581,550 75
Individual Taxes . . .	1,028,833,796 49	982,017,376 17
Total Income Taxes . .	2,151,374,597 10	2,102,598,926 92

**State Taxation.** Tax collections of the States were little changed from the previous year. The enormous increase in Federal expenditures under the defense program, and the consequent upturn in business activity, tended to increase State and local revenues, whereas there was no corresponding expansion in outlays of these governmental bodies. Rather, relief burdens tended to decline.

Among the more important developments in State and local taxation were the repeal of the Louisiana sales tax and of the New York City tax on cigarettes. South Carolina repealed her tax on intangibles. New taxes adopted during the year included a gift and a timber severance tax in Louisiana, pari-mutuel betting taxes in New York and New Jersey, chain store taxes on the number of stores wherever located in Kentucky and Mississippi, Diesel fuel taxes in Alabama, Louisiana, South Carolina, and Virginia, and cigarette taxes in Denver and Kansas City. Virginia adopted a measure requiring motor carriers traversing the State to purchase in Virginia an amount of gasoline equal to that consumed during the transit, in order to protect the revenue from that impost.

State liquor taxes were raised in two instances, in Kentucky from \$1.04 to \$1.20 and in Louisiana from \$1.00 to \$1.50. As a result, the average State tax on distilled spirits was increased from 96 to 98 cents a gal., and the combined Federal and State levies from an average of \$3.21 to \$3.98 a gal. The fear was expressed by the industry that

bootlegging would be stimulated by sharp increases in liquor taxation.

See the States and ALASKA under *History*; also, AGRICULTURE; AUTOMOBILES under *Legislation*; ELECTRIC LIGHT AND POWER; FINANCIAL REVIEW; PETROLEUM; PUBLIC FINANCE; TOBACCO.

JULES I. BOGEN.

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G. ROSS HENNINGER.

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Jan. 25, 1940, was the 25th anniversary of the opening of the first transcontinental telephone line to commercial operation. Now, there are four such lines, and modern carrier equipment added to them has greatly multiplied the number of communication channels provided by each. During 1940 the capacity of many important routes was increased by the further application of new carrier equipment on existing lines and by many new intercity cables, most of which were laid along new or "alternate" routes so that a storm or disaster in any one place would affect as little as possible the dependability of through service.

By the end of 1940 more than 70 per cent of the circuit-mileage used for toll service was in cable. The cable network extends over the Northeast, with branches as far south as Atlanta and as far west as Omaha and Dallas. One \$1,000,000 1940 project is the new underground cable between Baltimore and Washington which, in addition to ordinary wire conductors, carries four co-axial circuits and provides facilities for telephone, telegraph, telephoto, and radio-broadcast program services. The first co-axial cable for regular commercial service was placed in service between Stevens Point, Wis., and Minneapolis, Minn. This one cable is designed to provide an ultimate of 480 circuits. All told, some 500,000 circuit miles were added to United States facilities during 1940 for long-distance telephone service.

Smaller twin cables are being used in place of a single cable for use with the new Type K carrier equipment, and a new plow has been devised to lay them underground simultaneously. They are being used on the current extension of transcontinental cable from Omaha to Denver. Especially in Ohio and Michigan, facilities have been extended to enable exchange operators to dial directly calls up to 200 miles or so instead of relaying them through local operators. The trend toward dial equipment continued, as represented by the additions of some 220,000 lines of the new crossbar dial-switching equipment at exchanges in all of the larger metropolitan areas, and by the conversion of 420 magneto exchanges to dial operation, and the extension of dial facilities for the interconnection of city and suburban areas.

Continuing its experiments with special services, the New York Telephone Company offered a new "leave-word" service through several of its New York City exchanges. Weather-announcing service, introduced in 1939 in New York City and Chicago, was made available during 1940 in Detroit, Boston, Baltimore, and Washington, D.C. This latter service makes use of voice messages recorded magnetically on an endless tape of "Vicalloy," an alloy newly developed by the Bell Telephone Laboratories and reputedly capable of greater magnetic strength and permanence than any other material.

By mid-year, according to FCC report, the extra charge for telephone handsets had been eliminated in a total of 31 States. In April in Carnegie Hall, New York City, the Bell Telephone Laboratories gave a striking demonstration of the remarkable quality, volume, and spatial characteristics of the stereophonic reproduction of "enhanced" music from film recordings. Triple sets of loudspeakers, one at each side and one in the center of the stage, together with properly synchronized separate sound records from the corresponding portions of the stage as occupied by the original orchestra, reproduced all sounds with the effect of true space relationship. It is to be expected that much more will be heard of this development in the future. Telephone exhibits at the New York and San Francisco expositions were visited by an estimated total of 20,000,000 persons during the two seasons.

Radiotelephone facilities to Europe at the close of 1940 included direct circuits from New York to London, Madrid, Rome, Berne, and Berlin; also interconnections to all of Europe except Gibraltar, France, Belgium, Luxembourg, the Netherlands, Russia, Greece, and Turkey. Service through European connections to Africa and parts of Asia was severed by the war, and of course war restrictions, including varying degrees of censorship, directly affect all service to all countries. With new direct radiotelephone links between the United States and South America, supplemented by ever increasing land-line and radio international interconnections, it is estimated that some 90 per cent of the 900,000 South American telephones now may be reached directly. In general, United States radiotelephone traffic for 1940 was nearly as great as for 1939, for increased calls to Hawaii and South America largely offset the war-loss of trans-Atlantic traffic. Ship-to-shore facilities in coastal waters now include more than 2,500 equipped ships and 20 shore stations connecting with land lines.

War conditions have prevented the collection of data necessary for any effective extension or revision of the tabular statistical summary given in the 1939 YEAR BOOK, p. 752. In general, as of Jan. 1, 1939, the reported total of 41,090,347 telephones in service throughout the world were distributed approximately as follows: United States and Canada, 52 per cent; Europe, 39; Asia, 5; remainder of world, 4 per cent.

G. ROSS HENNINGER.

**TELETYPEWRITER SERVICE.** See TELEGRAPHY.

**TELEVISION.** The failure of the industry's various technical authorities to agree on technical standards acceptable to the FCC (see RADIO, FEDERAL COMMUNICATIONS COMMISSION) resulted in the FCC withholding commercial licenses and in cancellation of the industry's merchandising plans, although numerous receivers were placed in service in the vicinity of New York City and in other

limited areas. On July 31 the Radio Manufacturers Association, in co-operation with the FCC, established a "National Television Systems Committee" to work on various controlling aspects of the problem of establishing generally acceptable technical standards. The year closed with a progress conference scheduled with FCC for late in January.

By Nov. 30, 1940, a total of 34 experimental telecasting stations had been authorized by FCC for construction. Commercial establishment of the frequency-modulation system of radio broadcasting (see RADIO) involved a shift in the frequency channels previously assigned to television by FCC. In August a private laboratory demonstration of television in full color was given by Columbia Broadcasting System to FCC Chairman J. L. Fly. The definition of telecast images was sharpened materially during the year by technical improvements. A new record for length of relay via land line was established when the Republican convention in Philadelphia was telecast from New York City stations through the medium of the Bell System's co-axial cable between those cities, a 108-mile transmission. New York City telecasts are being re-telecast for the Albany, N.Y., area through the medium of the General Electric Co.'s direct television relay station W2XB which was placed in operation during 1940, after successful field experiments. Theater-size television reproduction screens are under experimental development now in the United States. See FEDERAL COMMUNICATIONS COMMISSION; MUSIC; RADIO PROGRAMS.

G. ROSS HENNINGER.

**TEMPORARY NATIONAL ECONOMIC COMMITTEE (TNEC).** See FEDERAL TRADE COMMISSION; UNITED STATES under *Investigations*.

**TENANT PURCHASE PROGRAM.** See FARM SECURITY ADMINISTRATION.

**TENNESSEE.** Area, 42,022 square miles; includes water, 335 square miles. Population (U.S. Census), April, 1940, 2,915,841; 1930, 2,616,556. Memphis (1940), 292,942; Nashville (the capital), 167,402; Chattanooga, 128,163; Knoxville, 111,580. The increase in the population of the State (1930-40) amounted to 299,285, a rise of 11.4 per cent. The urban population (dwellers in places of 2500 or over) increased by 128,099, to 1,024,637; the rural, by 171,186, to 1,891,204.

**Agriculture.** Tennessee harvested, in 1940, 6,112,500 acres of the principal crops. Of this area, 4 acres in 9 grew corn; nearly 1 in 8, cotton; over 1 in 4, tame hay. Corn, on 2,767,000 acres, bore 69,175,000 bu. (\$53,265,000 in estimated value to the farmer). Cotton, 735,000 acres, made 515,000 bales (\$24,205,000); tame hay, 1,644,000 acres, 1,597,000 tons (\$17,843,000); tobacco, 113,500 acres, 103,390,000 lb. (\$15,018,000); wheat, 379,000 acres, 5,116,000 bu. (\$4,349,000); sweet potatoes, 51,000 acres, 4,335,000 bu. (\$3,685,000); potatoes, 44,000 acres, 3,888,000 bu. (\$2,372,000). Farms numbered 247,617 in 1940 and averaged 74.7 acres.

**Mineral Production.** Tennessee's yearly production of minerals native to its territory, as stated in 1940 by the U.S. Bureau of Mines, attained \$34,428,512 for 1938. Coal, cement, stone, and phosphate rock, in the order named, gave the highest items to this total. Mines' output of coal rose to 5,280,000 net tons for 1939, from 4,472,403 tons (value, \$9,007,000) for 1938. Cement-makers' shipments increased to 3,677,116 bbl. (1939) from 3,390,871 bbl. (1938); by value, to \$5,613,477, from \$5,063,628. Quarries' sales of stone rose to 5,626,-

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**TELEPHONY.** National Defense activities resulted in abnormal expansion of telephone facilities in the United States, largely by causing normal developments originally programed for as far as 1943 to be initiated during 1940. New construction expenditures were reported as some \$400,000,000, the largest amount since 1931. A total of 21,870,000 telephones was estimated to be in service in the United States, an increase of about 1,040,000 over 1939, as compared with the increase of 878,000 for 1939 over 1938, and an all-time record increase for a single year. Telephone conversations during 1940 averaged 97,700,000 per day, about 6,000,000 more than in 1939. Completed toll calls totalled some 1,030,000,000, about 40,000,000 more than in 1939. The number of dial telephones on the Bell System increased by about 1,250,000.

Jan. 25, 1940, was the 25th anniversary of the opening of the first transcontinental telephone line to commercial operation. Now, there are four such lines, and modern carrier equipment added to them has greatly multiplied the number of communication channels provided by each. During 1940 the capacity of many important routes was increased by the further application of new carrier equipment on existing lines and by many new intercity cables, most of which were laid along new or "alternate" routes so that a storm or disaster in any one place would affect as little as possible the dependability of through service.

By the end of 1940 more than 70 per cent of the circuit-mileage used for toll service was in cable. The cable network extends over the Northeast, with branches as far south as Atlanta and as far west as Omaha and Dallas. One \$1,000,000 1940 project is the new underground cable between Baltimore and Washington which, in addition to ordinary wire conductors, carries four co-axial circuits and provides facilities for telephone, telegraph, telephoto, and radio-broadcast program services. The first co-axial cable for regular commercial service was placed in service between Stevens Point, Wis., and Minneapolis, Minn. This one cable is designed to provide an ultimate of 480 circuits. All told, some 500,000 circuit miles were added to United States facilities during 1940 for long-distance telephone service.

Smaller twin cables are being used in place of a single cable for use with the new Type K carrier equipment, and a new plow has been devised to lay them underground simultaneously. They are being used on the current extension of transcontinental cable from Omaha to Denver. Especially in Ohio and Michigan, facilities have been extended to enable exchange operators to dial directly calls up to 200 miles or so instead of relaying them through local operators. The trend toward dial equipment continued, as represented by the additions of some 220,000 lines of the new crossbar dial-switching equipment at exchanges in all of the larger metropolitan areas, and by the conversion of 420 magneto exchanges to dial operation, and the extension of dial facilities for the interconnection of city and suburban areas.

Continuing its experiments with special services, the New York Telephone Company offered a new "leave-word" service through several of its New York City exchanges. Weather-announcing service, introduced in 1939 in New York City and Chicago, was made available during 1940 in Detroit, Boston, Baltimore, and Washington, D.C. This latter service makes use of voice messages recorded magnetically on an endless tape of "Vicalloy," an alloy newly developed by the Bell Telephone Laboratories and reputedly capable of greater magnetic strength and permanence than any other material.

By mid-year, according to FCC report, the extra charge for telephone handsets had been eliminated in a total of 31 States. In April in Carnegie Hall, New York City, the Bell Telephone Laboratories gave a striking demonstration of the remarkable quality, volume, and spatial characteristics of the stereophonic reproduction of "enhanced" music from film recordings. Triple sets of loudspeakers, one at each side and one in the center of the stage, together with properly synchronized separate sound records from the corresponding portions of the stage as occupied by the original orchestra, reproduced all sounds with the effect of true space relationship. It is to be expected that much more will be heard of this development in the future. Telephone exhibits at the New York and San Francisco expositions were visited by an estimated total of 20,000,000 persons during the two seasons.

Radiotelephone facilities to Europe at the close of 1940 included direct circuits from New York to London, Madrid, Rome, Berne, and Berlin; also interconnections to all of Europe except Gibraltar, France, Belgium, Luxembourg, the Netherlands, Russia, Greece, and Turkey. Service through European connections to Africa and parts of Asia was severed by the war, and of course war restrictions, including varying degrees of censorship, directly affect all service to all countries. With new direct radiotelephone links between the United States and South America, supplemented by ever increasing land-line and radio international interconnections, it is estimated that some 90 per cent of the 900,000 South American telephones now may be reached directly. In general, United States radiotelephone traffic for 1940 was nearly as great as for 1939, for increased calls to Hawaii and South America largely offset the war-loss of trans-Atlantic traffic. Ship-to-shore facilities in coastal waters now include more than 2,500 equipped ships and 20 shore stations connecting with land lines.

War conditions have prevented the collection of data necessary for any effective extension or revision of the tabular statistical summary given in the 1939 YEAR BOOK, p. 752. In general, as of Jan. 1, 1939, the reported total of 41,090,347 telephones in service throughout the world were distributed approximately as follows: United States and Canada, 52 per cent; Europe, 39; Asia, 5; remainder of world, 4 per cent.

G. ROSS HENNINGER.

**TELETYPEWRITER SERVICE.** See TELEGRAPHY.

**TELEVISION.** The failure of the industry's various technical authorities to agree on technical standards acceptable to the FCC (see RADIO, FEDERAL COMMUNICATIONS COMMISSION) resulted in the FCC withholding commercial licenses and in cancellation of the industry's merchandising plans, although numerous receivers were placed in service in the vicinity of New York City and in other

limited areas. On July 31 the Radio Manufacturers Association, in co-operation with the FCC, established a "National Television Systems Committee" to work on various controlling aspects of the problem of establishing generally acceptable technical standards. The year closed with a progress conference scheduled with FCC for late in January.

By Nov. 30, 1940, a total of 34 experimental telecasting stations had been authorized by FCC for construction. Commercial establishment of the frequency-modulation system of radio broadcasting (see RADIO) involved a shift in the frequency channels previously assigned to television by FCC. In August a private laboratory demonstration of television in full color was given by Columbia Broadcasting System to FCC Chairman J. L. Fly. The definition of telecast images was sharpened materially during the year by technical improvements. A new record for length of relay via land line was established when the Republican convention in Philadelphia was telecast from New York City stations through the medium of the Bell System's co-axial cable between those cities, a 108-mile transmission. New York City telecasts are being re-telecast for the Albany, N.Y., area through the medium of the General Electric Co.'s direct television relay station W2XB which was placed in operation during 1940, after successful field experiments. Theater-size television reproduction screens are under experimental development now in the United States. See FEDERAL COMMUNICATIONS COMMISSION; MUSIC; RADIO PROGRAMS.

G. ROSS HENNINGER.

**TEMPORARY NATIONAL ECONOMIC COMMITTEE (TNEC).** See FEDERAL TRADE COMMISSION; UNITED STATES under *Investigations*.

**TENANT PURCHASE PROGRAM.** See FARM SECURITY ADMINISTRATION.

**TENNESSEE.** Area, 42,022 square miles; includes water, 335 square miles. Population (U.S. Census), April, 1940, 2,915,841; 1930, 2,616,556. Memphis (1940), 292,942; Nashville (the capital), 167,402; Chattanooga, 128,163; Knoxville, 111,580. The increase in the population of the State (1930-40) amounted to 299,285, a rise of 11.4 per cent. The urban population (dwellers in places of 2500 or over) increased by 128,099, to 1,024,637; the rural, by 171,186, to 1,891,204.

**Agriculture.** Tennessee harvested, in 1940, 6,112,500 acres of the principal crops. Of this area, 4 acres in 9 grew corn; nearly 1 in 8, cotton; over 1 in 4, tame hay. Corn, on 2,767,000 acres, bore 69,175,000 bu. (\$53,265,000 in estimated value to the farmer). Cotton, 735,000 acres, made 515,000 bales (\$24,205,000); tame hay, 1,644,000 acres, 1,597,000 tons (\$17,843,000); tobacco, 113,500 acres, 103,390,000 lb. (\$15,018,000); wheat, 379,000 acres, 5,116,000 bu. (\$4,349,000); sweet potatoes, 51,000 acres, 4,335,000 bu. (\$3,685,000); potatoes, 44,000 acres, 3,888,000 bu. (\$2,372,000). Farms numbered 247,617 in 1940 and averaged 74.7 acres.

**Mineral Production.** Tennessee's yearly production of minerals native to its territory, as stated in 1940 by the U.S. Bureau of Mines, attained \$34,428,512 for 1938. Coal, cement, stone, and phosphate rock, in the order named, gave the highest items to this total. Mines' output of coal rose to 5,280,000 net tons for 1939, from 4,472,403 tons (value, \$9,007,000) for 1938. Cement-makers' shipments increased to 3,677,116 bbl (1939) from 3,390,871 bbl. (1938); by value, to \$5,613,477, from \$5,063,628. Quarries' sales of stone rose to 5,626,-

210 short tons (1939) from 2,599,840 (1938); by value, to \$8,312,977, from \$4,237,351. The product of 1939 included 440,070 cu. ft. of blocks of marble for building and monuments; in value, \$2,536,624. Of phosphate rock, the producers' sales, plus their own utilization, rose to 936,448 long tons (minor quantities from Virginia included), for 1939, from 899,298 tons for 1938; by value, to \$3,856,505, from \$3,725,601. The Federal electric furnaces at Muscle Shoals, Alabama, used a great part of this rock to make phosphates for fertilizers, and two privately owned enterprises in Tennessee also operated; all used electric current from the Tennessee River. An estimate made by G. R. Mansfield and published in 1940 put the reserves of divers kinds of phosphate rock in Tennessee at 195,151,000 tons. Mines' production of ores of zinc (including some from Austinville, Va.) carried about 51,601 short tons of the metal (1940), valued at \$6,708,130, as against 56,225 tons for 1939 and 56,766 for 1938. Clay products attained (1938) \$1,499,108 (not to count pottery and refractories).

Of the total of primary aluminum (286,882,000 lb., valued at \$56,659,000) produced in the United States in 1938, 41 per cent was credited to the smelters at Alcoa, Tenn.; production mounted to new records in 1939 and again in 1940. Tennessee furnished electric energy to extract the metal, but its ore—bauxite—came mainly from Arkansas and from abroad.

**Education.** Tennessee's inhabitants of school age (from 6 years to 18) were reckoned at 538,844 whites (for May, 1938); Negroes, 106,960. Pupils enrolled in public elementary schools in the academic year 1939-40: white, 430,751; Negro, 93,708. In high schools: white, 108,008; Negro, 15,664. The year's expenditures for public-school education totaled, for whites and Negroes combined: elementary, \$17,362,244; high schools, \$11,866,053. For education beyond public school, \$1,315,000 was provided by public appropriation. Teachers numbered 15,727 in elementary and 4935 in high schools.

**History.** The heavy demand for aluminum in particular, and the industrial possibilities of the Tennessee Valley hydroelectric development in general gave importance to Tennessee's manufacturing, under the impulsion from Federal policy of increasing the Nation's means of defense. Plans were determined, in March, for building a factory to make newsprint paper out of Southern slash pine by the Herty process, already in use at Lufkin, Tex. The projected factory was to operate on TVA current; its prospective cost exceeded \$4,000,000.

The nominees of the Communist party were excluded from the State ballot: the State Board of Election Supervisors, which ordered the exclusion, acted on a law of 1935 to withhold recognition from any party advocating the overthrow of the Government or engaging in sedition or treason; the State Supreme Court (October 14) upheld the Communists' exclusion.

A memorial to Adolph S. Ochs, long publisher of the *Chattanooga Times*, was dedicated (November 12) in Point Park, on Lookout Mountain: the memorial was a building for a museum and an observatory.

**Election.** At the general election (November 5) the popular vote for President totaled 351,601 for Roosevelt (Dem.) and 169,153 for Willkie (Rep.). Gov. Prentice Cooper (Dem.) and U. S. Senator Kenneth D. McKellar (Dem.) were re-elected. Six Democrats and 2 Republicans, all incumbents, were elected U. S. Representatives; in yet another dis-

trict, the fifth, Joseph W. Byrns, Jr. (Dem.), son of the late Speaker of the House, was defeated by J. Percy Priest (Independent), in retribution for Byrns's having voted for the Fish amendment to delay the military draft.

**Officers.** Tennessee's chief officers, serving in 1940, were: Governor, Prentice Cooper (Dem.); Secretary of State, A. B. Broadbent; Treasurer, John Harton; Comptroller, Robert W. Lowe; Attorney General, Roy H. Beeler; Commissioner of Education, B. O. Duggan.

**TENNESSEE VALLEY AUTHORITY (TVA).** The Tennessee Valley Authority is a corporation wholly owned by the United States Government. It was established by the Tennessee Valley Authority Act of May 18, 1933, later amended in 1935 and 1939. The TVA Act stipulates among its objectives the improvement of the navigability and the provision for the flood control of the Tennessee River; provision for the agricultural and industrial development of the Tennessee Valley; provision for the national defense; and the development and distribution of incidental hydroelectric power to the public. The agency is further empowered to make such studies, demonstrations, and recommendations as will advance the economic welfare of the region involved.

In carrying out its program, the TVA is constructing in the river channels a series of high dams that will provide a navigable channel for boats of nine-foot draft from Paducah, Ky., to Knoxville, Tenn. These same high dams also provide great storage capacity for the control of destructive flood waters and at the same time create a large storage available for the development of water power.

At the close of the year, the Authority had completed and placed in operation six multipurpose dams, Norris, Wheeler, Pickwick Landing, Gunterville, Chickamauga, and Hiwassee, in addition to Wilson Dam, constructed during the World War. It was also operating, for power production, several hydro and steam generating plants purchased from the Tennessee Electric Power Company in 1939. Construction was progressing on Kentucky, Watts Bar, Fort Loudoun, and Cherokee dams. The last-named was authorized by Congress on July 31, 1940, as part of an emergency construction program to provide increased amounts of electric power for national defense. A new steam plant and new generating units at Wilson and Pickwick Landing Dams were included in the emergency program.

Power from the Authority's system is being sold at wholesale to more than 100 municipalities and co-operative associations, which distribute it to more than 400,000 ultimate consumers. Power revenues of the Authority in the fiscal year 1940 totaled \$15,300,000, of which \$4,300,000 remained as net income after provision for all power expenses. The 106 municipalities and co-operative associations distributing power as of June 30, 1940, reported combined gross revenues of \$21,624,000 and a combined net income of \$4,023,000. Rates under which TVA power is being sold save consumers more than \$9,000,000 annually.

Of the 26,000,000 acres comprising the Tennessee Valley drainage area, about 18,000,000 are in farms, of which one-third of the area is in farm woodlands, pasture, and cultivated crops. Practically all the remaining 8,000,000 acres are in forests, publicly and privately owned. Much of this forested area is not fully effective for purposes of water control, and some 7,000,000 acres of open



land in farms are so situated as to be subject to appreciable erosion.

Extensive effort is being made to reduce these losses in soil and water by improved farm and forest practices. Such practices must rest largely upon a self-sustaining basis if they are to be widely and permanently adopted. In line with these principles, therefore, Congress directed the Authority to take over the war-time Wilson Dam and the nitrate plants at Muscle Shoals, maintain them for national defense, and use them to develop and introduce new and improved forms of plant food.

Equipment has been developed for making a new fertilizer, calcium metaphosphate, containing more than 60 per cent of available phosphatic plant food ( $P_2O_5$ ) and the electric furnace method for producing a concentrated superphosphate analyzing 47 per cent  $P_2O_5$  has been improved. Other materials and processes are being investigated. The Authority has assisted industry in making use of developments.

Experiment stations of 47 States have taken up preliminary testing of TVA fertilizing materials. And in half the States more than 30,000 farmers, with the guidance of agricultural extension services, are testing and demonstrating TVA products in a practical way on their farms.

These farmers, selected by the neighbors, contribute their farms as community test-demonstration grounds. Around use of the phosphate, they adjust their farming toward a more stable agriculture, meet the cost of the changes, and keep records. The Authority supplies the phosphate, f.o.b. Wilson Dam, Ala. It is used only on water and soil holding sod crops, especially on legumes that transfer nitrogen from the air into the soil. These test-demonstration farms cover more than 5,000,000 acres and, through their influence on neighboring farms, affect the use of a much greater area.

Terracing and tree planting supplement water control with sod crops. Guidance has been given to farmers in terracing approximately 600,000 acres. Some 110,000,000 trees have been planted on the more seriously eroded areas. Most of them were set out by the CCC, but planting by farmers themselves is increasing.

During the six years that the Fertilizer Works has been in operation, to July 1, 1940, approximately 287,000 tons of concentrated phosphatic fertilizer have been produced. In round numbers, 111,000 tons of this went to test-demonstration farmers and 156,000 tons were transferred to the Agricultural Adjustment Administration, of the U.S. Department of Agriculture, for use in lieu of cash payments in the national soil conservation program.

At the request of the U.S. Department of War, TVA is building a new plant and modernizing the nitrate works at Muscle Shoals to produce ammonium nitrate for munitions at a capacity of 300 tons a day.

Under Sections 22 and 23 of the TVA Act, the Authority serves as a strong unifying agency within the region, placing its experience in the conservation and use of resources at the disposal of the public, co-operating with states, localities, and organizations in the solution of related problems and in the development of mutually consistent programs. As authorized by law, it conducts demonstrations and experiments to pave the way for action by other governmental units.

See DAMS; MUNICIPAL OWNERSHIP; NATIONAL DEFENSE ADVISORY COMMISSION; WATERWAYS,

INLAND; also ALABAMA and TENNESSEE under History.

H. A. MORGAN.

**TENNIS.** The overthrow of Robert L. Riggs, Jr., of Chicago as men's national tennis king and the phenomenal playing of Miss Alice Marble of California, winner of the women's crown for the fourth time, were the principal highlights in the 1940 world of net and racket. With international competitions brought to a standstill as a result of the European war, and with no further amateur tennis honors to tackle, Miss Marble joined the professional ranks in November, 1940, after one of the most amazing records in the history of women's lawn tennis.

The one-year reign of Riggs was brought to an inglorious conclusion by Donald McNeill of Oklahoma City who overcame a two-set deficit to defeat the tottering champion at Forest Hills. It was evident that neither contestant was at his best, and the defending champion was suffering from the effects of a devastating cold. It was spirit and determination that carried McNeill to victory.

In dominating the women's field, Miss Marble scored a dramatic victory in the final at Forest Hills over Miss Helen Jacobs, former titleholder, whose unconquerable spirit kept her in the running until the last round. Miss Marble won every set in the championship and was invincible throughout the season in both singles and in doubles, serving with Sarah Palfrey (Mrs. Elwood Cooke) in the latter. Miss Marble and Riggs garnered the mixed laurels.

The men's national doubles were won by John Kramer of Montebello, Calif., and Frederick (Ted) Schroeder of Glendale, Calif., both 19 years of age and the youngest titleholders in the history of the match. They dislodged Henry Prusoff of Seattle and Gardnar Mulloy of Miami in the final at Boston. Kramer's playing was consistently sensational throughout the year. Besides Prusoff, he scored notable victories over Frank Parker, Sidney Wood, Gilbert Hunt, and Edward Alloo but faded out in four sets before Donald McNeill.

Some of the most exciting and humorous incidents of the season were provided by Frank Kovacs of Oakland, Calif., who scored a brilliant victory over Riggs at Southampton and nearly duplicated the performance in a final-round at Seabright. Kovacs mixed his dazzling game with pantomime designed to make the galleries laugh. He reached the finals both at Newport and Southampton, but succumbed on both occasions before the terrific speed and drive of McNeill.

In the championships at Forest Hills, Kovacs' clownish antics kept the spectators in a constant swirl of laughter. At one point his opponent, Joe Hunt, appealed to the galleries to halt their tittering and assume a more serious state of so-called mind, a psychological condition which the galleries found it impossible to attain. In desperation, Hunt sat down on the court, a move which Kovacs promptly emulated, to the further alleged amusement of the crowd. The game was eventually won by Hunt.

McNeill captured the national clay-court and intercollegiate crowns, and was runner-up to Riggs in the Pacific Southwest, national indoor and Eastern turf championships. Miss Louise Brough of California annexed the girls' national title; Robert Carrothers, who won the junior crown, was afterward killed in an automobile accident.

Because of the war, there was no Davis Cup or women's Wightman Cup matches.

Donald Budge, world's professional title-holder, captured the American championship, outplaying Fred Perry in the final.

**TEXAS.** Area, 265,941 square miles; includes water, 3498 square miles. Population (U.S. Census), April, 1940, 6,414,824; 1930, 5,824,715. Houston (1940), 384,514; Dallas, 294,734; San Antonio, 253,854; Fort Worth, 177,662; Austin (the capital), 87,930.

**Agriculture.** Texas harvested, in 1940, 25,826,000 acres of the principal crops: nearly 800,000 above the harvest of 1939. Cotton, occupying 8,523,000 acres, or one-third of the harvested area, bore 3,285,000 bales (\$147,825,000 in estimated return to the cultivator). Corn, on 4,632,000 acres, made 90,324,000 bu. (\$46,968,000); rice, 291,000 acres, 16,005,000 bu. (\$11,684,000); Grain sorghums, 3,659,000 acres, 46,397,000 bu. (\$24,126,000); wheat, 2,850,000 acres, 29,355,000 bu. (\$18,787,000); oats, 1,375,000 acres, 37,125,000 bu. (\$10,395,000); tame hay, 1,184,000 acres, 1,341,000 tons (\$10,192,000); peanuts, 295,000 acres, 166,675,000 lb. (\$5,334,000); grapefruit, 15,000,000 boxes (\$4,350,000); sweet potatoes, 51,000 acres, 4,335,000 bu. (\$3,468,000); potatoes, 50,000 acres, 3,200,000 bu. (\$3,200,000). The year's truck crops had an estimated value of \$17,256,000 for the growers.

**Mineral Production.** Texas produced from its territory, as estimated in 1940 by the U.S. Bureau of Mines, minerals to the value of \$740,147,465 in 1938. Petroleum contributed five-sevenths of the total; natural gas and gasoline derived therefrom, over one-fifth; sulphur, much of the remainder. The yearly production of petroleum, from 475,850,000 bbl., value \$539,150,000 (1938), rose in quantity to 484,527,000 bbl. for 1939 and attained 453,115,000 for 11 months of 1940. The West Texas field gained in production through 1939 and 1940; the East Texas field, still the foremost producing area, decreased as a producer in both these years, a fall in the initial pressure discouraging new drilling in some parts. The quantity of natural gas delivered to consumers, 882,473 million cu. ft. (1938), had a value of \$133,486,000; increases in several main uses of natural gas were reported for 1939. The production of gasoline from natural gas rose to 704,707,000 gal. for 1939, from 685,920,000 (value, \$19,781,000) for 1938. The production of sulphur increased to 1,665,785 long tons (1939) from the unusually low total of 1,331,014 tons for 1938. The apparent value of the total for 1939 approximated \$25,000,000. Portland cement shipped yearly by producers rose in value to \$12,152,780 (1939), from \$11,885,494 (1938).

**Manufacturing.** Value of the yearly output of manufactured products of Texas totaled \$1,530,220,676 for 1939; \$1,581,422,401 for 1937. Other related totals for 1939 (each with that for 1937 subjoined): 5376 (4422) establishments employed 126,997 (129,501) wage-earners, paying them \$128,138,702 (\$132,505,115); expended \$1,075,763,628 (\$1,141,567,954) for material, contract work, etc.; and added by manufacture a value of \$454,457,048 (\$439,854,447).

**Education.** For the academic year 1939-40 the inhabitants of school age were reckoned at 1,536,910. The year's enrollments in all public schools numbered 1,345,668; this comprised 788,104 in elementary study and 557,564 in high school. Expenditure for public-school education totaled \$92,865,745. The 45,600 public-school teachers' yearly pay averaged \$1059.

**History.** Barriers to the shipment abroad of Texan cotton and products of petroleum worked as a somewhat adverse influence on industry in the State. The AAA's further reduction of the allowed acreage of cotton in Texas, by about 222,000 acres, gave the growers widespread dissatisfaction early in the year. The producers of sulphur benefited by the Federal defense program; it increased the activity of producers of steel, of which some kinds required much sulphuric acid for their processing. The efforts of the Railroad Commission to hold the output of petroleum down to the estimated demand encountered opposition from time to time in some of the several hundred producing areas, not all of which were treated alike. A charge made in March, by an official of a company producing petroleum, that a deputy oil-supervisor of the Commission's force had intimated a bribe as the alternative to lower allowable production for that company, came at a time when producers were already sensitive to the Commission's course. One of the aspirants for the governorship sought the support of the people wishing larger old-age pensions, by promising to get these chiefly out of additional taxes on the petroleum business. Hope of an addition to the consumption of Texan petroleum arose in September from reported negotiations of the Federal Government with the Humble Oil and Refining Company for the construction of a costly establishment to produce toluol out of petroleum by a new cracking process.

Successful tests were reported, early in February, of the serviceability of newsprint paper made from loblolly pine by the new mill using the Herty process, at Lufkin; the Shreveport *Times* and Little Rock *Democrat* ran off editions with good result, strengthening prospects of a sizeable new industry for the State.

**Administration and Courts.** Governor O'Daniel made no further effort to call a special legislative session to put through, in advance of election, the means of paying for the expensive system of old-age pensions that he had championed. He was criticized in January for failure to condemn the conduct of the Board of Control, including two of his own appointees, which was editorially accused of spoilsmanship. He retained and, by radio talks, built up his popularity among the people of the State. Without much trouble he won a renomination at the primaries. Confirming his nomination, the State Democratic convention (September 10) also confirmed the Democratic popular choices to other offices, despite differences among their views; one of these choices, J. E. McDonald, renominated for the State's Commissioner of Agriculture, was denounced by many Democrats as in sympathy with the Republican Presidential nominee. It remained uncertain whether O'Daniel, in his next term would find the necessary support to put through his policies.

The U.S. Supreme Court (November 25) freed a Negro who had been sent to prison for life, on conviction, in Harris County, for rape; the decision held that Negroes had been excluded from the jury that tried him; his conviction was therefore reversed; the statute of limitations, as he had served two years in prison, prevented his retrial. A Court of Civil Appeals decision, early in February, denied the constitutionality of the Legislature's act of 1939 granting to Dallas County a remission from the State's share of the general tax on property in the county. The State Supreme Court, on the other hand, held valid, in June, the Legislature's similar remission of taxes to Harris

County; this decision Attorney General Mann, in a motion for a rehearing, called a "grievous error" setting at naught the efforts of the framers of the State's constitution of 1876 to do away with the Legislature's practice of thus presenting some counties with part of the State's revenue. An order of the Railroad Commission, putting an end to regional differentials in the rates of railroads within the State, was kept inoperative by a court injunction, in course of appeal. See DAMS; OKLAHOMA.

**Elections.** At the general election (November 5) the popular vote for President totaled 840,151 for Roosevelt (Dem.) and 199,152 for Willkie (Rep.). The opposition of the State's "favorite son," Vice-President John Nance Garner, to the re-election of Roosevelt for a third term, had little apparent effect on the vote, for Garner had refrained from expressed opposition after Roosevelt's nomination. But other dissident Democrats got out for Willkie nearly twice Landon's 1936 vote.

The vote on November 5 confirmed, as usual, the results of the Democratic primary: Gov. W. Lee O'Daniel was re-elected. U.S. Senator Tom Connally obtained another term.

**Officers.** The chief officers of Texas, serving in 1940, were: Governor, W. Lee O'Daniel; Lieutenant Governor, Coke R. Stevenson; Secretary of State, Tom L. Beauchamp; Treasurer, Charley Lockhart; Comptroller, George H. Sheppard; Attorney General, Gerald Mann; Superintendent of Public Instruction, L. A. Woods.

**TEXTILES.** The two-year cycle in textiles has been one of the lesser, and one of the least-mourned, casualties of a world at war. Whereas, in "normal" times, statisticians could anticipate that a "good" year would be followed by an "off" year, 1940 superimposed a new record high upon the previous record of 1939. *Textile World's* index of textile mill activity for 1940 was 142 (on the basis of 1923-25 as 100)—an increase of 8 per cent over 1939.

The effect of the war in 1940 was more direct than it had been in the previous year. In 1939, textiles shared psychologically in the war boom which followed the outbreak of hostilities in Europe. In 1940, the industry participated directly in the Government purchases in national defense. The percentage which such purchases represented in total production varied widely among the several branches of textile manufacture, ranging from a relatively few per cent in the case of cotton products to approximately a third in the case of wool goods. However, in addition to this direct stimulus, all divisions of the industry felt the effect of the sharply increased purchasing power of the nation as a whole—due primarily to the record production levels in the heavy-goods industries.

These impulses were still dominant at the start of 1941, and textile manufacturers faced the New Year confident in the maintenance of high production levels. That, however, was where confidence stopped. Never has a textile boom been tinged with greater sobriety. The knowledge of a mounting defense bill which would have to be paid some day, possibly by inflation followed by deflation; of inevitable increases in corporate taxes which would dissipate temporary profits, and of possibly eventual American participation in the war itself, reduced current "prosperity" to merely an interlude. See CHEMISTRY, INDUSTRIAL; ELECTRICAL INDUSTRIES; FASHION EVENTS; RAYON.

**Cotton.** Domestic cotton consumption reached an all-high record of 8,000,000 bales in the calen-

dar year 1940. It is anticipated that consumption for the crop year ending July 31, 1941, may reach 8,500,000 bales, or even higher. Demands of the national defense program created temporary bottlenecks in ducks for tents and other purposes, and in combed yarn and combed-yarn fabrics necessary for the production of cotton cloth for uniforms. The duration of these bottlenecks depends upon the additional Government orders which may be placed during the balance of the fiscal year ending June 30, 1941, and this in turn depends upon the rate of increase in the urgency of the national defense situation. Broadly speaking, there is no prospect of a serious emergency in the production of textile materials to meet the demands of the defense program. At the worst, it would mean temporary reduction of the production of goods for civilian requirements.

The wage-hour law, with its 32.5-cent minimum in the cotton industry, which was the outstanding issue during most of 1939, became of only academic interest in 1940, under the pressure of high production schedules. The only echo of this fight during the year was the suit against the constitutionality of the wage-hour law brought by a group of southern cotton mills, decision on which was pending before the United States Supreme Court at the start of 1941.

**Wool.** The effect of the national defense program was clearly evident in wool manufacture. Monthly average consumption of apparel-class wool by domestic mills during the first part of the year was lower than that of the corresponding period of the previous year, but starting in May, when the defense program got under way, an upward trend set in and established the highest rate of monthly consumption on record (1918 to date) and possibly the highest record ever attained in the United States, according to the National Association of Wool Manufacturers. For the calendar year 1940, apparel wool consumption was slightly over 1939. It is estimated that the effect of the defense program has been to add approximately one-third to the normal civilian consumption of wool.

**Rayon.** Domestic rayon filament yarn consumption set an all-time high record in 1940 with an estimated total of 390,000,000 lb., an increase of 8 per cent compared with the previous record year of 1939, according to *Rayon Organon*. On the other hand, rayon staple fiber available for consumption, which amounted to about 96,000,000 lb. in 1940, was slightly under the 1939 level of 98,700,000 lb. Imports of staple fiber in 1940, included in this consumption total, amounted to about 16,000,000 lb., a drop of 65 per cent from the 1939 level. Production of domestic staple fiber, however, rose from 51,300,000 lb. in 1939 to approximately 80,000,000 lb. in 1940, an increase of 55 per cent which almost completely offset the drop in consumption of imported staple fiber. The domestic rayon filament yarn industry, although operating at capacity, closed the year 1940 with only a four-days' supply of yarn at producers' plants, which is essentially the irreducible minimum.

**Silk.** The only exception to this textile success story is silk. Domestic consumption of this fiber in 1940 was the lowest in nearly 20 years. The main contributing cause was the loss of part of its market in women's full-fashioned hosiery, which is its major outlet. Nylon hosiery was introduced during 1940 and created a sensation, the demand exceeding the supply. Silk's competitive position in hosiery threatens to become worse since, al-

though Nylon accounted for only 10 per cent of the production of women's full-fashioned hosiery at the end of 1940, this percentage was increasing right along, at the expense of silk.

DOUGLAS G. WOOLF.

**THAILAND (Siam).** An independent monarchy of southeastern Asia. Capital, Bangkok. King, Ananda Mahidol. The name Thailand replaced the former name, Siam, by official designation, effective from June 24, 1939.

**Area and Population.** Area, 200,148 square miles. By estimate, the population of Jan. 1, 1939, numbered 14,900,000; by census of May 23, 1937, 14,464,489. Bangkok, capital and chief city, had (1937) 886,150 inhabitants. Ethnically, some nine-tenths of the people of the kingdom are Thai (or Siamese) and Laos. The chief other stocks are Chinese (about 500,000), Malays and Indian (about 500,000 for both combined), Cambodians (60,000), and Europeans and Americans (some 2000 only, but economically important). The prevailing and official language is Siamese, linguistically related to the Chinese.

**Education and Religion.** School instruction is free and compulsory, but only about 35 per cent of the population of sufficient age was classed as literate in 1938. Schools numbered 10,616 of divers types in 1938 and had 1,309,919 pupils. Chulalongkorn University, at Bangkok, provided higher education in several branches; the University of Moral and Political Sciences taught law, economics and subjects for the training of public servants. Nine-tenths or more of the people were of the Buddhist faith, according to common estimate; most of the followers of other faiths were Moslems, but a considerable number (49,462 in 1930) were Christians.

**National Defense.** Able-bodied males from 18 to 43 years of age are liable to military service, first in the active forces, later in the reserves. Active service is not generally required. The army in active service prior to 1940 was supposed to number about 30,000, including 21 battalions of infantry, a force of cavalry, an anti-aircraft regiment and additional battalion, a separate artillery organization, 2 battalions of engineers, and an air force of 5 wings. The navy included 4 vessels for coast-defense, 4 submarines, a number of torpedo boats, and transports, not to count vessels in course of construction.

**Production.** The great majority of the workers (in 1939, 83 per cent) support themselves by agriculture. Rice, the predominant crop, was estimated as yielding, in the season of 1939-40, 225,152,000 bu.; by estimate from another source, 5,082,700 metric tons; crop of 1938-39, 4,523,700 metric tons. In the season 1938-39 were produced also 20,400 metric tons of tobacco; in 1936-37, 157,944,880 coconuts and 3280 piculs of pepper. A somewhat recently developed production of rubber attained 4800 tons for 1938; for 1939, 4200. Livestock, 1937: 10,723 elephants, 374,236 horses, 5,618,006 bullocks, 5,333,464 buffaloes. The chief mineral product, ore of tin, was produced, in 1939, to the total of 17,900 metric tons of metallic tin contained. Teak, the leading product of the forests, was produced on a great scale for export (see Foreign Trade, below). Manufacturing was largely restricted to saw mills and rice mills; but the government operated a factory for making airplanes and a cotton-weaving factory.

**Foreign Trade.** For 1939, in terms of U.S. money, Thailand's imports were reported at \$51,-

314,000; exports, at \$83,320,000. The main exports of the year were 1,936,400 tons of rice (\$43,687,000); ore of tin, \$16,570,500; rubber, 41,000 tons (\$10,557,000). Export of teak amounted to nearly \$3,000,000 for 1939. Of the imports of merchandise in 1939, cotton textiles and yarns made 20 per cent by value; foreign foods, 15 per cent; iron and steel manufactures, machinery, and electrical goods, about one-fifth. Most of the exports went out through the Federated Malay Straits; particularly, the ore of tin, there treated. The Federated Malay States sent (fiscal year 1939) over one-fourth of Thailand's imports; the United Kingdom, 11.7 per cent; Japan, 14.7 per cent.

**Finance.** The unit of money is the baht, which in 1939 averaged \$0.4032 as valued in U.S. money. The national debt, on Jan. 1, 1940: external, £5,676,941 (or 62,446,531 bahts); internal debt, 10,000,000 bahts. The budget for 1939-40 fiscal year (ending with September 30) set revenue at 124,061,000 bahts; ordinary expenditure, at 124,059,000; and capital expenditure, at 22,889,000. The fiscal year was changed in 1939; it had, until then ended with March 31.

**Transportation.** Railways under operation in 1938-39, all State owned, totaled 2058 miles; they carried 5,722,766 passengers and 452,630,248 ton-kilometers of freight. Operating revenues were equivalent to \$6,735,992; operating expenses, \$3,154,896. An agreement for immediate construction of a railway from Mongkolborey to Aranya, connecting Thailand and French Indo-China for the first time, was signed by the two governments in 1939. Highways totaled 3398 miles (see ROADS AND STREETS). Bangkok is served by the Imperial Airways and Air France systems. A native air line connects the chief cities of northern Thailand. Improvement of the port of Bangkok at a cost of 10,000,000 bahts to permit entrance of larger vessels was under way in 1939. The shipping tonnage entered there with cargo in 1938 was 888,000; cleared, 1,176,000.

**Government.** The constitution of 1932 changed Thailand from an absolute into a limited monarchy. A Premier (in 1940 Luang Pibul Songgram) and a council of ministers, over which he presides, perform the executive functions but are responsible to an Assembly. Of the Assembly's members, half are elected, half appointed by the crown. King Ananda Mahidol, proclaimed in 1935 after the abdication of King Prajadhipok, is a minor. Save for the period from Nov. 15, 1938, to Jan. 13, 1939, the years of his reign have been spent at school in Switzerland. A Council of Regency exercises his powers; Prince Aditya Dibabha heads it.

**History.** Thailand sought, late in 1940, to win back areas lost in 1893 to FRENCH INDO-CHINA (q.v., for the origin of the resulting hostilities). The Siamese forces advanced a moderate distance into the contested territory in December after a period of aerial raids and fruitless negotiation, but the prospects of their operations remained uncertain at the end of the year.

The government of Thailand sought in its foreign relations to hold the favor of the British and the Japanese alike. A non-aggression agreement with Great Britain was signed in June. A goodwill mission from Thailand visited the British commercial center of Singapore in October and was to proceed later to Australia. A treaty engaging Thailand and Japan to respect each other's territories and not help each other's enemies for five years was signed at Tokyo on June 11, and a

mission headed by Thailand's vice-minister of war went to Japan in September. Producers in the United States having refused Thailand's orders for airplanes, a supply was reportedly obtained from Japan.

See also JAPAN.

**THEATER.** See **DRAMA**; **FRENCH LITERATURE**; **GERMAN LITERATURE**, etc.

**THIRD INTERNATIONAL.** See **COMMUNISM**

**THIRD TERM ISSUE.** See **ELECTIONS**, **U.S. NATIONAL**.

**THURINGIA.** See **GERMANY** under *Area and Population*.

**TIBET.** A nominal dependency of China in central Asia. Area, 463,000 square miles; population estimated at from 700,000 to 6,000,000. Capital, Lhasa, 50,000 inhabitants. Lamaism, a development of Mahayana Buddhism, is the religion of the people. Chief occupations: agriculture, stock raising, wool spinning, and knitting. The principal minerals are gold, borax, and salt. There is a factory for the manufacture of army equipment, uniforms, coins, and paper money.

Since the death of the 13th Dalai Lama in 1933, the country has been ruled by a regent, whose political authority is exercised by a prime minister aided by a grand council. In September, 1939, a five-year-old Chinese peasant boy was accepted by a secret council at Lhasa as the new Dalai Lama and after a preliminary ceremony at Rigya near Lhasa in October, 1939, he was formally enthroned in 1940 (see below). When the boy comes of age, he will share his religious authority with the Tashi (Panchen) Lama. The last Panchen Lama died in 1937 and his successor, selected in the same manner as the Dalai Lama, remained to be discovered.

**History.** Enthronement of the 14th Dalai Lama, the Chinese peasant boy selected in 1939 (see **YEAR BOOK**, 1939, p. 761), took place Feb. 22, 1940, at the Potala monastery palace near Lhasa. The boy was referred to as Lingergh La-Mu-Tan-Chu by the Chinese and as Llamo Dhomdup by the British. Upon his enthronement, he assumed the name Jam-pel Ngawang Lobsang Yishey Tenzing Gyatso, deriving from the titles of former Dalai Lamas.

As the Dalai Lama, the boy became the chief civil and religious ruler of Tibet. Pending his 18th birthday, however, the powers of his office were exercised by the Regent, Jechen Hutukhto, who adopted a pro-Chinese policy while remaining on friendly terms with the British. The Chinese Nationalist Government at Chungking on February 5 formally recognized the boy ruler as the Dalai Lama and appropriated 400,000 yuan for expenses in connection with his enthronement. To insure his succession, the Chinese representative at Lhasa induced the Regent to forego the traditional lot-drawing from the golden urn, whereby one of La-Mu-Tan-Chu's two Tibetan-born rivals might have been selected.

The Regent formally recognized Chinese sovereignty by petitioning Gen. Chiang Kai-shek for permission to dispense with the lot-drawing and by unveiling a portrait of Dr. Sun Yat-sen, founder of the Kuomintang, during the enthronement ceremony. The Chinese Government's delegate was reported to have presided jointly at the ceremony, while all other foreign delegations were excluded. British and Indian delegations were present, headed by B. J. Gould, British political officer in Sik-kim. Their principal concern was the exclusion of Soviet and Japanese influence from Tibet.

**TIMOR.** See **PORTUGAL** under *Colonial Empire*.

**TIN.** Although the United States produced practically none of this important metal it was unusually active in 1940 in buying tin and its ores for the purpose of insuring an adequate supply for military and industrial purposes. In December the Metals Reserve Company, a Federal corporation, entered into a five-year contract with Bolivia tin ore producers for the purchase of ores and concentrates containing 90,000 tons of tin. A tin smelter was also projected, although its site, process, and operator were undisclosed at the end of the year. Eight plans were submitted and referred to a special technologic committee which was expected to make a recommendation to the Government. Another act of the Metals Reserve Company was to arrange for the purchase of 75,000 tons of pig tin within a period of 12 months from July 1, 1940, at a price of 50¢ per lb.

The domestic price for Straits tin in New York ranged from about 46¢ a lb. in January up to 58¢ in June and down to 50¢ at the year end. The average price for the year was 49.827, and for 1939, 50.323. On the London market the price trend was up from a monthly average of £240 per long ton in January to £273 lb. in June. Thereafter the price declined to £251 in September, and closed the year at £257. Imports into the United States for the first 10 months of 1940 were 223,952,110 lb.

World production of tin in 1940 was 236,600 long tons, an all-time high. Production in 1939 was 184,300 tons. The previous high record was 209,100 tons in 1937. Production quotas for the four quarters of 1940 established by the International Tin Committee in percentage of standard capacity of producers, were respectively, 120, 80, 130, 130.

Actual consumption of primary tin in the United States during 1940 was estimated at 74,000 tons.

Exhaustive survey of Alaskan tin resources seemed imminent near the end of 1940 in order to augment the supply of Bolivian tin ore and to insure the permanent establishment of a tin smelting industry in the United States. Alaska has been a producer of small quantities of placer tin for a number of years, the highest recent production being 166 tons in 1937. Lode tin also occurs in the territory. See **BOLIVIA** under *History*; **NATIONAL DEFENSE ADVISORY COMMISSION**.

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**TIRES.** See **RUBBER**.

**TIROL.** See **AUSTRIA** under *History*.

**TOBACCO.** The tobacco crop of 1940 in the United States was estimated by the U.S. Department of Agriculture at 1,376,471,000 lb., about 26 per cent smaller than the record 1939 crop of 1,858,364,000 lb., and comparing with the 10-year (1929-38) average production of 1,360,661,000 lb. The harvested acreage totaled 1,427,000 acres compared with 2,020,000 in 1939, while the 1940 average acre yield was 965 lb., a record, compared with the previous record of 920 lb. in 1939. The value of the 1940 crop was estimated (preliminary) at \$226,874,000 versus \$285,997,000 for 1939. The price per pound received by farmers averaged 19.6¢ on October 15 and 15.0¢ on Dec. 15, 1940, versus 13.8¢ in December, 1939. The production by types was estimated for flue-cured, 733,903,000 lb.; fire-cured, 99,370,000; air-cured, light; Burley, 327,708,000 and Southern Maryland, 31,920,000; air-cured, dark, 42,512,000; and cigar types, 141,058,000, including filler, 65,000,000; binder, 66,964,000; and wrapper, 9,094,000 lb. Acreages, especially of flue-cured types were sharply curtailed to comply with AAA allotments and because of the poor export outlook. Yet

the record-breaking acre yields of all types, except cigar wrappers resulted in a crop exceeding the 10-year average. North Carolina continued to lead producing States with 506,820,000 lb., and was followed by Kentucky with 295,890,000; Tennessee 103,390,000; Virginia 97,540,000; South Carolina 81,590,000; Georgia 76,420,000; Pennsylvania 48,324,000; Wisconsin 36,532,000; Maryland 31,920,000; Ohio 26,430,000; Connecticut 22,996,000; and Florida 16,123,000 lb.

Tobacco crops in 1940 in other important producing countries, as estimated by several agencies, were for Turkey 135,600,000 lb., Greece 102,500,000 lb., Bulgaria 88,200,000 lb., Germany 96,200,000 lb., Hungary 35,500,000 lb., Canada 60,296,000 lb., Mexico 44,100,000 lb., Chosen 64,483,000 lb., Manchuria 40,000,000 lb., China (flue-cured) 122,500,000 lb., Japan 197,000,000 lb., Southern Rhodesia 35,000,000 lb., and Sumatra 22,000,000 lb. In 1939-40 the Philippine Islands produced 80,231,000 lb., Argentina 41,000,000 lb., Australia 4,800,000 lb., New Zealand 2,255,000 lb., Nyassaland 16,983,000 lb., and Union of South Africa 31,000,000 lb. Flue-cured tobacco grown in the principal foreign countries in 1939-40 was estimated to total 415,000,000 lb., and the combined production of flue-cured in China, Manchuria, Japanese Empire, India, Netherlands Indies, and Thailand in 1940 was estimated at 325,000,000 lb.

Internal revenue taxes collected on tobacco in the United States for the fiscal year 1940 amounted to \$608,518,444, an increase of \$28,359,238, or 4.9 per cent over 1939. Taxes on small cigarettes produced \$533,042,544, an increase of \$29,005,612 over 1939, representing 87.6 per cent of the total tobacco taxes collected in 1940. Taxes on large cigars amounted to \$12,897,764, an increase of only 0.8 per cent; and on smoking and chewing tobacco \$54,383,803, and snuff \$6,798,557, respective decreases of 0.7 and 1.9 per cent. Collections in North Carolina, Virginia, Kentucky, Pennsylvania, California, and Ohio in order, provided the greater part of the tobacco receipts. In the calendar year 1939, 180,666,824,480 cigarettes weighing less than 3 lb. per 1000 were manufactured, nearly 9 billion over 1938. Per capita consumption in the United States in 1939 averaged 42 large cigars, 1315 small cigarettes, chewing tobacco 0.81 lb., smoking tobacco 1.50 lb., and snuff 0.29 lb., totaling 7.30 lb. Exports of unmanufactured tobacco totaled 358,489,238 lb., worth \$77,421,911 in 1939, and 235,741,732 lb., worth \$44,044,749 in 1940. See *Annual Report on Tobacco Statistics, 1940*. (U.S. Dept. Agri.) See AGRICULTURAL ADJUSTMENT ADMINISTRATION; MEDICINE AND SURGERY.

**TOBAGO.** See TRINIDAD AND TOBAGO.

**TOGO, French.** The part of Togo mandated to France by the League of Nations. Area, 21,893 square miles; population (1938), 780,497. Lomé, the capital, had 114,380 inhabitants. Chief products: cacao, palm oil and kernels, copra, coffee, cotton. Trade (1939): imports, 91,644,000 francs; exports, 74,227,000 francs (franc averaged \$0.0251 for 1939). Budget (1939): balanced at 50,534,000 francs; in addition there was a railway budget of 12,889,000 francs. Railways extended for a total of 242 miles. Shipping (1938): 386 ships cleared the ports of Lomé and Aneho. The authorities of French Togo remained loyal to the Vichy Government in France in the controversy with Gen. Charles de Gaulle's rival "Free French" council in London. See FRANCE under *History*.

**TOGOLAND.** The area of Togo which was confirmed as a British mandate by the League of

Nations and attached to the British Gold Coast for administrative purposes. Area, 13,041 square miles; population (1938), 370,327, including 43 non-Africans. Chief products: Palm oil and kernels, cacao, kola nuts, cotton, coffee. Statistics of trade are included in the general total for the Gold Coast.

**TOKELAU (UNION ISLANDS).** See NEW ZEALAND.

**TONGA (FRIENDLY ISLANDS).** See BRITISH EMPIRE.

**TONKIN (TONGKING).** See FRENCH INDO-CHINA.

**TOOTH DECAY AND TREATMENT.** See DENTISTRY.

**TORPEDOES AND TORPEDO BOATS.** See NAVAL PROGRESS.

**TRACHOMA.** See INDIAN AFFAIRS, OFFICE OF.

**TRACK AND FIELD.** With the cancellation of the 1940 Olympics because of the European war, international competition in track and field events came practically to a standstill during the past year. Domination of the sport by Americans continued unabated, however, and many records were annihilated. Perhaps the most sensational figure of the season was Greg Rice, a five-foot five-inch bantam out of Missoula, Mont., and Notre Dame University, who played first fiddle to the legendary Taisto Maki of Finland in a dramatic tournament at Madison Square Garden for the benefit of the Finnish Relief Fund.

In outstepping his Finnish adversary, Rice shattered the world indoor two-mile record with a clocking of 8 minutes 56.2 seconds, a fifth second from the recognized world outdoor mark, and twice superseded the indoor three-mile record with marks of 13:55.9 and 13:52.3. The last-named record was made in competition with both Don Lash and Maki. In the great outdoors, Rice added to his laurels by outdistancing Lash at Fresno, Calif., in a race in which he annexed the National A.A.U. 5000-meter outdoor championship with a world's record clocking of 14:33.4.

The year was noted for the arrival of new champions, particularly Walter Mehl, a mid-year graduate of Wisconsin. Unimpressive indoors, he was like a flash of lightning in the open air and once defeated Rice in the fastest two-mile Mehl had ever traveled, 9:01.8. In the mile field, Mehl captured the National A.A.U. 1500-meter title with a new American record of 3:47.9, which came within a tenth second of equaling the world's mark of Jack Lovelock. In this race, the aging Glenn Cunningham, a dominant figure on the track for many years, ran the fastest 1500-meter distance in his career, but lost to the youthful Mehl by two yards. The veteran Cunningham was consistently beaten throughout the year.

Charles Fenske, a former Wisconsin teammate of Mehl, won eight straight miles indoors, twice duplicating Cunningham's competitive record of 4:07.4, and captured the Memphis outdoor invitation mile in 4:08.3, but the onslaught of a cold kept him out of competition in outdoor nationals.

In pole-vaulting, Cornelius Warmerdam, of Olympic Club renown, was easily supreme. He was the first man ever to scale a height of 15 ft. The best of his two record leaps was 15 ft. 1½ in. The overlord of shotputters was Alfred Blozis, the Georgetown giant, who shattered the world's indoor record so frequently that almost everybody lost the count. His best mark was 55 ft. 8¾ in.

The year saw many champions, old and new. Among the eminent were Harold Davis, California junior college flyer, who carried off the na-

tional A.A.U. 100 and 200 meters; Grover Klemmer, California freshman, the 400-meter title holder who garnered a succession of 47-second quarters; Bill Watson in the decathlon; Joe McCluskey, steeplechase winner for the eighth time; Lash, Rice, and Charley Beetham in the 800 meters; Fred Wolcott, doubles hurdles champion; Phil Fox, discus champion; and Les Steers, master of the high jump. Besides regaining his hop-step-jump title, Billy Brown was the first white man to capture the national broad jump championship in nine years.

Fred Wolcott established new American records of 13.9 in the 110-meter and 120-yd. high hurdles and a world's mark of 22.5 in the low hurdles, in the last-named instance erasing one of Jesse Owens's former four records. In the half-mile, John Woodruff set a new world's record of 1.47.7 and a new American mark of 1.48.6 for 800 meters, both outdoors. Jimmy Herbert of N.Y.U. established a new indoor record of 1.10.8 for 600 yards and helped his college relay team set an indoor mile record of 3.15.

In college competition, Southern California's Trojans were supreme. The New York A.C. captured the indoor A.A.U. team championship again, but lost the outdoor crown to the Olympic Club of San Francisco. The I.C. 4-A outdoor team title went to Pitt and the I.C. 4-A indoor title to N.Y.U. One of the most spectacular competitions in the outdoor collegiate was the hair's-breadth victory of Ed Burrow of Princeton over Jimmy Lightbody of Harvard in the 880, which was consummated in 1:52.2.

**TRACTORS.** See FARM MACHINERY AND EQUIPMENT.

**TRADE.** See BUSINESS REVIEW; FEDERAL TRADE COMMISSION; INTERSTATE COMMERCE COMMISSION; MARKETING; TRADE, FOREIGN; and the sections on *Foreign Trade* under the various countries.

**TRADE, FOREIGN.** Foreign commerce of the United States and, commonly, of other lands varied much from normal in 1940. Blockades, scarcity of shipping, decline of production of the usual goods in countries at war, and intense demand for war's necessary goods all changed the volume, course, and content of the commercial stream.

U.S. commerce increased in yearly value: exports, by 26 per cent, to \$4,021,564,000 for the calendar year 1940, from \$3,177,176,000 for 1939; imports, by 13 per cent, to \$2,625,445,000 for 1940, from \$2,318,081,000 for 1939. Exports were the highest for any year after 1929; imports, the highest after 1937, and with that exception, after 1930. As will be seen from Table I, entitled *U.S. Foreign Trade, by Months*, neither the exports nor imports showed in 1940 the persistent rising trend that had marked their course in 1939; instead, they continued within fairly close range of the level of the latter part of 1939.

From Table II, entitled *Shift in Character of U.S. Trade*, appears the extensive transfer of U.S. commerce to exports and imports connected with warfare and away from other sorts of merchandise. In particular, exports of the main manufactured materials essential to war in the latter half of 1940 formed twice as great a part of all exports as it had formed in the earlier half of 1939 and was nearly 2½ times as great in dollars. Table III, shown on page 742, *Leading U.S. Exports and Imports*, shows yearly totals, whether exported or imported, of each of the items in the

I—U.S. FOREIGN TRADE, BY MONTHS  
[In thousands of dollars]

Merchandise	Exports and Re-exports		General Imports	
	1939	1940	1939	1940
January	212,911	370,082	178,246	241,992
February	218,716	347,106	158,072	200,068
March	267,781	350,795	190,481	216,755
April	230,974	322,941	186,300	212,352
May	249,466	323,768	202,493	211,470
June	236,164	350,301	178,866	211,425
July	229,631	316,669	168,910	232,393
August	250,102	350,859	175,623	220,523
September	288,956	295,252	181,536	194,835
October	331,978	343,848	215,289	206,939
November	292,453	327,685	235,458	223,594
December	368,046	322,257	246,807	253,099
Twelve months	3,177,176	4,021,564	2,318,081	2,625,445

	Gold Exports		Gold Imports	
	1939	1940	1939	1940
January	81	22	156,427	236,413
February	15	53	223,296	201,475
March	53	18	365,436	459,845
April	231	33	606,027	249,885
May	36	3,563	429,440	438,695
June	19	1,249	240,450	1,164,224
July	9	8	278,645	519,983
August	13	10	259,934	351,563
September	15	13	326,089	334,113
October	15	17	69,740	325,981
November	10	6	167,991	330,113
December	11	3	451,183	137,178
Twelve months	1,631,523	1,979,458	3,574,659	4,749,467

II—SHIFT IN CHARACTER OF U.S. TRADE  
[Totals in millions of dollars]

Period	EXPORTS					Total U.S. merchandise
	Manufactures Essential war materials*	Other commodities <sup>b</sup>	Unmanufactured cotton	Agricultural products	Other commodities	
1939						
1st half	293.6	748.9	68.5	199.7	87.0	1397.7
2nd half	412.6	813.8	174.5	212.4	112.4	1725.7
1940						
1st half	672.9	894.7	172.4	178.6	100.2	2018.8
2nd half	819.0	833.8	41.3	124.6	97.1	1915.8
Percentage Distribution						
1939						
1st half	21.0	53.6	4.9	14.3	6.2	100.0
2nd half	23.9	47.2	10.1	12.3	6.5	100.0
1940						
1st half	33.3	44.3	8.5	8.8	5.0	100.0
2nd half	42.7	43.5	2.2	6.5	5.1	100.0

\* Heavy iron and steel, non-ferrous metals, metal-working machinery, aircraft, firearms, and chemical products. <sup>b</sup> Includes non-agricultural semi-manufactures and non-agricultural finished manufactures, other than those mentioned in note \*.

Period	IMPORTS				Total imports for consumption
	Principal crude and strategic materials*	Other semi-manufactured <sup>a</sup>	Food-stuffs	Finished manufactures*	
1939					
1st half	171.6	455.5	290.7	153.9	1071.7
2nd half	249.8	498.5	313.4	142.7	1204.4
1940					
1st half	276.5	541.8	301.3	123.6	1243.2
2nd half	379.5	541.5	261.2	114.9	1297.1
Percentage Distribution					
1939					
1st half	16.0	42.5	27.1	14.4	100.0
2nd half	20.7	41.4	26.0	11.8	100.0
1940					
1st half	22.2	43.6	24.2	9.9	100.0
2nd half	29.3	41.7	20.1	8.9	100.0

\* Crude rubber, raw silk, tin, nickel, antimony, and ferro-alloying ores & metals. <sup>a</sup> Includes burlaps and newsprint. \* Excludes burlaps and newsprint.



## III—LEADING U.S. EXPORTS AND IMPORTS

Class and commodity	% of total 1940	Millions of dollars 1939	1940
<b>EXPORTS</b>			
Exports (U.S. mdse.), total . . .		3,123 3	3,934 7
Agricultural, total . . . . .	13.1	655.1	516.9
Cotton, unmanufactured . . . .	5.4	243.0	213.7
Grains and preparations . . . .	1.9	99.5	76.4
Tobacco, unmanufactured . . . .	1.1	77.4	44.0
Packing-house products . . . .	.9	54.8	35.9
Fruits and nuts . . . . .	.9	83.2	35.5
Non-agricultural, total . . . . .	86.9	2,468.3	3,417.8
Machinery . . . . .	17.0	502.1	670.8
Iron and steel-mill products . . .	13.1	235.7	516.0
Aircraft, incl parts and accessories .	7.9	117.8	311.8
Petroleum and products . . . . .	7.9	385.1	310.2
Automobiles, parts, and accessories	6.5	253.7	254.3
Chemicals and related products *	5.6	162.8	221.9
Nonferrous metals . . . . .	5.4	151.9	212.1
Coal and coke . . . . .	2.2	66.7	87.2
Cotton mfrs, incl yarn, etc. . . .	1.9	68.3	75.9
Iron and steel advanced mfrs. . . .	1.7	49.8	68.4
Paper and manufactures . . . . .	1.7	31.7	66.4
Firearms and ammunition . . . .	1.6	5.0	64.2
Rubber and manufactures . . . .	1.1	39.4	44.4
Sawmill products . . . . .	.9	41.2	36.8
<b>IMPORTS</b>			
Imports for consumption, total . . .		2,276.1	2,540.3
Agricultural, total . . . . .	50.6	1,117.8	1,285.3
Crude materials . . . . .			
Crude rubber . . . . .	12.5	178.1	317.7
Raw silk . . . . .	4.9	120.9	125.0
Wool and mohair, unmanufactured	3.3	49.6	84.6
Hides and skins . . . . .	2.0	47.1	50.2
Unmanufactured tobacco . . . .	1.4	36.9	36.7
Subtropical foodstuffs:			
Coffee . . . . .	5.0	139.5	126.8
Cane sugar . . . . .	4.5	124.6	113.3
Fruits and nuts . . . . .	2.4	58.2	60.9
Cocoa or cacao beans . . . . .	1.3	27.6	32.1
Other agricultural products			
Vegetable oils, expressed . . . .	2.2	51.0	57.0
Oilseeds . . . . .	1.3	33.2	32.2
Packing-house products . . . . .	.7	27.9	18.2
Non-agricultural, total . . . . .	49.4	1,158.3	1,254.9
Paper and manufactures . . . . .	5.2	126.8	132.6
Tin (bars, blocks, pigs) . . . . .	5.1	70.6	128.3
Furs and manufactures . . . . .	3.1	55.5	79.8
Paper base stocks . . . . .	3.0	88.4	75.4
Copper, incl ore and manufactures	2.9	44.2	73.5
Petroleum and products . . . . .	2.8	43.5	70.1
Chemicals and related products *	2.3	79.5	58.3
Burlaps . . . . .	1.8	28.0	45.5
Whisky and other spirits . . . .	1.8	48.3	44.7
Diamonds . . . . .	1.8	45.1	44.6
Ferro-alloys, ores and metals . . .	1.6	21.4	40.3
Nickel and alloys . . . . .	1.4	24.9	35.2
Cotton mfrs, incl yarn, etc . . . .	1.2	39.6	30.8
Fish, including shellfish . . . . .	1.1	32.4	29.1
Wool manufactures, incl yarns, etc	1.0	25.6	25.2
Flax, hemp, and ramie manufactures	.8	22.4	19.8

\* Includes a few agricultural items    \* Includes a few non-agricultural items

customary classification of the articles of commerce. It displays some striking disparities: e.g. exports of firearms and ammunition about 13 times as great in value for 1940 as for 1939 and of tobacco only four-sevenths as great.

U.S. trade with other principal countries in 1940 varied widely in value from 1939's, in the great majority of cases, as appears in Table IV, *U.S. Foreign Trade, by Countries*. The variation did not generally imply any like variation in such countries' own totals of foreign trade. Rather, some countries traded more with the United States because deprived of other usual countries' custom and markets; others, because their needs as belligerents compelled them to depend more on the U.S. market, even though absorption in war caused their general trade to shrink; and in Sweden's case, a blockade greatly reducing trade overseas had an offset in heavy commerce with a great part of the European Continent.

Table V, *Trade of Leading Countries: 1940*, assembles the total imports and exports of 10

## IV—U.S. FOREIGN TRADE, BY COUNTRIES

(Merchandise: in thousands of dollars)

Country	Calendar Year 1939	Yearly Exports 1940	Yearly Imports 1939	Yearly Imports 1940
Argentina . . . . .	70,945	106,877	61,914	83,301
Australia . . . . .	61,554	75,455	14,882	25,560
Belgium . . . . .	64,588	24,977	63,290	29,239
Brazil . . . . .	80,345	110,588	107,250	105,166
British India . . . . .	42,811	68,428	66,401	102,187
British Malaya . . . . .	9,971	15,630	148,967	268,331
Burma . . . . .	4,065	8,050	426	1,857
Canada . . . . .	489,103	714,518	339,956	423,539
Ceylon . . . . .	1,602	1,978	20,108	30,401
Chile . . . . .	26,791	43,428	40,562	64,941
China . . . . .	55,614	77,956	61,831	93,001
Colombia . . . . .	51,277	51,691	48,983	47,564
Cuba . . . . .	81,646	84,694	104,930	105,434
Denmark . . . . .	25,236	5,970	3,794	921
Dominican Republic . . . . .	6,780	6,999	5,824	5,365
Ecuador . . . . .	5,900	6,412	3,513	4,814
Egypt . . . . .	13,853	20,567	7,023	7,284
Finland . . . . .	13,443	24,367	20,696	5,408
France . . . . .	182,089	252,455	62,358	36,566
Germany * . . . . .	66,335	156	67,976	5,550
Gold Coast . . . . .	2,507	2,437	8,986	15,994
Greece . . . . .	6,390	9,767	22,358	12,930
Haiti . . . . .	5,128	4,618	3,031	3,618
Honduras . . . . .	5,812	7,291	7,031	9,521
Hong Kong . . . . .	18,121	17,387	3,570	3,193
Iran (Persia) . . . . .	4,420	6,465	4,380	8,648
Ireland . . . . .	9,811	8,035	1,672	2,692
Italy . . . . .	58,864	51,473	39,922	23,607
Jamaica . . . . .	5,930	3,545	1,540	1,501
Japan . . . . .	232,184	227,204	161,212	158,376
Kwantung . . . . .	15,751	9,859	1,546	2,096
Mexico . . . . .	83,177	96,941	56,266	75,780
Netherlands Indies . . . . .	35,420	53,781	92,971	169,080
Netherlands				
West Indies . . . . .	38,378	21,683	19,723	19,517
Netherlands . . . . .	97,417	34,023	28,933	8,545
Newfoundland				
and Labrador . . . . .	8,914	10,481	8,641	12,182
New Zealand . . . . .	16,544	18,074	11,214	7,968
Norway . . . . .	32,348	14,536	21,687	7,939
Panama, Republic of . . . . .	12,752	19,070	3,582	4,280
Panama Canal Zone . . . . .	19,862	44,107	479	656
Peru . . . . .	19,246	23,123	13,959	17,943
Philippine Islands . . . . .	99,939	93,335	91,927	89,671
Portugal . . . . .	10,003	18,146	6,454	11,085
Spain . . . . .	26,743	27,042	10,207	14,550
Sweden . . . . .	98,314	38,558	42,314	17,317
Switzerland . . . . .	18,611	22,570	30,615	27,200
Turkey . . . . .	8,313	8,274	19,876	13,888
Union of South Africa . . . . .	69,145	103,916	28,721	47,338
Union of Soviet Social-				
ist Republics . . . . .	56,638	86,943	25,023	20,773
United Kingdom . . . . .	505,404	1,009,623	149,411	155,060
Uruguay . . . . .	5,183	11,275	9,375	17,629
Venezuela . . . . .	61,966	69,212	23,613	41,645

\* Trade with Austria, Czecho-Slovakia, and Poland and Danzig has been combined with Germany for both years.

## V—TRADE OF LEADING COUNTRIES 1939 \*

(In old U.S. gold dollars)

Country	Imports	Exports
United States . . . . .	1,344,400,000	1,845,000,000
United Kingdom . . . . .	2,203,600,000	1,158,100,000
Canada . . . . .	419,300,000	590,000,000
Japan . . . . .	444,700,000	539,200,000
Belgium . . . . .	388,900,000	432,000,000
Netherlands . . . . .	477,600,000	306,200,000
British India . . . . .	306,300,000	358,700,000
Australia . . . . .	252,500,000	249,300,000
Sweden . . . . .	352,900,000	266,700,000
Union of South Africa . . . . .	249,500,000	245,000,000
Argentina . . . . .	208,200,000	274,900,000

\* Excluding figures for France, Germany and Italy, which were not published. \* Excludes trade with possessions. \* Includes Burma.

(out of 13) other leading countries and that of the United States. The figures have all been reduced to U.S. dollars, not of the current standard, but of the pre-1934 gold standard.

See AGRICULTURE; CUSTOMS, BUREAU OF; Ex-

PORT-IMPORT BANK; TARIFF COMMISSION, U.S. See also topics on various products.

**TRADE AGREEMENTS.** See ARGENTINA, URUGUAY, and VENEZUELA under *History*; CUSTOMS, BUREAU OF; INTERNATIONAL LAW under *Treaties*.

**TRAFFIC SAFETY.** See AUTOMOBILES; BENEFACTIONS under *Automotive Safety Foundation*.

**TRANS-JORDAN.** An Arab territory in Asia Minor, under mandate to Great Britain. Area, 34,740 square miles; population, 312,000 (305,000 Arabs and 7000 Circassians and Chechens). Chief towns: Amman (capital), Es-Salt. Arabic is the official language and Mohammedanism the dominant religion. Education (1938-39): 191 schools and 13,854 pupils.

**Production and Trade.** To the east of the Hedjaz railway the country is largely desert but to the west the land is fertile and suitable for agricultural production and for livestock raising. Tobacco has been successfully grown and the output more than meets the requirements of the local factories. Phosphate deposits have been developed and potash is found in the Dead Sea. The Trans-Jordan section (213 miles) of the Haifa to Bagdad highway, to cost £1,500,000, was under construction during 1940.

**Government.** Finance (1938-39): revenue, £P529,615; expenditure, £P547,546. The territory is part of the British Palestine Mandate but certain clauses relating to the establishment of a national home for the Jews are excluded from operation within Trans-Jordan. The country is governed by an administration under the Emir, Sir Abdullah ibn Hussein, who is assisted by a council of ministers. There is a legislative council of 16 elected and 6 official members. A British Resident represents the High Commissioner for Palestine and Trans-Jordan.

**TRANSPORTATION.** See AERONAUTICS under *World Air Transport*; AUTOMOBILES; CALIFORNIA under *San Francisco*; INTERSTATE COMMERCE COMMISSION; NATIONAL DEFENSE ADVISORY COMMISSION; RAILWAYS; RAPID TRANSIT; ROADS AND STREETS; SHIPPING; also sections on *Transportation* under countries.

**TRANSPORTATION ACT.** See RAILWAYS.

**TRANSVAAL.** See SOUTH AFRICA, UNION OF.

**TRAVEL.** See IMMIGRATION, EMIGRATION, AND NATURALIZATION; NATIONAL PARK SERVICE; PASSPORTS. For number of persons entering the United States see CUSTOMS, BUREAU OF. For books on travel, see LITERATURE, ENGLISH AND AMERICAN.

**TRAVEL BUREAU, U.S.** The growing importance of recreational travel is manifested by the efforts of the Federal Government to foster its further development through the U.S. Travel Bureau. The Bureau was established in February, 1937, by the Secretary of the Interior to bring under one head the existing travel promotion work of the Interior Department. A branch office was established in New York immediately; a western office was set up in San Francisco in the fall of 1938. The central office is in the Interior Department in Washington.

At first, the Bureau functioned mainly as a national clearinghouse for the promotional literature of the various States and transportation and accommodation services. Its work quickly reached much greater proportions, and it has now become the central co-ordinating agency for the promo-

tional work of organizations interested in travel.

Recognition of the need for the kind of service the Bureau carries on resulted in passage of legislation by the 76th Congress "to encourage travel in the United States." This Act was signed by President Roosevelt in July, 1940, and the Bureau became a permanent part of the National Park Service.

The Bureau provides information to prospective travelers on seasonal recreation, hunting, fishing, trailer camps, and the dates and locations of such diversified attractions as Indian tribal ceremonies, sporting events of all kinds, fairs, historical celebrations and pageants, and other events of interest throughout the United States, its Territories, and island possessions.

It distributes, without charge, descriptive booklets and maps to aid in the planning of trips to the National Parks and other recreational areas. Both the New York and San Francisco branches maintain libraries of kodochrome slides and motion picture films for the use of schools, travel clubs, and other educational groups.

In co-operation with the private travel industry and public and governmental organizations interested in developing travel, the Bureau produces: Descriptive literature depicting, in both black and white and full color photography, the tourist attractions of the United States (some of this will be translated into several languages for distribution throughout the Western Hemisphere); radio broadcasts to dramatize the distinctive features and charm of tourist attractions throughout the Nation; news stories to bring constantly to the people's attention the recreational opportunities available to them; assistance in formulating State or regional promotional programs for those agencies requesting such service.

Pioneering in travel research, the Bureau has released valuable and hitherto unobtainable data on the size, value, and direction of the recreational travel movement, and its significance to the various aspects of the Nation's life.

Regular publications of the Bureau include: The *Official Bulletin* published monthly from Washington and devoted to publicizing the work of agencies engaged in the development of travel, providing a forum for the exchange of information, and furnishing accurate statistics of the travel movement; *Travel News* from San Francisco describing the outstanding travel attractions and services in the western half of the Nation; the *Calendar of Events* listing the dates and nature of the chief travel attractions throughout the Nation, published semiannually and with a monthly supplement; occasional publications containing news or reports of interest to travel organizations.

The Bureau is pioneering in the field of travel statistics. It is compiling a body of statistical data which will show the volume and flow of travel and its significance to the social, economic, and physical welfare of the Nation.

W. Bruce Macnamee is Chief of the Bureau; Jay Wingate, Supervisor, the New York office; J. Lee Bossemeyer, Supervisor, San Francisco office.

W. BRUCE MACNAMEE.

**TREASURER, U.S.** See FISCAL SERVICE.

**TREASURY, U.S.** Department of the. See PUBLIC FINANCE and articles on the following departments: COAST GUARD, U.S.; CUSTOMS, BUREAU OF; FISCAL SERVICE; NARCOTICS, BUREAU OF; SECRET SERVICE DIVISION.

**TREATIES.** See **INTERNATIONAL LAW**; also countries under *History*.

**TRENGGANU.** See **BRITISH MALAYA**.

**TRINIDAD AND TOBAGO.** A united British crown colony near Venezuela, consisting of the islands of Trinidad (1862 sq. mi.) and Tobago (116 sq. mi.), and adjacent islands. Total area, 1980 square miles; population (Jan. 1, 1939), 464,889. Chief towns: Port of Spain (Trinidad), the capital, 77,711 inhabitants; San Fernando, 15,858; Princetown, 5580; Arima, 5613; Scarborough (Tobago), 1515.

**Production and Trade.** Chief products (1939): petroleum (2,724,000 metric tons), asphalt (88,421 tons), cacao (8376 tons exported), sugar (92,200 tons for 1939-40), citrus fruits, coconuts, coffee, timber, and bananas. Minerals found in small quantities include coal, iron, graphite, gold, and gypsum. **Trade** (1939): imports, \$34,762,954; exports, \$35,731,557, including sugar (\$5,087,030), cacao (\$1,212,682), asphalt (\$1,170,585). The chief imports consisted of manufactured goods, foodstuffs, and beverages.

**Government.** **Budget** (1939): estimated revenue, \$12,882,274; estimated expenditure, \$12,492,118. The united colony was administered by a governor, assisted by an executive council. There is a legislative council of 26 members including the governor as president, 12 official and 13 unofficial members (of the latter, 6 are nominated by the governor and 7 are elected by the voters). There are 6 electoral districts in Trinidad and 1 in Tobago. Governor, Major Sir H. W. Young (appointed June 20, 1938).

**History.** The west coast of Trinidad in the Gulf of Paria was one of the sites granted to the United States for a naval and air base under the Anglo-American agreement of Sept. 2, 1940. However the governing authorities and Legislative Council of Trinidad objected to the specific sites selected shortly afterward by United States naval and air experts. The Governor flew to Washington in December to seek an adjustment and negotiations on the issue were still proceeding at the year's end.

Meanwhile Trinidad gave its full support to the British war effort. The Legislative Council on November 18 contributed \$1,000,000 to the Empire's war chest in addition to the colony's numerous volunteers for military service. Heavy emergency taxes were levied to meet the increased financial burden. See **BRITISH WEST INDIES** and **GREAT BRITAIN** under *History*.

**TRIPOLI.** See **LIBYA**.

**TROJAN HORSE.** See **FIFTH COLUMN**.

**TROTSKY, Leon.** See **COMMUNISM**; **MEXICO**; **NECROLOGY**.

**TRUCIAL OMAN.** See *Oman, Trucial* under **ARABIA**.

**TRUCKS AND TRUCKING.** See **AUTOMOBILES**; **RAILWAYS**.

**TUAMOTU ISLANDS.** See **OCEANIA**.

**TUBERCULOSIS.** See **VETERINARY MEDICINE**.

**TUNGSTEN.** No shortage of this vital war metal was experienced during 1940, and ample supply enabled the United States to accumulate concentrates in a stockpile. Domestic production came principally from California, Colorado, Nevada, and this was supplemented by imports from South America and China. Purchase of Chinese ore was made against substantial loans by the U. S. Government. Consumption was at the rate of about 1000 tons of concentrates per month, which was much higher than originally estimated. Imports of ore

for the first 10 months of 1940 grossed 7,972,609 lb. The price of tungsten ore rose slightly during the year, reaching the following levels in December, 1940, per short ton unit of  $WO_3$ : Chinese, duty paid, f.o.b. New York, \$26; Bolivian and Portuguese \$25 to \$26; domestic scheelite, delivered, carload lots, \$23.50 to \$24.

H. C. PARMELEE.

**TUNISIA.** A French protectorate in North Africa. Capital, Tunis. With an area of 48,332 square miles, Tunisia had a population of 2,608,313 at the 1936 census, including 2,335,623 Arabs and Bedouins, 59,485 native Jews, 108,068 French citizens, 94,289 Italians, and 2279 Maltese. The estimated civilian population on Jan. 1, 1939, was 2,700,000. Italian census figures published July 22, 1940, placed the number of Italians in Tunisia at 125,000. The 1936 census populations of the chief towns were: Tunis, 219,578; Sfax, 43,333; Sousse, 28,465; Bizerte, 25,872; Kairouan, 22,991. Moslems comprise 89.5 per cent of the total population. The school attendance on Dec. 31, 1937, was 96,520.

**Production.** The chief occupations are agriculture, stock raising, fishing, and mining. Yields of the chief crops in 1939 were (in metric tons): Wheat, 505,000; barley, 350,000; oats, 30,000; olive oil, 60,000; wine, 988,000 hectoliters (hectoliter equals 26.42 U. S. gal.). The 1937 livestock estimates were 3,372,894 sheep, 507,302 cattle, 144,762 camels, 1,672,352 goats, 109,787 horses, 156,554 asses, and 56,615 mules. Output of the chief minerals in 1939 was (in metric tons): Phosphate rock, 1,608,045; iron ore, 764,731; lead ore, 28,280; pig lead, 23,403; mercury ore, 1943; zinc ore, 903; fluorspar, 2473. The principal native manufactures are woolen goods, carpets, leather goods, and pottery.

**Foreign Trade.** For the first six months of 1939 (publication of later statistics was suspended), imports amounted to 849,121,000 francs (699,477,000 for the same period of 1938) and exports to 752,408,000 francs (720,266,000). For the six months' period of 1939, imports came chiefly from France, 569,300,000 francs; Algeria, 44,826,000; the United States and the United Kingdom. Exports to France were 511,764,000 francs; United Kingdom, 79,871,000; Italy, 34,722,000; Algeria, 20,676,000. Wheat, olive oil, phosphates, and wine normally account for half the total exports.

**Finance.** Budget estimates for 1940 placed receipts at 811,198,000 francs and expenditures at 810,954,334. The receipts included new and increased taxes expected to bring in 76,300,000 francs. Public debt on Jan. 1, 1938, 1,009,593,000 francs (franc averaged \$0.0251 in 1939, \$0.0288 in 1938).

**Transportation.** With 1123 miles of line, the Tunisian State railways in 1938 carried 2,153,587 metric tons of freight. Highways extended 7887 miles in 1939. Civil airlines connect Tunis with Poona, Algiers, Oran, and Casablanca in French North Africa, with France and normally with Italy.

**Government.** Tunisia is a regency under the control of the French Foreign Office, which acts through a Resident-General who is also Minister of Foreign Affairs for Tunisia. There is a ministry of 11 departments (8 French and 3 Tunisian). The nominal ruler in 1940 was Sidi Ahmed Bey, who succeeded to the throne July 10, 1929.

**History.** The entrance of Italy into the European War on June 10, 1940, and the capitulation

of France to Germany soon afterward threatened to end France's 60-year rule over Tunisia. The acquisition of the colony had been a primary objective of Italian foreign policy since the establishment of the Fascist regime, and its transfer was demanded by Mussolini in his negotiations of 1940 with Hitler concerning the peace terms to be imposed upon France. As a preliminary to annexation, the Franco-Italian armistice terms provided for the demilitarization of the strong French fortifications on the Tunisian side of the Libyan border, carried out under the supervision of an Italian armistice commission. See FRANCE, GERMANY, and ITALY under *History*.

Late in the year Italian reverses in Libya and the Mediterranean at the hands of British forces aroused French hopes of retaining Tunisia and reinforced the Vichy Government's efforts to consolidate French power in North Africa (see ALGERIA under *History*). Marcel B. Peyrouton replaced Eirik Labonne as Resident-General on June 7, 1940. Upon Peyrouton's subsequent inclusion in the Vichy Government, Admiral Jean Esteva became Resident-General. On December 9 Marshal Pétain arrived in Tunis for a tour of inspection, which apparently was intended to calm the mounting political unrest caused by economic difficulties, the policies of the Vichy regime, and the general European situation. See EUROPEAN WAR under *Effects of the Fall of France*.

**TUNNELS.** Recent and present tunnel works include projects for water supply (domestic and irrigation), highways, and rapid transit. The longest, now under way, is the 85-mile tunnel for pumping a new water supply to New York City from the Delaware River. It is 18-ft. in diameter and has been driven from 31 shafts. Its excavation was 93 per cent completed at the end of 1940, but with the concrete lining and other accessory work unfinished it is probable that it will not be put into service until 1945. With two future extensions of 6 and 26 miles to other watersheds its ultimate length will be 117 miles. Including the 20-mile tunnel already in use (since 1936) from the new terminal reservoir to the city reservoir, there will be a continuous pressure tunnel of 137 miles.

Next to the Delaware Tunnel ranks the 11.3-mile Mono Craters Tunnel, in California, forming a part of the extensive water supply system for Los Angeles, 320 miles distant. This tunnel, 8 ft. 8 in. by 7 ft., was completed in December, 1940. For an additional supply to Baltimore, Md., the 7-mile Montebello Tunnel, completed in December, is 12 ft. in diameter, with concrete lining on 66 per cent of its length, while the remainder has a continuous welded steel lining.

Outstanding among several tunnels for the various irrigation projects of the U.S. Bureau of Reclamation (q.v.) is the 13-mile Continental Divide Tunnel, which was started at its east end in April and at its west end in July. It is a main item in the comprehensive Colorado-Big Thompson project, and is to pierce the Divide of the Rocky Mountain range in order to bring water from a reservoir on the western slope to the valley of the South Platte River on the eastern slope, in Colorado. Water pumped up to the west portal will flow by gravity through the tunnel, which is 9 ft. 9 in. in diameter inside the concrete lining. Work was also begun in September on the 5½-mile Duchesne Tunnel of the Provo River project in Utah. Tunnels completed by the Bureau in 1940 numbered 23, with an aggregate length of nearly six miles. These included a 3½-mile tunnel for the

Yakima Ridge main canal, and the 3-mile Shoshone Canyon conduit on the Heart Mountain canal in Wyoming. For the 30-mile relocation of the Southern Pacific Railway, to put it above the water level of the reservoir behind the Shasta Dam, in California, the Bureau built twelve tunnels aggregating 16,000 ft.

As to highway tunnels, excavation of the two-mile submarine tunnel between New York City (at the Battery) and South Brooklyn, was begun October 28, with a blast set off by President Roosevelt pressing a button at the White House in Washington. It is estimated to cost \$57,000,000, with \$24,000,000 more for the two approaches. The tunnel will consist of two steel-lined tubes 31 ft. in diameter, each providing a 21-ft. roadway. At its mid-length there will be a ventilating shaft on Governor's Island. Of similar design is the one-mile Queens-Midtown Tunnel under the East River at 36th St., New York. This first highway tunnel under the East River was opened to traffic on November 15.

The work of completing and enlarging the tunnels of the South Pennsylvania Railroad, to serve for a toll super-highway between Pittsburgh and Harrisburg, was finished in 1940. The railway project was begun in 1885 but abandoned in 1887, and the State authorities acquired possession of the unfinished grade and earthworks. The seven tunnels, aggregating nearly seven miles, were enlarged to about 30 ft. in width and 15 ft. in height.

A special type of subaqueous tunnel is that in which a concrete-lined steel tube or hull is sunk in a dredged trench, connections with the land tunnel approaches being made in cofferdams by the aid of divers. The 2000-ft. Bankhead Tunnel at Mobile, Ala., was placed across the river in this way in 1940. It is 27 ft. in diameter, and provides a 21-ft. roadway as part of a new toll-road route. Its land connections or approach tunnels are 500 to 600 ft. long. The welded steel tube, octagonal in shape, was built in seven sections, 256 to 298 ft. long, on launching ways in a shipyard, then taken to a dry dock for concreting, and then consecutively floated and towed into position and sunk into a trench, where they were connected end to end by divers.

A tunnel of the same length type and length, across the Maas River, at Rotterdam, Holland, was under construction when the war broke out, but the last section was placed in December, 1940, and war conditions had not greatly delayed the construction. In this case, the nine sections, each about 202 ft. long, were built mainly of reinforced-concrete and were of rectangular shape, 81 ft. wide and 27 ft. high. There were two passages with 20-ft. roadways for vehicles, and a third double-decked passage for foot passengers on the lower level and bicyclists on the upper level.

At Chicago, a tunnel of this kind was placed across the Chicago River at State St., as part of the new rapid-transit subway system. Being only 200 ft. long, it was built and placed in one complete section. The "tube" was sunk in place on Dec. 13, 1939, but with the work of connecting the ends and putting in the lining it was not completed until some months later. This is Chicago's second tunnel of the same type. The first was placed several years ago, when the old LaSalle St. masonry tunnel for a street-car line had to be rebuilt as it had become leaky and unsafe. The purpose and advantage of this type of construction is to provide a tunnel at shallow depth and having short approaches with easy grades. A driven tunnel, especially in

soft material, would have to be at considerable depth, requiring longer and steeper approach inclines.

The  $8\frac{3}{4}$  miles of twin tunnels for the new rapid-transit subway system of Chicago, to be completed in 1941, are mainly in clay and are at a depth of about 45 ft. from street level to floor of tunnel. They are excavated mainly by hand, and under pneumatic pressure, the steel lining following closely behind the excavation to hold the clay from sliding and to form the shape of the tunnel before the concrete lining is placed. In the Loop or business district, however, circular steel shields 25 ft. in diameter are used in order to hold the ground against any sliding, as some parts of the subways are near—and below—the shallow foundations of large buildings. Much of the excavated material is loaded into small cars and sent out through air-locks connecting with the small narrow-gauge freight tunnels of the Chicago Tunnel Co., thus keeping it clear of the streets.

The Transandine Tunnel, built in Chile in 1910 to connect the railways of Chile and Argentina, was reopened in February, 1940, after having been altered to provide for carrying motor-coach traffic. The tunnel had been closed for some years, as earthquakes had practically destroyed the approach on the Chilean side and the cost of reconstruction was prohibitive. There is now motor-coach service to connect the railways, and occasional trains are run through from the Argentine side. The summit or high point in the tunnel is 10,521 ft. above sea level.

Of a different class from any of the tunnels so far mentioned is the Carlton Drainage Tunnel at Cripple Creek, Colo., for the drainage of the deep levels of a group of mines, thus permitting the deepening of the mines. It will be six miles long, exclusive of branches, and has been completed for about five miles. It is 8 x 9 ft. in section, in a hard granite formation.

Rapid progress in tunneling in hard rock during 1940 has broken all former records. In the Delaware River water tunnel for New York City, a record of 1862 ft. of 18-ft. bore in 31 days was made, with an average advance of 60 ft. per day. In the Carlton drainage tunnel, an advance of 1879 ft. has been made in the same time, with a maximum of 74 ft. in one 24-hour day, and an average of 60.6 ft. per day. See AQUEDUCTS; RAPID-TRANSIT.

E. E. RUSSELL TRATMAN.

#### TURBINES. See POWER PLANTS.

**TURF.** The final emergence of *Seabiscuit* as the greatest money-maker of all time, the selection of *Chalcedon* as the outstanding horse of the year, and the successful establishment of mutual betting in New York State were the three most important headlines in the history of horse-racing during 1940.

By winning the Santa Anita Handicap in March, *Seabiscuit* boosted his earnings to a total of \$437,740, thereby surpassing the figure of \$376,744 by which *Sun Beau* held the record as the champion money-horse. The old saying that money makes money was reflected in the stud fees of the respective horses—*Seabiscuit* was quoted at \$2500, *Sun Beau's* price was only \$500.

On the whole, it was not an exciting year for turf fans. While *Chalcedon* was selected by the sportswriters as the greatest horse of the year, there were many who felt the choice to be unjustified. A number of beasts made claim to the

distinction—among them *Level Best*, *Nasca*, *Whirlaway*, *Our Boots*, *Mioland*, *Bimelech*, *Fenelon*, *Fairy Chant*, *Your Chance*, *Gallahadion*, *Eight Thirty*, *Can't Wait*, *Cottesmore*, and *Seabiscuit*.

*Chalcedon* got a comparatively late start, but managed to win five of seven races for combined yearly earnings of \$70,600. Most of his winnings came from the Hollywood Gold Cup and Pimlico Special, simple races both; and he experienced great difficulty in beating *Isolater*, an unimpressive horse, in the Whitney Stakes at weight for age.

*Bimelech* was generally conceded the champion among three-year-olds on the basis of performance; but there were some who felt that *Fenelon*, inactive early in the year because of a cough, was the better of the two. *Fenelon* captured the Travers at Saratoga and the Lawrence Realization and the Jockey Club Gold Cup at Belmont Park. *Mioland* triumphed in the Westchester Handicap at Empire City. However, the retirement of *Bimelech* with a bruised heel certainly made it easier for his rivals to ride to fame.

Among two-year-olds, the choosing of a champion was a hopelessly confusing task. At Saratoga, after starring in the Hopeful, it appeared that *Whirlaway* was in a class all by himself. But at Aqueduct *King Cole* was easily supreme; and at Belmont Park *Our Boots* beat all of them in the Futurity, richest race in the world for two-year-olds. Subsequently, in the Pimlico Futurity, *Bold Irishman* was the victor, beating *Our Boots* by a nose, with *Whirlaway* ending third.

The field of three-year-old fillies produced no undisputed champion either. *Damaged Goods* took the Acorn and the Coaching Club American Oaks, severest test for this division. Thereafter she failed to distinguish herself, and *Fairy Chant* was the leading money-maker, with \$46,750 for the season.

*Level Best* and *Cottesmore* were outstanding thoroughbreds of the year. Besides being the best young filly of the season, *Level Best* was able to beat colts when occasion was presented. In the steeplechasing division, *Cottesmore* was supreme.

Following establishment of mutual betting, attendance at horse races in New York State reached a peak of more than 2,000,000 for the year. Wagers totaled \$103,000,000, and the State's profit was \$6,000,000.

**TURKEY.** A republic comprising parts of Asia Minor and the Balkan peninsula as well as Imbros, Tenedos, and the Rabbit Islands in the Aegean Sea. Capital, Ankara (Angora).

**Area and Population.** The area, including the Sanjak of Alexandretta (Hatay Republic) but excluding 452 square miles of marshes and 3256 square miles of lakes, is 296,346 square miles (13,012 in Europe and 283,334 in Asia). The Sanjak of Alexandretta (area, 1930 square miles; pop., about 228,000) was ceded to Turkey by France on June 23, 1939. The population of Turkey at the census of October, 1940, was 17,869,901 (16,158,018 at the 1935 census). Populations of the chief cities in 1940 were: Istanbul, 789,346 (741,148 in 1935); Ankara, 155,544 (122,720 in 1935). The 1935 populations of other cities were: Izmir (Smyrna), 170,959; Seyhan (Adana), 76,473; Bursa (Brusa), 72,148; Konya, 52,093; Gazi Antep, 50,965.

**National Defense.** Military service is compulsory. The peace-time strength of the Turkish army is about 180,000 men, but the number under arms was increased during 1939 and 1940 to near the limit of 750,000. It is equipped with Czechoslovak, German, Polish, British, and Turkish armaments—not the most modern. At the beginning

of 1940, the air force had about 700 well-trained pilots, about 7500 in other ranks, and 575 first-line and 400 second-line planes. The navy in 1940 consisted of the rebuilt German battle cruiser *Goeben* (Turkish name, *Yavuz*) of 22,500 tons, 2 small obsolete cruisers, 4 destroyers, 6 submarines, and various smaller craft.

**Education and Religion.** Illiteracy was estimated at 55 per cent of the adult population in 1935, but only 2,517,878 were literate in the Latin alphabet, introduced in 1928. Students enrolled in 1937-38: Primary, 764,691; secondary, 74,107; lycées, 21,000; normal schools, 2807; professional schools, 7574; universities and other institutions of higher learning, 9558. At the census of 1935 there were 15,838,673 Moslems, 125,046 Orthodox Christians, 78,730 Jews, 32,155 Roman Catholics, 44,526 Gregorians, 11,229 Armenians, 8586 Protestants, and 12,967 adherents of other religions. There is no State religion.

**Production.** Four-fifths of the population is supported by agriculture. Yields of the chief crops in 1939 were (in metric tons): Wheat, 4,607,900; barley, 2,295,200; rye, 426,300; oats, 295,400; corn, 714,100; rice, 84,200; potatoes, 168,600 in 1938; beet sugar, 94,500 in 1939-40; tobacco, 56,500; cotton-seed, 134,500 in 1938; sesamum, 25,700 in 1938; olive oil, 33,800 in 1938; cotton, 66,300 in 1938; raw silk, 27,000 in 1938. The 1938 wool clip was 31,300 metric tons. Livestock as of Jan. 1, 1939: 23,138,450 sheep, 9,310,966 cattle, 885,117 buffaloes, 11,329,241 goats (exclusive of 4,945,351 mohair goats), 1,489,699 asses, 964,245 horses, 113,895 camels.

Output of the chief minerals in 1939 was (in metric tons): Cement, 274,742; iron ore, 143,277; borocite, 14,699; chrome ore (mineral content), about 97,000; zinc, 14,424; lead, 10,392; emery, 9528; lead and zinc mixed, 8007; manganese, 3339; sulphur, 2601; magnesite (raw), 435; antimony, 1280. There were also produced 359 flasks of mercury and 335 cases of meerschau. There were 65,245 industrial establishments with 256,855 employees in 1936. Since then there has been carried out an industrialization program under which textile mills, coking and steel and blast-furnace works, paper mills, a glass factory, sulphur plant, and various other factories were placed in operation.

**Foreign Trade.** Imports in 1940 were valued at 68,922,700 Turkish pounds (£T118,248,934 in 1939); exports, £T111,446,500 (£T127,388,997 in 1939). Due to the higher level of prices in 1940, the shrinkage in the volume of trade was greater than indicated in trade values. Turkish imports in 1940 came principally from Italy, £T11,224,300; Rumania, £T10,806,000; United Kingdom, £T9,665,300; Germany, £T8,083,000; United States, £T7,446,900. Of the 1940 exports, Italy took £T17,951,300; United States, £T15,738,740; Rumania, £T11,987,200; United Kingdom, £T11,550,900; Germany, £T9,686,500.

**Finance.** Ordinary budget estimates for 1940-41 (June 1-May 31) placed receipts at £T268,481,000 (£T261,110,000 in 1930-40) and expenditures at £T268,476,321 (£T261,064,192). In 1938-39, total actual receipts were £T326,783,891 (ordinary, £T257,392,772). Public debt on Mar. 31, 1939, £T619,400,000 (funded, 331,700,000; floating, 287,600,000), compared with £T553,600,000 on May 31, 1938. Average exchange value of the Turkish pound, \$0.8011 in 1938, \$0.8024 in 1939.

**Transportation.** Turkish railway mileage increased from 2533 miles in 1924 to 4578 in 1939; of the 1939 total, 4309 miles were government-

owned. An additional 461 miles of government line were under construction in 1940. Revenue of the State lines in 1938-39 was £T36,486,396; passengers numbered 23,227,908. Direct railway connections with Basra on the Persian Gulf were provided in 1940 with the opening of the last section of the Baghdad-Mosul line in Iraq (q.v.). Highways extended 25,656 miles in 1939. In August, 1939, there were four air services covering 1114 miles of route. During June, 1940, only 343 ships of 849,233 net tons entered the port of Istanbul as compared with 756 of 1,549,246 net tons entered during June, 1939. Istanbul handles about three-fourths of the total shipping trade of the country.

**Government.** The Constitution of Jan. 20, 1921, as amended in 1924 and 1934, vests executive and legislative power in the Grand National Assembly, consisting of 424 deputies elected for four years by universal male and female suffrage. The Assembly exercises executive power through the President, elected for four years by the Assembly, and through the Council of Ministers, chosen by the President. In practise the President wields dictatorial powers. President in 1940, Gen. Ismet Inonu, who was elected to succeed President Kemal Ataturk on Nov. 11, 1938, and re-elected Apr. 3, 1939. The People's party, the only legal political organization, in December, 1938, elected President Inonu as President General of the party for life. The cabinet appointed Jan. 25, 1939, and reorganized Apr. 4, 1939, was headed by Dr. Refik Saydam as Premier.

#### HISTORY

Throughout 1940 the threat of Turkey's involvement in the rapidly spreading European War (q.v.) grew steadily greater. The diplomatic and political bulwarks that Turkey counted upon to strengthen its security and safeguard its independence were shattered one after another. Most important of these bulwarks from the Turkish point of view was the long Soviet-Turkish friendship. This had been weakened during 1939 by the Soviet-German non-aggression pact and subsequent conclusion of Turkish alliances with Britain and France (see YEAR BOOK, 1939, p. 769). Early in 1940 Soviet-Turkish relations came near the breaking point and throughout the remainder of the year Turkish action in dealing with Germany, Italy, and the other European powers was guided primarily by the fear of a Russian attack.

The Turks believed Moscow would seize upon Turkish involvement in the European struggle to regain the districts of Kars and Ardahan on the Caucasus frontier, annexed by Turkey under the Treaty of Brest-Litovsk. Before Hitler took the initiative in the Balkans and blocked Russia's path, the Turks also anticipated a Soviet diplomatic-military drive through Rumania and Bulgaria to gain control of the Straits. This double threat from Moscow held the Turks inactive in the face of developments calculated to bring them into the war on the side of the Allies.

When Italy declared war on Britain and France on June 10, Turkey invoked the escape clause in its Anglo-French alliances and remained "non-belligerent." The Turks refused to budge from their position when Rumania was partitioned and converted into a German vassal and the Balkan Entente (q.v.) nullified. They refused to intervene when German troops poured into Rumania and prepared for the military occupation of Bulgaria; when Mussolini launched his attack upon Turkey's closest ally, Greece; and when Axis in-

fluence infiltrated into Syria, threatening to cut Turkish land communications with the British armies in Palestine and Egypt. However as the Axis menace to the Balkans and Turkey grew, estrangement developed between Germany and Russia that promised to abolish the Soviet threat to Turkey. At the end of 1940, the Turks appeared confident of obtaining Moscow's pledge of non-intervention in a Turkish-Axis conflict. Some Turkish quarters even hoped for Soviet aid against the Axis. This made it probable that the Turks would take a firmer stand against the German advance in the Balkans and the eastern Mediterranean in 1941.

**War Preparations.** Throughout 1940 the Turks repeatedly affirmed their determination to resist any power that attacked their borders, and extensive preparations were made to make good this pledge. Parliament on January 18 conferred far-reaching emergency powers upon the government under a National Defense Law, and these powers were placed in effect February 19. Expenditures for armaments were repeatedly increased. Hours of labor in factories engaged on defense contracts were raised from nine to 12 in the spring. The armed forces were steadily expanded. Plans for Turkish military collaboration with Britain and Greece were worked out. Air raid precautions were taken in Istanbul and other exposed cities. Numerous measures were taken, such as government control of all cereals and cereal prices, to place the economic system on a war basis.

The Turkish war preparations were materially aided by Allied credits and other assistance. An agreement signed with Britain and France Jan. 8, 1940, provided new loans of £25,000,000 and 264,750,000 francs, respectively, of which £25,000,000 was to be spent for armaments in Britain and France. An additional £2,000,000 was set aside to cover overdue payments to British exporters. Another £15,000,000, in gold, was received from the Allies late in January to stabilize the Turkish currency. These subsidies raised to about \$352,000,000 the aid advanced by the Allies in consideration of the Turkish alliance of Oct. 19, 1939. On Feb. 3, 1940, Turkey also concluded an advantageous trade agreement with Britain. Another Anglo-Turkish financial and economic accord was announced December 4.

**The Spring Crisis.** With the support of the Allies, Turkey sought early in 1940 to convert the Balkan Entente into an alliance designed to prevent either Soviet, German, or Italian penetration of the Balkans. It also attempted to bring Bulgaria into an agreement on this basis. On February 1 the Turkish Foreign Minister declared that Turkey "is not neutral but merely out of the war" and that it was "necessary to take all measures to prevent the flames from spreading." Rumania and Yugoslavia, however, were under strong pressure from the Axis and rejected the Turkish suggestion. The Turks took independent action on February 8 to curb German activities in Turkey. The German-owned Krupp shipyards on the Bosphorus were seized without warning and on February 9 100 German technicians employed in Turkish armament industries were dismissed.

Immediately afterward heavy reinforcements reached the Anglo-French armies in the Middle East and an acute crisis developed between Turkey and the Soviet Union. Moscow apparently feared that the Allies were preparing to cut off German oil supplies by a drive into the Russian Caucasus through Turkey, while the Turks feared a Soviet

attack. On February 21 hundreds of Russian technical experts employed in Turkish industries under a Soviet-Turkish agreement were suddenly called back to Moscow. Soviet trade and economic agencies in Turkey were closed. There were troops concentrations and some incidents along the Caucasus frontier, and on February 24 the Turkish Supreme Defense Council declared a state of emergency throughout the country. This crisis was tided over, apparently as a result of Turkish assurances to Moscow that Turkey would not enter the war on the side of the Allies without Russian consent.

Another Soviet-Turkish crisis developed in June when Moscow served its ultimatum on Rumania (q.v.). The Turks sent a naval squadron into the Black Sea on June 27 and made intensive preparations to meet an anticipated Soviet demand for control of the Straits. This situation was reversed when Rumania aligned itself with Germany and German troops entered Rumania, blocking a Soviet advance into Bulgaria and Turkey. Negotiations were opened for healing the breach between Moscow and Ankara, and these discussions were facilitated by Japan's adherence to the Axis on September 27. In view of the lessening of the Soviet threat, and the resurgence of British military and naval power in the Mediterranean area toward the end of the year, the Turks firmly resisted German diplomatic efforts, aided by economic inducements, to detach them from their British alliance and obtain their peaceful acceptance of the Axis-dominated "new order" in Europe.

See AFGHANISTAN, BULGARIA, GERMANY, GREAT BRITAIN, GREECE, IRAN, IRAQ, RUMANIA, SYRIA AND LEBANON, and UNION OF SOVIET SOCIALIST REPUBLICS, under *History*; COMMUNISM; EARTHQUAKES.

**TURKMENIAN SOVIET SOCIALIST REPUBLIC.** See UNION OF SOVIET SOCIALIST REPUBLICS under *Area and Population*.

**TURKS AND CAICOS ISLANDS.** See JAMAICA.

**TUTUILA.** See SAMOA.

**TVA.** See TENNESSEE VALLEY AUTHORITY.

**TYPOGRAPHICAL UNION,** International. See AMERICAN FEDERATION OF LABOR.

**TYPOGRAPHY.** See NEWSPAPERS AND MAGAZINES.

**UBANGI-SHARI.** See FRENCH EQUATORIAL AFRICA.

**UGANDA.** A British protectorate in East Africa. Area, 93,981 square miles; population (1939), 3,745,165, including 3,725,798 natives, 17,256 Asiatics, and 2111 Europeans. Education (1938): 269,343 students attending schools of all kinds.

**Production and Trade.** Chief products: cotton (1,318,522 metric tons of cotton and 85,042 long tons of cottonseed exported during 1939), coffee, sugar, hides and skins, salt, tin, gold (15,281 oz. valued at £118,139 in 1939). Livestock (1937): 2,609,146 cattle, 2,541,077 goats, 1,405,549 sheep. Uganda and Kenya form a single unit for customs purposes. Trade (1939): imports (Kenya and Uganda), £8,942,436; exports (Uganda only), £3,956,047. In addition to the above there is an interchange of imported and locally produced goods among Kenya, Tanganyika, and Uganda.

**Government.** Finance (1938): revenue, £1,863,863; expenditure, £2,060,199; public debt, £2,235,600. The protectorate is administered by a governor who is aided by an executive council of 7 members, and a legislative council of 10 members (6 official and 4 nominated unofficial). Gover-



nor, Sir Charles Dundas (appointed July, 1940).

**History.** European and native troops from Uganda participated in the fighting along the Kenya-Italian East Africa frontier following Italy's entrance into the European War in 1940 (see *EUROPEAN WAR under Campaigns in Africa*). The war also brought about increased political and economic co-operation among Kenya, Tanganyika, and Uganda and the other British East African colonies. See *KENYA under History*.

**UKRAINIAN NATIONALIST MOVEMENT.** See *POLAND under Situation in Russian Poland*.

**UKRAINIAN SOVIET SOCIALIST REPUBLIC.** See *UNION OF SOVIET SOCIALIST REPUBLICS under Area and Population*.

**ULSTER.** See *IRELAND, NORTHERN*.

**UN-AMERICAN ACTIVITIES.** See *DIES COMMITTEE*.

**UNEMPLOYMENT.** See *LABOR CONDITIONS; LABOR LEGISLATION; WORK PROJECTS ADMINISTRATION*.

**UNEMPLOYMENT INSURANCE AND COMPENSATION.** See *LABOR LEGISLATION; SOCIAL SECURITY BOARD; ALASKA AND CANADA under History*.

**UNFAIR TRADE PRACTICES.** See *FEDERAL TRADE COMMISSION*.

**UNFEDERATED MALAY STATES.** See *BRITISH MALAYA*.

**UNICAMERAL LEGISLATURE.** See *NEBRASKA*.

**UNION ISLANDS (TOKELAU).** See *NEW ZEALAND under Area and Population*.

**UNION NOW.** Federal Union, Inc. (formerly Inter-democracy Federal Unionists), Union House, 10 East 40th Street, New York City, sprang up early in 1939 to work for a union of free peoples, the nucleus of a democratic world government, as outlined by Clarence K. Streit in his book, *Union Now*, which suggested that a beginning be made by a federal union of the United States, United Kingdom, France, Eire, Canada, Australia, New Zealand, Union of South Africa, Norway, Sweden, Denmark, Netherlands, Belgium, Switzerland, and Finland.

Delegates of several local "committees of correspondence" met at Union House (then a two-room apartment), July 15, 1939, and set up national organizing and executive committees. A monthly magazine (now *Federal Union World*) already had appeared. A speakers' bureau was established.

The three major radio networks had invited Mr. Streit to speak. The Carnegie Endowment had distributed 1000 copies of *Union Now* to editors and international relations groups in universities. Speaking engagements carried Mr. Streit from coast to coast on the first of several long tours. Leading magazines brought home to millions the responsibility of unrestricted national sovereignty for an ungoverned world.

Early in 1940, the American Institute of Public Opinion estimated that 2,000,000 United States voters favored "Union Now" and 4,000,000 more a European federation.

The actual paid membership numbered approximately 5000 in December, 1940. There were also 60 chartered local chapters. Obviously, the principle of international federation—not new, but given an unprecedented impetus by "Union Now"—continues to run far ahead of organizational effort; and nothing comparable to federation, in prestige and proved efficiency, is being discussed

anywhere as a means of re-implementing international order.

By the close of June, 1940, Hitler had reduced the "original fifteen" democracies mentioned by Streit in his *Union Now*, to seven. Accordingly, Mr. Streit in July, 1940, launched a daring advertising campaign with a full page in *The New York Times*. These advertisements urged immediate provisional union with Britain and included a "Declaration of Inter-dependence." Thousands of "signers of the Declaration" came forward, and thousands of contributions were received. No money is accepted from any foreign source. Since Oct. 29, 1940, the proposal of immediate provisional union with the democracies of the British Commonwealth of Nations has been the official short-term policy of Federal Union, Inc.

Radio time was secured for a series of broadcasts by Robert Sherwood, Edmond Taylor, John Balderston, Clare Boothe, William Jay Schieffelin, Madame Genevieve Tabouis and other notables. Subsequently, addresses by Andre Maurois and Lewis Mumford, among others, were transcribed. By December, 1940, over 60 stations in 31 different States were devoting free sustaining time to this series.

A second book by Clarence Streit, *Union Now with Britain*, was announced by Harper's for early 1941 publication. Federal Union's first organized financial campaign, with a \$250,000 goal, was also announced, just before the close of 1940.

Officers of Federal Union, Inc., include Clarence K. Streit, chairman; E. W. Balduf, director; P. F. Brundage, secretary; John Howard Ford, treasurer; A. J. G. Priest of Reid and Priest, counsel. National Committee: Frank Aydelotte, P. F. Brundage, Russell Davenport, Henry S. Dennison, James E. Downes, Mrs. Richard T. Fisher, John Howard Ford, Mrs. Thomas W. Lamont, Gordon Mannerstedt, Arnaud C. Marts, Mrs. Grenville D. Montgomery, David S. Muzzey, Walter W. Pettit, A. J. G. Priest, Melvin Ryder, William Jay Schieffelin, and Clarence K. Streit. Nearly 200 distinguished men and women comprise the Council of Advisers.

Similar, wholly independent organizations exist in Great Britain, Eire, Canada, Australia, New Zealand, Argentina, and Switzerland.

**UNION OF SOUTH AFRICA.** See *SOUTH AFRICA, UNION OF*.

**UNION OF SOVIET SOCIALIST REPUBLICS (U.S.S.R.).** A state comprising the greater part of the former Russian Empire. Capital, Moscow.

**Area and Population.** The area as of Aug. 31, 1939, was about 8,200,000 square miles (73 per cent in Asia and 27 per cent in Europe). The census of Jan. 17, 1939, showed a population of 170,467,186 (88,802,205 females and 81,664,981 males), compared with 147,027,915 at the 1926 census. The urban population at the 1939 census was 55,909,908; rural, 124,557,278. In addition, there were added to the U.S.S.R. through the annexation of eastern Poland in September, 1939, about 75,650 square miles of territory and some 12,800,000 inhabitants, according to Soviet estimates, divided as follows: Western Ukraine, 41,650 square miles and 8,000,000 inhabitants; Western White (Byelo) Russia, 34,000 square miles and 4,800,000 inhabitants.

At the beginning of the European War, the Soviet Union was composed of 11 Union Republics which in turn included 22 autonomous republics and 9 autonomous provinces as well as lesser sub-

divisions. The various autonomous units represented the principal national groups in the Union, of which there were nearly 200. The subsequent addition of five members brought the number of the union republics up to 16. The five new members were formed mainly out of freshly acquired territories. For capitals, areas and populations of the 16 union republics, see accompanying table U.S.S.R.: *Constituent Republics and Populations*.

#### U.S.S.R.: CONSTITUENT REPUBLICS AND POPULATIONS

Republics	Capitals	Sq Kilometers	Populations
1.—Created before 1939			
Russian S.F.S.R. . . . .	Moscow	16,510,500	109,278,614
White (Byelo) Russian S.S.R. . . . .	Minsk	234,800	10,300,000
Ukrainian S.S.R. . . . .	Kiev	533,300	38,900,000
Azerbaijan S.S.R. . . . .	Baku	86,000	3,209,727
Uzbek S.S.R. . . . .	Tashkent	378,300	6,282,446
Armenian S.S.R. . . . .	Erevan	30,000	1,281,599
Georgian S.S.R. . . . .	Tbilisi	69,600	3,542,289
Turkmenian S.S.R. . . . .	Ashkhabad	443,600	1,253,985
Tadjik S.S.R. . . . .	Stalinabad	143,900	1,485,091
Kazakh S.S.R. . . . .	Alma Ata	2,744,500	6,145,937
Kirghiz S.S.R. . . . .	Frunze	196,700	1,459,301
2.—Created 1939-40			
Karelo-Finnish S.R. . . . .	Petrozavodsk	196,000	463,100*
Moldavian S.S.R. . . . .	Tiraspol	52,900	3,200,000
Latvian S.S.R. . . . .	Riga	65,791	1,950,000
Lithuanian S.S.R. . . . .	Vilna	52,822	2,880,000
Estonian S.S.R. . . . .	Tallinn	47,549	1,120,000

\* Without estimate of inhabitants remaining in ceded Finnish area

The populations of the 29 leading cities at the 1926 and 1939 censuses, with the percentage increases for that period, were as follows:

#### POPULATIONS OF CITIES. 1926 AND 1939

City	Dec. 17, 1926	Jan. 17, 1939	1939 in % of 1926
Moscow . . . . .	2,029,425	4,137,018	203.9
Leningrad . . . . .	1,690,065	3,191,304	188.8
Kiev . . . . .	513,637	846,293	164.8
Kharkov . . . . .	417,342	833,432	199.7
Baku . . . . .	453,333	809,347	178.5
Gorky . . . . .	222,356	644,116	289.7
Odessa . . . . .	420,862	604,223	143.6
Tashkent . . . . .	323,613	585,005	180.8
Tbilisi . . . . .	294,044	519,175	176.6
Rostov-on-Don . . . . .	308,103	510,253	165.6
Dnepropetrovsk . . . . .	236,717	500,662	211.5
Stalino . . . . .	174,230	462,395	265.4
Stalingrad . . . . .	151,490	445,476	294.1
Sverdlovsk . . . . .	140,300	425,544	303.3
Novosibirsk . . . . .	120,128	405,589	337.6
Kazan . . . . .	179,023	401,665	224.4
Kuibyshev . . . . .	175,636	390,267	222.2
Saratov . . . . .	219,547	375,860	171.2
Voronezh . . . . .	121,612	326,836	268.7
Yaroslavl . . . . .	114,277	298,065	260.8
Ivanovo . . . . .	111,460	285,069	255.8
Archangel . . . . .	76,774	281,091	366.1
Omsk . . . . .	161,684	280,716	173.6
Chelyabinsk . . . . .	59,307	273,127	460.5
Tula . . . . .	155,005	272,403	175.7
Minsk . . . . .	131,803	238,772	181.2
Vladivostok . . . . .	107,980	206,432	191.2
Stalinak . . . . .	3,894	169,538	4,353.8
Kirov . . . . .	62,097	143,181	230.6

**Education.** During the two decades ending in 1937, illiteracy was reported to have declined from 67.7 per cent to less than 8 per cent. In the academic year 1940-41, pupils attending elementary and secondary schools numbered about 36,765,000. There were about 1,200,000 students in technical schools and workers' faculties; about 1,800,000 children in nurseries and kindergartens, exclusive of 5,700,000 children placed in collective farm nurseries and kindergartens during harvest season; and 550,000 or more students in 781 universities and colleges. In the spring of 1938, 106,700

students were graduated from schools of higher education and 160,000 new students enrolled in universities. There were 563,000 teachers appointed to elementary and secondary school positions in the R.S.F.S.R. alone in 1938. Education is a charge against each of the 16 Union Republics and against the localities concerned. Expenditures on education, 23,326 million rubles for 1940, exceeded by one-eighth those for 1939.

**Production, etc.** In the Soviet Union transport and communications are conducted as Federal departments. Banking is centralized in a State Bank under government control. Distribution is socialized, with retail trade in the cities conducted mainly by local administrative bodies and in the villages by consumer co-operatives. Industrial production is carried on largely by State enterprises, operating under the general direction of appropriate Commissariats (government departments). A State Planning Commission (Gosplan) plots the objectives for each year and for five-year periods. An Economic Council acts as a co-ordinative body. An organization in the Commissariat of State Control checks and supervises results.

State planning is an essential of Soviet economy. The planning system is designed to direct and co-ordinate the employment of the energies and resources of the country for orderly development. The planning system, however, goes beyond the economic field. It includes science, education, public health, and the extensive social services designed to safeguard the welfare and security of the citizenship.

Under this system the work of Gosplan has assumed a position of primary importance. Its personnel in Moscow includes a considerable number of permanent specialists re-enforced by consultants who are authorities in every field. Under the central body each Constituent Republic has its Gosplan, and there are subordinate planning boards in the various cities.

The third Five-Year Plan (see 1938 YEAR BOOK for programs of first and second Five-Year Plans) was begun Jan. 1, 1938. Schedules for the first year envisaged an increase in the industrial output of 155 per cent and commensurate increases in other lines.

**Industry.** Year-to-year increase in industrial production was thus reported: 1939, 14.7 per cent; 1938, 11.3; yearly total industrial production, 137½ billion rubles for 1940, as against 95½ for 1937. Output of 162 billions was intended for 1941. The output of the chief industries in 1938 was: Electric power, 132,600,000,000 kilowatt-hours; coal, 132,900,000 metric tons; peat, 26,450,700 metric tons; oil, 32,230,000 metric tons; pig iron, 14,600,000 metric tons; steel, 17,700,000 metric tons; cement, 5,696,000 metric tons; trucks, 184,000 units; tractors, 32,200 units; cotton cloth, 3,491,000,000 meters; woolen goods, 114,000,000 meters; footwear, 213,000,000 pairs; sugar, 2,500,000 metric tons. Average daily carloadings were 88,000 cars. For comparative figures for 1935, 1936, and 1937, see 1938 YEAR BOOK, p. 737.

**Agriculture.** Since 1928 the structure of agriculture has been completely reorganized. The small, individual peasant holdings, averaging 12 to 14 acres, have in large measure given way to large-scale collective farms in which the peasants pool their acreage. (Each collective farm family, however, has its own garden plot and domestic farm animals.) This new set-up has made possible better organized methods of production with a high degree of mechanization. The transition was

effected largely during the years 1929-33. In 1929 less than 4 per cent of the peasant households were represented in the collective farms; by Jan. 1, 1938, the percentage had risen to 93.5. There were 244,000 collective farms averaging about 1200 acres in 1938. Some 800,000 peasant households still worked individual holdings. In addition, large State farms operated about 12 per cent of the sown area.

For 1940 the total area sown to crops was reported as 152,662,000 hectares; the harvest of grain, as 121,600,000 metric tons. For comparison with earlier years, see accompanying table *Sown Area and Grain Harvest*.

#### SOWN AREA AND GRAIN HARVEST

	Area of all crops (hectares*)	Area of grain crops (hectares*)	Grain production (metric tons)
1913 . . .	105,000,000	94,400,000	80,100,000
1931 . . .	136,300,000	104,400,000	69,480,000
1936 . . .	133,800,000	102,400,000	82,700,000
1937 . . .	135,300,000	104,400,000	120,290,000
1938 . . .	139,900,000	102,400,000	94,900,000

\* Hectare equals 2.47 acres.

Grain exports, in metric tons, averaged 10,553,000 annually for the years 1909-13 and were 5,057,000 in 1931, 332,000 in 1936, 1,278,000 in 1937, and 2,080,000 in 1938.

#### PRINCIPAL INDUSTRIAL CROPS

		1936	1937	1938
Cotton	met tons	778,100	854,600	840,000
Sugar beets	do	16,830,000	21,860,000	16,680,000
Flax	do	580,000	570,000	546,000

The backbone of mechanization in Soviet agriculture is furnished by the machine and tractor stations, each of which serves collective farms within its area. These stations grew from 158 in 1930 to 6350 in 1938. The number of tractors on farms increased from 66,332 in 1929 to 483,500 in 1938; the number of combines, from 45 in 1929 to 153,500 in 1938.

**Transportation.** Length of railway lines in 1937 was 53,700 miles, nearly 50 per cent greater than in 1913. Railway freight carried in 1940 was reported to have attained 409 billion ton-kilometers; passengers, 1,178,000,000 persons. The length of Soviet air lines in 1937 was 79,250 miles; in that year they carried 235,000 passengers and 46,900 metric tons of mail and freight. See *ROADS AND STREETS* for highways. The length of inland waterways is about 248,000 miles, of which 65,826 miles are navigable. In 1938 they carried 66,600,000 metric tons of freight (66,900,000 in 1937).

**Shipping.** The Soviet merchant marine had a gross tonnage of 1,280,900 on June 30, 1938 (1,258,200 on June 30, 1937). The total freight carried (including coastwise freight) amounted to 35,500,000 metric tons in 1937. See *SHIPPING*.

**Foreign Trade.** The Soviet Union exported to the United States, in the calendar year 1940, merchandise to the value (U.S.) of \$22,274,000 and imported from the United States \$82,092,000. The Soviet Union's total yearly exports and imports of 1938 and earlier appear in an accompanying table. Foreign commerce in the Soviet Union is a governmental monopoly exercised by the Commissariat of Foreign Trade which maintains trading agencies abroad. Imports and exports are regulated in accordance with the country's system of planned economy.

Exports and imports of 1938, to and from chief

countries: Great Britain, 375,124 and 240,309 thousand rubles, respectively; United States, 96,749, and 405,858; Germany, 88,327 and 67,193; China (except Mongolia), 44,148 and 68,461; Netherlands, 92,848 and 102,535.

#### SOVIET FOREIGN TRADE

Year	Imports (1,000 rubles*)	Exports (1,000 rubles*)	Imports (\$1,000 <sup>b</sup> )	Exports (\$1,000 <sup>b</sup> )
1935 . . .	1,057,200	1,609,300	209,264	318,534
1936 . . .	1,352,535	1,359,104	270,507	271,821
1937 . . .	1,341,255	1,728,634	268,251	345,727
1938 . . .	1,422,882	1,331,927	261,757*	250,751

\* In rubles nominally equal to 20 U.S. cents. <sup>b</sup> U.S. currency dollars. \* Provisional

**Finance.** In a country as highly socialized as the Soviet Union the growth of the budget reflects to a large extent the degree of economic progress. The first "firm" budget, that of 1924-25, balanced at 32,700,000 rubles. For the calendar year 1941, in millions of rubles, revenue was estimated at 216,200 and expenditure at 215,400, including 70,900 for defense; for 1940, revenue at 183,954, expenditure 179,913, defense 57,066; for 1939, revenue 155,607, expenditure 153,100, defense 40,885. The State Bank, only bank of issue and center of the financial system, had 16,000,000 depositors with deposits of 4,500,000,000 rubles on Dec. 1, 1937.

**Government.** Under the Constitution of 1936 supreme political power is vested in the Supreme Soviet of the U.S.S.R., meeting twice a year, and elected for a period of four years by universal direct suffrage and with secret ballot. The Supreme Soviet consists of two legislative chambers with equal rights. The two chambers in joint session elect a Presidium of the Supreme Soviet consisting of 37 members, including a president, 16 vice-presidents, and a secretary, with wide administrative powers between sessions of the Supreme Soviet, including ratification of treaties and declaration of a state of war. The Presidium supervises the work of the Council of the People's Commissars, selected by the Supreme Soviet, which acts as the executive and administrative organ of the State.

Generally considered the most powerful personality in Russia, Joseph Stalin, general secretary of the Communist party of the U.S.S.R., is a member of the Presidium of the Supreme Soviet and of the Supreme Military Council. The Communist party is the only legal political party, and all candidates for elective office must have its approval. The Council of People's Commissars (All-Union) was composed as follows at the end of 1940: Chairman and Commissar for Foreign Affairs, Viacheslav M. Molotov; vice-chairman, also chairman of the Defense Committee, Klementi E. Voroshilov; Commissar of Defense, Semyon Timoshenko; Foreign Trade, Anastase I. Mikoyan; Railways, Lazar M. Kaganovich; Communications, Ivan T. Peresipkin; Sea Transport, Semen S. Dukelsky; River Transport, Zosim A. Shashkov; Electric Power Stations, Andrei Letkov; Electrical Industry, Vassili Bogatyrov; Ferrous Metallurgy, Ivan Tevosyan; Non-Ferrous Metallurgy, Petr Lomako; Chemical Industry, Mikhail F. Denisov; Aeronautical Industry, Shakhurin; Shipbuilding, Ivan Nosenko; Munitions, Ivan P. Sergeyev; Armaments, Boris L. Vannikov; Heavy Machine Building, Alexander Efremov; Medium Machine Building, Ivan A. Likhachev; General Machine Building, Peter I. Parshin; Navy, Niko-

Iai G. Kuznetsov; Procurement, Sergei E. Skrinikov; Construction, Semen Z. Ginzburg; Oil Industry, Ivan Sedin; Coal Industry, Vasily V. Vakhrushev.

Other People's Commissars and officials were: Food, Vassili P. Zotov; Fisheries, Alexander Ishkov; Meat and Dairy Products, Pavel V. Smirnov; Light Industry, Sergei G. Lukin; Textiles, Ilya Akimov; Timber, Fedor Sergeyev; Agriculture, Ivan A. Benediktov; State Grain and Livestock Farms, Pavel P. Lovanov; Finance, Arseni G. Zverev; Trade, Alexander Lubimov; Internal Affairs, Lavrenti P. Beria; State Security, Fedor Merkulov; Justice, Nikolai Richkov; Public Health, Georgi A. Miterev; Building Materials, Leonid A. Sosnin; Paper and Cellulose, Nikolai Cheboratev; Chairman of the Presidium of the Supreme Soviet, Mikhail Kalinin; Chairman of the State Planning Commission, Saburov; Chairman of the State Bank Administration, Nikolai Sokolov; Commissar of State Control, Lev Mekhlis; Chairman of the Supreme Court, Ivan T. Golyakov; Procuror, Victor Bochkov.

### HISTORY

**Russia and the European War.** The year 1940 witnessed a gradual transformation in Soviet foreign policy from active diplomatic and economic collaboration with Germany to indirect opposition and veiled hostility. This change was dictated by the world-shaking military and political developments in Europe that left Hitler the virtually undisputed master of the Continent; also by the extension of the Rome-Berlin military alliance on September 27 to include Tokyo. Moscow was thus faced with the danger of a concerted attack by Germany and Japan, supported by Italy and other Fascist powers, once Britain was defeated. Moreover the Axis advance in the Balkans, which made rapid headway after the German victories on the Western Front, excluded the Soviet Union from an area traditionally under strong Russian influence, and threatened to block Russia's outlet to the Mediterranean through the Straits.

These developments led Moscow during the latter half of 1940 covertly to encourage Balkan resistance to Nazi Germany's "new order" in Europe, while continuing limited economic co-operation with the Reich. The Soviet Government sought, without openly antagonizing Hitler, to prolong the European conflict and thus weaken Germany and Britain so that neither could threaten Russia nor effectively oppose the expansion of communism.

**The Allied Threat.** As a result of the German-Soviet non-aggression pact of Aug. 24, 1939, the Soviet Government early in 1940 found itself in imminent danger of embroilment with the Allies. By the Soviet-German pact, Moscow had succeeded in diverting German military power westward against Britain and France. It had seized half of Poland without participating in the European conflict, and had obtained from Hitler the free hand for expansion in the Baltic States that the Allies had been unwilling to grant. With German assent, the Russians had extorted Baltic naval and air bases from Estonia, Latvia, and Lithuania and made similar demands upon Finland. Finland's rejection of these demands provoked the Russian invasion beginning Nov. 30, 1939 (see *YEAR BOOK*, 1939, p. 773 f.). The Russo-Finnish War, which revealed unexpected weaknesses in Soviet military organization and leader-

ship, was still in progress at the beginning of 1940.

Hoping to obtain a foothold in Scandinavia for a flank attack upon the Reich, as well as to check Soviet expansion to the North Atlantic, the Allied Governments early in 1940 attempted to secure Norwegian and Swedish consent to the dispatch of an expeditionary force to aid Finland. They also sent substantial quantities of war supplies to the Finns. At the same time, the Allies brought pressure upon Russia, which constituted the greatest leak in the Allied blockade of Germany, to curtail shipments of food, oil, and other vital supplies to the Reich. Moreover strong Anglo-French forces were concentrated in Syria, Palestine, and Egypt. Moscow feared that these forces might, with Turkish support, launch a drive into the Caucasus oil fields in order to cut off Soviet oil shipments to Germany.

**Peace with Finland.** The danger of being forced into a reluctant war partnership with the Reich explained Moscow's readiness to end the struggle with Finland, even after the shattering of the Mannerheim Line had exposed the exhausted Finnish armies to complete destruction (see *EUROPEAN WAR under The Finnish Campaign; FINLAND under History*).

The peace treaty of March 12 gave the Russians the strategic positions and bases they had previously demanded from Finland, as well as several slices of Finnish territory. With the exception of a small area added to Leningrad, this newly acquired territory on Mar. 31, 1940, was added to the Karelian Soviet Socialist Republic. The latter republic was then renamed the United Karelo-Finnish Socialist Republic and raised to the status of a constituent member of the Union. The so-called Terijoki Government, the puppet regime recognized by Moscow on Dec. 1, 1939, as the government of all Finland, was repudiated for the time being. However the Soviet Government demonstrated by its subsequent pressure upon Finland (q.v.) that it had not abandoned hope of bringing the entire country under Soviet domination.

**Effect of German Victories.** The Soviet press justified the German invasion of Denmark and Norway in April, since this ended the threat of Allied intervention in Scandinavia and temporarily exposed Finland to the full weight of Soviet pressure. Moscow likewise tacitly approved of the German attack upon the Low Countries in May. But the sensational German victories in Belgium and France, the collapse of France, and the prospect of an early British capitulation shattered the Kremlin's belief in a long and exhausting Allied-German struggle. The quick German triumph eliminated all danger to the Soviet Union from the Allies for the time being. But it confronted Moscow with an all-powerful Reich, free to employ formidable armies for the "drive to the east" that Hitler had forecast in *Mein Kampf*. All the small anti-Soviet States of eastern and northern Europe—Finland, Slovakia, Hungary, Rumania, Bulgaria, and even Sweden—openly or tacitly threw in their lots with Germany to avoid the fate of Norway, the Netherlands and Belgium and as an alternative to acceptance of Soviet "protection" and domination.

**Rumanian Territories Annexed.** The Soviet Government hastened to seize the seemingly short interval before British resistance would be crushed to improve its strategical and military defenses against the Reich. Initiation of the Franco-German armistice on June 25 was followed immediately by a Soviet ultimatum to Rumania, de-

manding the return of Bessarabia and the cession of Northern Bukovina. The Rumanian Government, fearing a simultaneous attack by Hungary and Bulgaria, yielded on June 28. On July 1 Russian troops occupied the ceded territories.

In some places the Red Army pressed beyond the boundaries of the newly occupied provinces. Clashes with Rumanian forces took place and Soviet occupation of the entire kingdom appeared imminent. This was averted by the establishment of a Nazi regime in Rumania and by German, Italian, and Hungarian opposition to a further Russian advance, confirmed later by an Axis guarantee of the new Soviet-Rumanian frontier. Thus in Rumania German and Soviet ambitions came into open collision for the first time since the conclusion of the Soviet-German pact. See *RUMANIA under History*.

The major part of Bessarabia was merged with the Moldavian Autonomous Soviet Socialist Republic on August 2 to form the Moldavian Soviet Socialist Republic. The remainder of Bessarabia, together with Northern Bukovina, was incorporated in the Ukrainian Soviet Socialist Republic.

**Absorption of Baltic States.** Meanwhile the Soviet Government proceeded with the subjugation of the Baltic States—Estonia, Latvia, and Lithuania—for which the groundwork had been prepared in the autumn of 1939. Demands for the free passage of Russian troops and the formation of pro-Soviet governments were made on June 16-17. Without waiting for acceptance of these demands, the Red Army overran the three unresisting countries. Communist-dominated governments were set up which repressed all anti-Soviet elements and on July 14-15 held controlled elections. These produced pro-Soviet parliaments, pledged to the incorporation of the three republics into the Soviet Union. Lithuania, Latvia, and Estonia were admitted into the U.S.S.R. as constituent republics by decrees of August 3, 5, and 6 respectively. In September, all three republics were merged into one military district. See *ESTONIA, LATVIA, and LITHUANIA, under History*, for full details.

**Negotiations with Britain and United States.** These territorial annexations by the Soviet Union inflamed anti-Soviet sentiment in Britain and the United States, and produced new tensions in their relations with Moscow. Both countries "froze" the securities owned by the subjugated Baltic countries and their citizens, and detained some 40 ships under Estonian, Latvian, and Lithuanian registry, which were in British and American ports at the time of the Russian military occupations.

Acting Secretary of State Sumner Welles on July 22 publicly denounced the Soviet Government's action, declaring that the independence and territorial integrity of the Baltic countries had been "deliberately annihilated" by "devious processes." Premier Molotov responded on August 1 by attacking the "freezing" of Baltic properties in the United States as illegal. Reaffirming Russia's claim to all Baltic properties, he accused the United States of "imperialist designs" on British and other European possessions in the Americas.

Despite their suspicion and hostility toward Soviet policy, both the British and American governments sought to win Soviet co-operation in restraining further German expansion in the Balkans and Japanese expansion into Southeastern Asia. These discussions were carried on throughout the latter part of the year in Moscow, Washington, and London without producing decisive re-

sults beyond Russia's refusal to accept Hitler's offer of full participation in the Axis program for a new world order. See *GREAT BRITAIN under History*.

Meanwhile on August 6 the Soviet-American commercial agreement of Aug. 4, 1937, was extended for still another year. The Soviet Government undertook to purchase American goods to the value of at least \$40,000,000 during the ensuing 12 months. The United States reserved the right to restrict export of items needed in connection with its rearmament program. However Washington subsequently permitted the export to Russia of some machine tools and also authorized the chartering of some American tankers to the Soviet Government.

**Axis Inducements.** Germany and Japan entered into competitive bidding with Britain and the United States for Soviet diplomatic and economic support. The Germans offered territorial concessions to Russia, reportedly at the expense of Turkey, Iran, Afghanistan, and the British Empire, for Soviet co-operation or neutrality during an Axis drive into the Balkans and during a Japanese attack upon British, French, and Dutch possessions in Southeastern Asia. The German offer was reinforced by the shifting of a large part of the German army from Western Europe to Rumania during October. The Russo-German negotiations were climaxed by the visit of Premier Molotov to Berlin at Hitler's invitation on November 12-14. For the Russo-Japanese negotiations, see *CHINA and JAPAN under History*.

Subsequent developments indicated that the Soviet leaders had refused to commit themselves to participation in the Axis program, beyond some intensification of economic interchange agreed upon in a new trade pact signed late in the year. At the same time agreement was reached for the transfer to Germany of the remaining German-speaking inhabitants of the Baltic States and for the exact definition of the Russo-German border from the Baltic to the Hungarian frontier. In December Berlin officials declared Soviet-German trade had regained the 1930 peak.

The true state of Axis-Soviet relations was reflected more accurately in the Soviet diplomatic intervention in Sofia in November to prevent Bulgarian adherence to the Axis, the encouragement given the Turks by Moscow to resist German pressure, and the announcement in December that there would be no change in Soviet support of the Chinese Nationalist cause (see *BULGARIA and TURKEY under History*).

**War Preparations.** While seeking to avoid involvement in the European War by playing off the rival capitalist and Fascist powers against one another, the Soviet Government made feverish preparations both for further territorial expansion and for defense against a possible "capitalist" attack. On the 23rd anniversary of the Bolshevik revolution on November 7, the Soviet War Commissar, Marshal Timoshenko, declared that while the Soviet Union had extended its borders "we cannot be contented with what has been achieved." Another call for "eternal vigilance," greater armaments and improved discipline as the direct path to world communism came from President Kalinin of the Supreme Council of the Soviet Union. He described the Soviet Union as a "besieged fortress" covering one-sixth of the world, with the remaining five-sixths controlled by "our principal and irreconcilable enemies."

Extraordinary measures were taken to remedy

the defects in the Red Army revealed by the Finnish war, to increase production of military and other supplies, and to tighten the discipline of the Communist party and of both the military and civilian populations. The election of some 600,000 local and minor officials of the Communist party in February and March gave Joseph Stalin and his adherents a further opportunity to weed out lukewarm supporters and anti-Stalinists (see COMMUNISM under *Changes in Soviet Union*). A decree of April 7 provided for obligatory deliveries of agricultural crops to the government on the basis of acreage rather than of the area sowed—a step intended to increase production. A reorganization of the Economic Council was undertaken April 17 to spur lagging industries.

On May 8 Marshal Voroshilov was replaced as Defense Commissar by Marshal Semyon Timoshenko and demoted to the post of assistant chairman of the Council of People's Commissars. At the same time the officers of the Red Army and Navy were given enlarged powers, the political commissar system in the armed forces was again abandoned, and "familiarity and false democratization" between officers and men was discouraged. Early in August decrees for the enforcement of stricter labor discipline were issued. The head of the Soviet judicial system ordered the ousting of all judges who did not mete out strict justice to idle, unco-operative and transient workers in Soviet factories. A decree of October 3 inaugurated the annual mobilization for industrial training of more than 800,000 youths "for the purpose of establishing State labor reserves for industry." Despite these measures and many others of a similar character, correspondents and travelers in Russia reported continuance of the disorganization and serious shortages of food and consumers goods that had prevailed in previous years.

See also **AFGHANISTAN, GERMANY, HUNGARY, IRAN, ITALY, POLAND, and SWEDEN** under *History*; **COMMUNISM**; **INDUSTRIAL CHEMISTRY**; **JEWS**; **MOTION PICTURES**.

**UNIONS.** See **AMERICAN FEDERATION OF LABOR**; **CONGRESS OF INDUSTRIAL ORGANIZATIONS**; **LABOR CONDITIONS**.

**UNITARIANS.** A religious denomination, founded in England in the late 18th century, which holds belief in one God in one person as opposed to the Trinity. Headquarters, 25 Beacon Street, Boston, Mass. For statistics, see **RELIGIOUS ORGANIZATIONS**.

**UNITED BRETHREN.** A term used for three religious denominations in the United States, all originating in the evangelistic movement of William Otterbein and Martin Boehm about 1800. The largest body is the Church of the United Brethren in Christ with headquarters in Dayton, Ohio. See **RELIGIOUS ORGANIZATIONS**.

**UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND.** See **GREAT BRITAIN**; **IRELAND, NORTHERN**.

**UNITED STATES.** The area of the United States proper, or the 48 States and the District of Columbia, is 3,026,789 square miles; this excludes open sea and parts of the Great Lakes lying nevertheless within the territorial limits; it does include 53,013 square miles of other waters. The non-contiguous lands subject to the authority of the United States (Alaska, Hawaii, the Philippine Islands—autonomous but not yet independent, the Panama Canal Zone, Puerto Rico, Guam, the Virgin Islands, and American Samoa) comprise 711,-

606 square miles. The combined area of the Union and these lands was 3,738,395 square miles.

#### AREA AND POPULATION OF UNITED STATES, ITS TERRITORIES AND INSULAR POSSESSIONS

Political Division	Area sq. miles	Population (1940 census)	Capital
United States.....	3,026,789	131,669,275	Washington
Alaska*	586,400	72,524 <sup>d</sup>	Juneau
Hawaii*	6,407	423,330	Honolulu
Puerto Rico	3,435	1,869,255	San Juan
Philippine Isls.*	114,400	16,356,000 <sup>e</sup>	Manila
Guam	206	22,290	Agana
Samoa, American	76	12,908	Pago Pago
Panama Canal Zone*	549	51,827	Balboa
Virgin Islands.	133	24,889	St. Thomas
Totals ..	3,738,395	150,502,298 <sup>f</sup>	

\* Territory    <sup>b</sup> Self-governing commonwealth    <sup>c</sup> Leased from the Republic of Panama in perpetuity    <sup>d</sup> Census taken Oct. 1, 1939.    <sup>e</sup> Estimate derived by extrapolation from the census figures for 1918 and 1939    <sup>f</sup> Office of the Governor.    <sup>g</sup> Exclusive of military and naval services, etc., abroad (118, 923)

Note: The United States also possesses, or claims possession of, the following Pacific islands: Baker, Howland, and Jarvis Islands, fringing the equator in mid-Pacific about 1000 miles S.S.W. of Honolulu (U.S. aerologic stations were established on all three islands in 1936 and an emergency airfield on Howland Island in 1937), Johnston Island (q.v.), Midway Islands (q.v.), Palmyra Island (q.v.), and Wake Island (q.v.) Canton Island (q.v.) and Enderbury Island are under joint Anglo-American administration.

The population of the United States (Sixteenth Census) April, 1940: 131,669,275. April, 1930 (Fifteenth Census): 122,775,046. For populations of individual States, see articles on the several States, Territories, and Possessions. For populations of other cities and of urban places of over 5000, see **POPULATION OF THE UNITED STATES**.

The slackening rate of increase in the numbers of the Nation deserved particular note. From 1930 to 1940 the population rose by only 7.1 per cent, as against 16.1 per cent from 1920 to 1930. The rate (1930-40) fell below half that of any previous recorded gain in the decennial census. Only 12 States, five of them in the South, gained at a higher rate than in the previous decade. The shrinkage in the rate of increase particularly affected many States that had made great efforts to aid the less independent of their people by free education and other favoring policies. The approach of an era of stationary or possibly of diminishing population formed a subject of serious though, of course, uncertain prediction.

The Bureau of the Census enumerated the people as to their condition with regard to employment in the last week of March, 1940. Its results, still subject to some alteration, showed a population aged 14 years or over, of 100,972,196. Of these, 52,840,762 were the "labor force" (those at work or seeking it), and of these, 45,350,430 were performing work other than "public emergency work." In "public emergency work" (i.e. occupation provided by the WPA, NYA, and CCC in order to support individuals) were numbered 2,380,062; and those having no work and seeking employment totaled 5,110,270. The remainder of the population 14 years old and over, not apparently at work or seeking it, numbered 48,141,434. Of the "labor force," 39,994,197 were males and 12,846,565 were females; respective numbers in ordinary work, 34,201,490 and 11,148,940; on "public emergency work," 1,947,975 and 432,087; seeking work, 3,844,732 and 1,265,538.

This was the first comprehensive and official census to show the number of the unemployed, over which dispute and conjecture had gone on since the early years of the economic collapse.

**Agriculture.** See **AGRICULTURE** and the articles

there referred to on crops, government agencies, etc.

**Commerce.** See BUSINESS REVIEW; INTERSTATE COMMERCE COMMISSION; TRADE, FOREIGN.

**Communications.** See POST OFFICE; RADIO; TELEGRAPHY; TELEPHONY.

**Defense.** See DEFENSIVE PREPARATIONS; DRAFT, MILITARY; MILITARY PROGRESS; NATIONAL DEFENSE ADVISORY COMMISSION; NAVAL PROGRESS.

**Education.** See EDUCATION; SCHOOLS; UNIVERSITIES AND COLLEGES; and the section on *Education* in the articles on the States.

**Finance.** See PUBLIC FINANCE; TAXATION; and below under *Legislation*.

**Judiciary.** See COURTS; LAW; SUPREME COURT.

**Manufacturing.** See BUSINESS REVIEW; the section on *Manufacturing* in the articles on the States.

**Mineral Production.** See the articles on leading minerals; MINES, BUREAU OF; BUSINESS REVIEW; and the section on *Mineral Production* in the articles on the States. The value of the production of all minerals in the United States was estimated for 1940, by the U. S. Bureau of Mines, as approximating \$5,600,000,000; this exceeded by some 15 per cent the value of 1939's production of \$4,874,000,000. The main subtotals follow: production of metals, \$1,650,000,000 for 1940 (28 per cent above 1939's production of \$1,291,000,000); production of fuels, \$3,100,000,000 for 1940 (10 per cent above 1939's production of \$2,818,600,000); production of other minerals, \$850,000,000 (11 per cent above 1939's production of \$764,400,000).

**States and Territories.** See the separate article on each

**Transportation.** See AERONAUTICS; RAILWAYS; ROADS AND STREETS; SHIPPING.

#### ADMINISTRATION

**General Conditions.** Two occurrences in 1940 greatly affected the conditions of the people's thought, of the social relations, and of economics and thus bore upon the direction of the Nation's course. The first of these occurrences was the German conquest of the greater part of western Europe; the second was the National election. Germany overcame France in June. It was the season at which National campaigns start. The conjunction of these two facts made possible a redirection of public opinion away from the mere familiar record of the New Deal into a fresh and emotionally stirring realm in which many things were to be changed in order to put the country in a posture to meet the conceived peril of a foreign attack.

Features of common thought, while the year shaped itself, were a rising antagonism to Germany, evident, among other ways, in the renewal of a certain good will for Russia, which in early 1940 had been condemned for overpowering and despoiling Finland but which later shone forth as the possible preventer of a German march to the Dardanelles; a ready acceptance, in events at home, of ways strange to a time of literal peace, so far as the Nation was concerned; acquiescence in the much-repeated adjuration that the "American way" must be preserved at all cost; an evaporation of the view, from many minds, that European wars must "never again" involve the United States; a shrinkage of interest in partisan politics; and a less critical attitude among many previously opposing the Governmental policies.

In the social relations the popular antagonism to Communists developed formidably, a number of

States excluding the Communist candidates from the ballot, for the movement came to be viewed as the mainspring of sabotage against the Nation. (See COMMUNISM.) Aliens, too, came under suspicion, being obvious objects for the exercise of rising Nationalist sentiment. The youth of the nation, which had seemingly in previous years lent much attention to the organized and habitually unsatisfied youth movement, fell into step with the rest of the people, accepting with little demur the heavy claim upon it made by the draft. The incidents of class warfare became fewer and, in particular, the labor unions, having an opportunity in the intense efforts of many industries to provide the tools of war, hesitated up to the end of the year to adopt the inviting if dangerous plan of repeating in the armament industries what had been accomplished in manufactories of automobiles and of steel. (See LABOR CONDITIONS.)

In the field of economics times improved consistently, so far as concerned employment. The financing of additions to establishments having contracts for armament, accomplished largely with credit from the Government or its agencies, drew remarkably little upon the resources of the ordinary banks, so that the rates for loans remained, as they had stood for some years, abnormally low by old standards. Whether from the public's loss of ambitions and hopes of enrichment or from uncertainty as to the prospects of it, the markets for securities as a whole responded but mildly to what in certain other respects somewhat resembled a war boom, and the exchanges sold fewer securities than in any of the three previous years. (See BUSINESS REVIEW; FINANCIAL REVIEW.)

The President, President Roosevelt achieved in 1940 two surpassing successes. The more obvious one was his unprecedented election to serve for a third term, shattering the two-term tradition that had withstood two earlier Presidents and had remained inviolate since 1797. Less obvious but perhaps more evidential of his abilities was his safe passage from the role of tribune of the poor against the rich in an often bitter civil strife for the redistribution of the means of living to that of leader of a united people toward utmost preparedness for a possible war with a foreign enemy.

The year's first weighty Presidential utterance, the annual message to the convening session of Congress, was delivered by Mr. Roosevelt on January 3: it contained an exhortation to National unity—a theme that reappeared in his words to the popular ear throughout the year—and also a disavowal, before the fact, of the policy of using the unemployed to produce huge armaments. In the passage on National unity occurred the words: "Doctrines which set group against group, faith against faith, race against race, class against class, fanning the fires of hatred in men too despondent, too desperate to think for themselves, were used as rabble-rousing slogans on which dictators could rise to power. And once in power, they could saddle their tyrannies on whole nations"; such expressions gave newspapers the chance to cite previous words from the same mouth, branding the rich as Tories, copperheads, and economic royalists and comparing their estate with that of an ill-fed, ill-clad, and ill-housed third of the population. Nevertheless it was the new utterance and not the older ones, that won attention. The utterance as to armaments was "We refuse the European solution [for unemployment] of using the unemployed to build up excessive armaments which eventually result in dictatorships." It occurred in the course of



a discussion of the persistence of unemployment, a trouble destined to dwindle later in the year by very reason of the administration's resort to the greatest and quickest practicable increase of armaments. The message as a whole dealt mainly with the conceived effects of the threatened anti-liberal outcome of the war in Europe as likely to disturb the future of the United States, and it preached the need of a united mind for facing the situation. But also, it wove into the newer appeal features of the older Rooseveltian doctrine: the need, by Federal authority, to increase the income of the population was again mentioned; the intent to deal more of this income to the class least provided with it reappeared in the guise of a way to strengthen the Nation against peril from without. In the budget message appeared anew, and on the verge of a season of unparalleled peacetime appropriation and huge increase in taxation, a solicitude for economy: the original budget for the ensuing fiscal year set expenditure \$675,000,000 below the then-estimated total for the fiscal year current and recommended additional taxation to bring in \$460,000,000 for the gradual extinction of the cost, already much beyond normal, of the military and naval establishments; these changes, with the aid of some \$700,000,000 of credit-granting agencies' "excess" of capital funds, to be cross-entered to the Treasury's resources, were to bring the deficit for the fiscal year 1941 down to \$1,716,000,000.

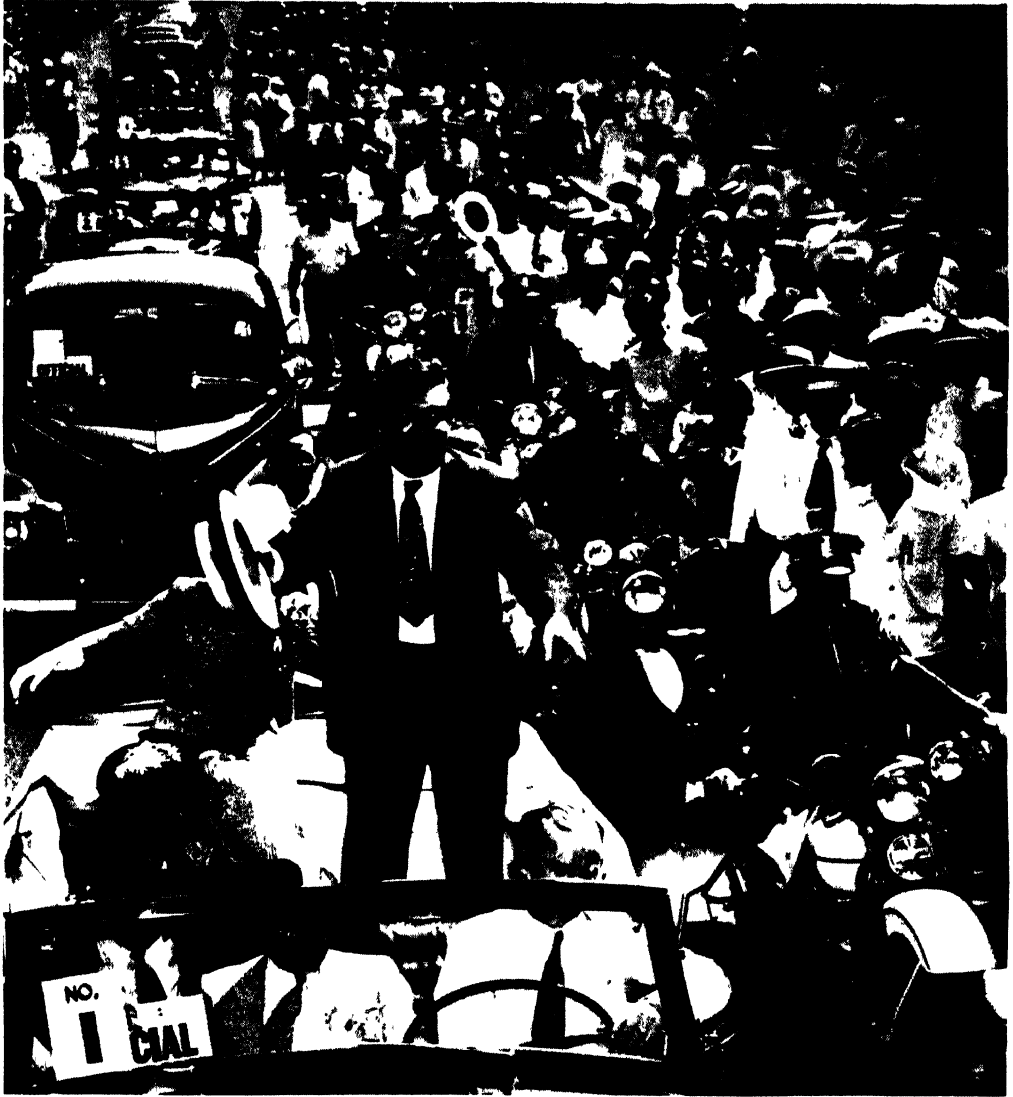
**The President and German Conquests.** In the spring the German army, after many months of a deceptively eventless war of position on the Western Front, started war of movement; by the middle of June it held in unresisted control the western coast of Europe from the Arctic circle to the Spanish border. This overturn of the structure of the European continent, affecting in some degree nearly all of the world's concerns, affected the President's situation and policy as no foreign event had affected any of his predecessors.

It opened to him the possibility or, as many held, the need of his sinking all other roles in the role of defender of the Western Hemisphere; as the alternative, it exposed him to the risk of discredit, should the people conceive him to have done too little in that role or acted not early enough. Such discredit could, in the approaching election, sweep away the whole result of his years in the White House; but to play the newly offered role successfully could well rank him high among the few Presidents to whom fate had dealt a savior's part. The move that would preserve him from the charge of failure to cope with the conceived peril from Europe happened to be the very move to win him general recognition as the central figure in the protection of the United States and the other republics of the New World: he must take the lead in declaring peril and acting against it. Such was the course that he adopted. It involved letting those who had charged him, for over a year, with maneuvering the Nation toward a war play their trump for what it might be worth; it also invited the query, which Republicans duly put in the autumn, why he had not forecast the tempest nor prepared against it before it came near. It also dictated his making an innovation in American government by running and serving for a third term of office, braving not only the explicit condemnation that his own party had once declared for such a course, but also the latent mistrust of a republic for any move toward permanent tenure of supreme office.

Details of the course that Mr. Roosevelt took

in his third-term candidacy will be found in the article ELECTIONS, U.S. NATIONAL. His part in the creation of the policy of increasing armament is set forth in DEFENSIVE PREPARATIONS OF U. S., and in DRAFT, MILITARY. The manner in which the supplying of material of war to Great Britain was effected appears in the present article, under *Foreign Affairs*. Let us note here, however, the relations of the President's steps in these several fields, as to time. On May 16 he spoke to Congress a special message beginning, "These are ominous days," and proposing that the country prepare immediately for producing warplanes at the rate of 50,000 a year—the message opening his promotion of greatly augmented armaments and calling on the people to "recast their thinking" about defenses and on Congress to appropriate \$996,000,000 therefor. On May 29 he reconstituted the Defense Commission as authorized in 1916. On May 31 he asked Congress for \$1,277,000,000 for defense. On June 3 he made his first request to Congress for authority to summon the National Guard to active service in emergency short of war. On June 7, endorsing the *New York Times's* editorial in favor of compulsory military training, he revealed himself to the press as an advocate of what later took shape in the Selective Service Act. On June 10, addressing the University of Virginia, he recited his recent fruitless efforts to dissuade Italy from joining the attack on France; cried, "The hand that held the dagger has struck it into the back of its neighbor"; and declared for material aid to the "opponents of force." On June 17 he asked Congress for another great appropriation with which to build warships. On July 10, in a special message to Congress he asked further appropriations of \$2,161,441,957 and yet more in authorizations toward armament and kindred purposes, approved a bill to draft men into service, and gave the reassurance, "We will not send our men to take part in European wars." Each of these utterances fitted with the rest like a link in a chain or a word in a sentence; so that their compact entirety had a massive effect, beyond the power of one in any other station to rival, since no one else had the habitual regular attention of so many of the people. Thus, when the Democratic National Convention opened in the middle week of July, the idea uppermost in the Nation's thoughts was defense; and defense had come to spell Roosevelt. Up to that moment the President had not by a single word hinted his attitude toward an offer of renomination. But on July 16, to a convention waiting to start nominations, the word was brought that the President, if selected, would accept. After that, any other nomination, even if the convention had wished another, would have been impossible to explain to a popular majority convinced of peril to the Nation and confident in but one man to face it.

The President's attitude to the Government's providing opponents of Germany and Italy with weapons of war developed by gradual steps. While he spoke out (June 10, as above) for extending the Nation's material resources "to the opponents of force," he could fairly be taken to signify letting Great Britain, in particular and chiefly, procure from American manufacturers such material as it could buy from them for cash under the existing law. The British Ambassador had shortly before declared in New York that his government intended to fight on alone if need be, and pointed out that American interest might justify Federal aid to the British. But American opinion was not ripe for the outright adoption of such a course. The



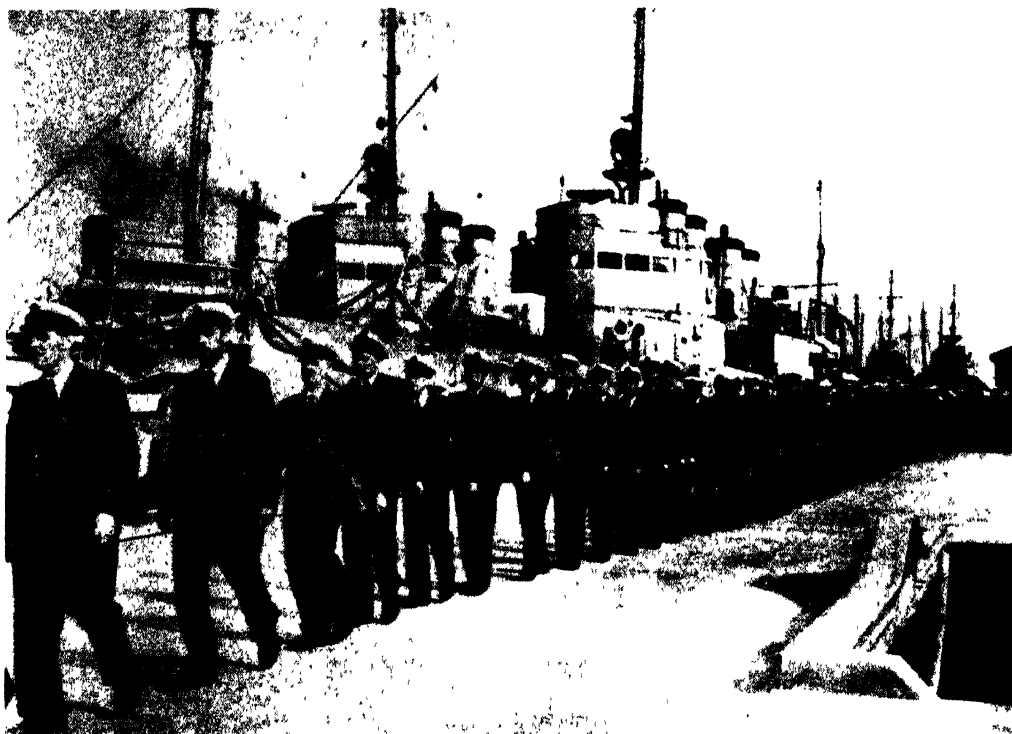
*Wide World*

ELWOOD CITY, IND., TURNS OUT TO HEAR WENDELL L. WILLKIE'S ACCEPTANCE SPEECH OF AUGUST 17, OPENING THE 1940 PRESIDENTIAL CAMPAIGN



*Wide World*

HYDE PARK CELEBRATES ROOSEVELT'S RE-ELECTION FOR A THIRD TERM



*Wide World*

THE CANADIAN NAVY TAKES OVER DESTROYERS ACQUIRED FROM THE UNITED STATES



*Wide World*

UNITED STATES-CANADA JOINT DEFENSE BOARD MEETING AT CITY HALL, NEW YORK CITY

*Front row, left to right* Capt R E Reid, Canada, Capt L W Murray, Canada, Air Commodore A A L Cuffe, Canada, Brigadier Kenneth Stuart, Deputy Chief of the Canadian Army General Staff, Lieut Col George P Vanier, Canada, Col Oliver Mowat Biggar, chairman, Canadian Section, and Mayor Fiorello H La Guardia of New York, chairman, American Section *Back row* Hugh K Keenleyside, secretary, Canadian Section, Major Gen S D Embick, commanding the Fourth Corps Area, U S A ; John D Hickerson, secretary, United States Section, Major Clayton Bissel, United States, Capt Harry W Hill, United States, and Commander Forrest P Sherman, U S N



thing came about by successive moves. To begin with, the President accepted, without action of Congress, a British offer (made in August) to grant the United States a right to set up naval stations or bases in the British colonies—Antigua, Bahamas, Bermuda, British Guiana, Jamaica, Newfoundland, St. Lucia, Trinidad—and gave Great Britain in return some 50 old destroyers, still serviceable but removed from the active list. He also let producers sell to Britain warplanes designed for the U.S. Government.

Later on, President Roosevelt allowed priority to British orders, in growing number, over the U.S. Government's own orders, in deliveries from manufacturers of airplanes. As the year drew to a close it became apparent that the British had used up most of their investors' known supply of American securities and could not go on paying in the United States from their own pocket. The President now found himself compelled, as a condition of further supplying Great Britain, to convert opinion into favoring virtual subventions to that nation, from the Federal Government, in war material, to the loss of progress in the armament of the United States itself. His "fireside chat" of December 29 dealt mainly with this problem. It portrayed the country's risk in such term as to give keen alarm: "Never before since Jamestown and Plymouth Rock has our American civilization been in such danger as now." For proof it cited the Berlin agreement of September 27 for common action by Germany, Italy, and Japan, as a threat against the United States. "Democracy's fight against world-conquest" was declared to need the aid of "every ounce and every ton of munitions and supplies that we can possibly spare." Nothing was said as to how democracy would or could pay for these, except by using them "against world-conquest." The press and radio carried reports that Great Britain could not go on paying for munitions from America. The public was won for legislation to enable further shipment of munitions without full British payment. The same address conveyed a mild message to unions, that "the Nation expects" work for defense not to be hindered by strikes.

**President and Congress.** The President's main concern of the year, in carrying on his policies, was with the Nation. While he had the Nation with him, Congress, regardless of party and other pre-occupations, would follow his lead in the main matter of the foreign situation. There were other matters, however, in which Congress did not follow him. One was the members' purpose to stop the conceived vindictiveness of the NLRB toward employers. Another was the persistence of a moderate majority in passing the Logan-Walter bill to allow the courts to review the decisions of regulatory agencies. In the first case the adversaries of the NLRB failed to pass a bill to deprive that body of some of its functions, but the President gave way at length, without controversy, to objections to the reappointment of Chairman Madden. In the second case, he vetoed the bill for review of agencies' decisions, secure in the lack of a sufficient majority to override his veto.

The President was said by writers in the press to have expressed, not long before the start of the drive for full-speed armament, his willingness that Congress should adjourn. The Republican group made use of this, taking credit for superior foresight in keeping Congress sitting and thus having it in full working order when extraordinary grants were sought in a hurry.

**Efforts for a Partisan Moratorium.** The idea of prevailing on the two major parties to put aside strife lacked likelihood in a year of National elections. The President gave encouragement to the possibility, none the less, on a number of occasions. Before the Democrats' Jackson Day dinner, several leading Republicans in the Senate or the House received invitations (somewhat warmly declined) to come to this dinner. While the President did not issue the invitations, there seemed no probability that they could have gone out without his approval. In the middle of May the President sought an intimate talk at the White House with Alfred M. Landon, Republican Presidential candidate of 1936; but Landon countered with a statement opposing an adjournment of partisanship. In June the President himself suspended partisan considerations to the extent of nominating two Republicans for what had become the most exacting and ticklish jobs in the cabinet: for Secretary of War, Henry L. Stimson; for Secretary of the Navy, Frank Knox. Both gave fine examples of faithful service. On November 11, Wendell L. Willkie, in an address by radio shortly after his defeat as Republican candidate for President, declared for a Republican policy of "loyal opposition"; "We who stand ready to serve our country behind our Commander in Chief," he said, "nevertheless retain the right and, I will say, the duty to debate the course of our government."

**Personnel and Organization.** President, Franklin D. Roosevelt; Vice-President, John Nance Garner. The Cabinet: Secretary of State, Cordell Hull; Secretary of the Treasury, Henry Morgenthau, Jr.; Secretary of War, Harry H. Woodring (resigned June 20) and Henry L. Stimson; Attorney General, Robert H. Jackson; Postmaster General, James A. Farley (resigned as of August 31) and Frank C. Walker; Secretary of the Navy, Charles Edison (resigned June 4) and Frank Knox; Secretary of the Interior, Harold L. Ickes; Secretary of Agriculture, Henry Agard Wallace (resigned in August) and Claude R. Wickard; Secretary of Commerce, Harry L. Hopkins (resigned August 22) and Jesse H. Jones; Secretary of Labor, Frances Perkins.

The number of the civil employees of the Federal Government, as reported by the Civil Service Commission, rose from 987,538 at the close of 1939 to more than 1,058,596 at the close of September, 1940.

**Appointments and Resignations.** Five of the ten heads of Departments resigned and were replaced in the course of 1940 (see list of the cabinet, just above). A sixth shift, at the outset of the year, made Robert H. Jackson Attorney General in place of Frank Murphy who went to the Supreme Court. So extensive a change among the President's highest subordinates was unusual, but it did not appear to have any single controlling reason. Woodring quit the Department of War, reportedly because he opposed supplying European belligerents at the cost of greater progress in arming the United States itself. Farley left the Post Office because he did not like the President's third-term renomination. Edison left the Department of the Navy with well-based hope of becoming Governor of New Jersey. Wallace quit as Secretary of Agriculture to campaign as Vice-Presidential candidate. Hopkins's exit as Secretary of Commerce, whether for reasons of health or for some other intended task, left him seemingly as high as before in the President's confidence.

Among other changes in 1940 were the appoint-

ment, as Under-Secretary of the Interior, of Alvin J. Wirtz; the resignation of Fred H. Brown as Comptroller General and the appointment of L. Warren; the expiration of the term of Chairman J. Warren Madden of the NLRB, followed by a three months' vacancy, and eventually, the Senate remaining set against confirming Madden if he were renominated, by the appointment of a less-pronounced liberal, Harry A. Millis.

**Administrative Reorganizations.** Three more reorganizations affecting parts of the administrative government were carried out in 1940, under authority of the Reorganization Act of 1939 (see 1939 YEAR BOOK, p. 777). They were styled Reorganization Plans III, IV, and V. Their combined result, outside of revoking two minor changes previously made by executive order, was 3 consolidations, 4 abolitions, and 14 transfers. The only transfer of a considerable independent office to a subordinate place in a Department was that of the Civil Aeronautics Authority, made a part of the Department of Commerce, by provisions in plans III and IV. This change roused opposition in Congress, for commercial flying had suffered serious accidents when previously under departmental regulation early in the New Deal and had done well later under the CAA's care. The House passed (May 8) a resolution rejecting the change; but the act of 1939 gave the President's reorganizations the right of way unless rejected by both houses; the Senate now failing to reject, Plan IV became valid. Plan V moved the Bureau of Immigration to the Department of Justice, from the Department of Labor. Among several offices abolished under Plan III were those of Commissioner of Immigration and of Recorder of the General Land Office. A Commissioner of Immigration and Naturalization was created, subordinate to the Attorney General. The plans' dates of going into effect were June 30, for III and IV, and June 14, for V.

The President's creations and changes in matters of organization for regulating the pace and harmonizing the parts of work being done throughout the country for the production of armament ranked first in 1940, as to possible consequences, among his efforts as an organizer. This task did not come under the act of 1939, but it requires mention as an effort of administrative reorganization. The re-establishment of the Defense Commission and the development, out of it, of the more compact and powerful Office for Production Management for Defense are related in the articles DEFENSIVE PREPARATIONS and NATIONAL DEFENSE ADVISORY COMMISSION. Another regulative body for a field essential to security against foreign peril was the Defense Communications Board, created by executive order of September 24 and headed by the Chairman of the Federal Communications Commission (q.v.), to regulate the use of telegraph, telephone, cable, and radio in case of need. Dr. Clarence A. Dykstra was made National Director of Selective Military Service, a new statutory temporary office (see DRAFT, MILITARY).

See the separate articles on leading governmental bureaus and agencies. For a list of the independent offices and establishments, see YEAR BOOK, 1939, p. 782.

**Foreign Affairs.** The German war in Europe and to some extent the Japanese war in China affected the foreign relations in virtually every direction. A great part of foreign relations had to do with belligerents, another great part with governments of which the United States wanted the support for its own course.

**The Belligerents.** Official relations with Germany, so far as reported, were meager and featureless. In the case of Italy, the President directed a hurried and fruitless appeal through the Embassy at Rome, for a pause in the impending Italian attack on invaded France, in June.

In the case of Japan, the third of the powers bent on wholesale conquest, more occurred. The difference with Japan over the change of authority in the International Settlement at Shanghai remained unsettled, but the policing of the streets by a force in the Japanese interest was suffered as a temporary arrangement. The commercial treaty with Japan, abrogated by the United States on July 26, 1939, lapsed after 6 months' notice on Jan. 26, 1940. Trade continued, subject to change at any time. Successive restrictions cut off the airplane fuel, scrap metal, and machinery and tools that Japan particularly wanted Japan responded by going to Berlin and signing, September 27, an agreement in which Japan and the Italo-German alliance undertook to assist each other with military and other means in case of attack by "a power at present not involved in the European War or in the Chinese-Japanese conflict;" essentially, by either the United States or Russia; but a further article of the published text gave reassurance that nothing was meant against "the status which exists at present" as to Russia. The publication of this agreement was closely followed by expressions in Tokyo, from Premier Konohe and others, admonitory to the United States. The latter (October 9) discontinued subsidy on exports of wheat to the Far East and advised American citizens to leave that region. Japan withdrew (October 23) from the convention of 1911 against pelagic sealing.

Relations with Great Britain and France before their disasters of May and June, while good, were restrained by the risk of stirring antagonism in the United States, where sentiment against all alike of the participants in any European war had by no means died out; the British and, to some extent the French, increasingly obtained airplanes and other material from American firms, paying on delivery. The President declared it lawful (January 26) and without prejudice to status as citizens that Americans should fight in a foreign army, provided that they did not swear allegiance to a foreign government. In February an outcry against British search of American vessels and examination of mail from the United States—features of the blockade of Germany—moved the Department of State to a futile effort to have the practices modified. The Government protested, with 20 other American republics (March 16), against the British pursuit of the German freighter *Wakama* within the zone of sea from which the Declaration of Panama (1939) had sought to ban belligerent powers from naval operations.

**The Sunken Nations.** The German conquests that culminated in June overcame France, Belgium, Holland, Norway, Denmark, and Luxemburg. The last two made no serious resistance. Belgium, Holland, and Norway maintained their governments, in form, outside their territory; there was established a French government in the part of French territory that the invaders left unoccupied. The United States formed diplomatic relations with this new French government and withheld recognition of regimes that Germany set up in other lands. It halted free transactions in the values of these countries lodged in its jurisdiction, as a means to keep them from coming into the conquerors' possession. Iceland, treated as separate from Den-

mark, was exempted from the suspension of Danish transactions.

**Remaining Democratic Belligerents.** The members of the British Empire remained at war with Germany. Greece, too, soon became a party in the European war, when attacked by Italy, and the Chinese government still held out in the western uplands of China. The United States' new policy, gradually shaped after May, supplied the British increasingly with material for war, as the alternative to having to deal with a Europe under a single domination. It allowed British military entry into the Dutch West Indies, lest these come under German power. When an organization headed by ex-President Hoover sought to send food to the fallen nations of Europe, and Great Britain refused lest this should weaken the effect of the maritime blockade of Germany, the objection was allowed to stand, the Department of State avoiding a direct appeal to the British government. With regard to Greece, the President (December 7) in a message to King George, said, in part. "It is the settled policy of the United States Government to extend aid to those governments and peoples who defend themselves against aggression. . . . Steps are being taken to extend such aid to Greece." A small belligerent was thus encouraged to continue, in expectation of military supplies. To China a series of credits were granted through the Export-Import Bank: on March 7, \$20,000,000; on September 25, \$25,000,000, to be repaid with tungsten; on November 30, \$50,000,000, to be repaid in metals; and on the last date the Treasury was announced to be making ready a sum of \$50,000,000 from the Stabilization Fund, with which to support Chinese currency.

**In the New World.** Despite the strain under which Canada labored as a participant in the European war, efforts were renewed to induce the Dominion to agree to put in motion the common project of the two countries for the development of the St. Lawrence Waterway (with water-power adjuncts)—a scheme long cherished by the President. A plan was devised in October to satisfy the objections on the part of Ontario: this province was to divert into the St. Lawrence watershed waters from the Albany River and to receive in return the right to hydroelectric power from an equivalent in water at Niagara Falls.

In dealings with Latin-American governments the United States had to do with a number of countries suffering from plethora of products and—by reason of the European war—lack of buyers. Unable to augment its purchases of their goods without hurting its own nation's economy, the U.S. Government felt the need of keeping such countries on the side of the Monroe Doctrine and firm against the possibilities of German and Italian commercial penetration. Loans were made by the Export-Import Bank to some governments: \$60,000,000 to Argentina, \$7,500,000 to Uruguay, \$4,600,000 to Costa Rica. Ninety 6-inch cannon out of surplus from the previous European war were sold to Brazil. Uruguay was reported (November 9) to have agreed to let the United States establish naval and aeronautical bases on its coast. In the Antilles, Santo Domingo obtained a loan of \$5,000,000 from the Export-Import Bank. Late in the year, agreements for U.S. naval stations or bases in Brazil, Argentina, and Chile were reported to be assured.

Dealing with the New-World republics as a group, Secretary of State Hull held, with their representatives, at Havana in July, the second consultative meeting of American foreign ministers.

The meeting drew up a convention providing for the American republics' joint control, through a commission, of any New-World areas (by inference, European colonies) that might become deprived temporarily of their governing authority; the convention required ratification by the several republics to put it in force. The meeting adopted a resolution providing temporary steps to like effect if needful before the convention should become valid and recognizing the right of "any of the American republics" to act as might be needful in order to defend itself or the continent. An agreement with the fourteen American countries producing coffee set their quotas, for three years, of allowable sales to the United States: Brazil's share was about one-half of the total for the fourteen.

No definite outcome was reported of efforts to obtain from Mexico adequate compensation for expropriated petroleum wells. It was stated in the press in October that a Japanese company had obtained from Mexico a concession to drill for petroleum in an area near Vera Cruz.

For a fuller discussion of United States relations with other nations, see the article on each foreign country. See also **PAN AMERICANISM**.

**Aliens and Disturbers.** Precautions were taken against aliens and others whose social or political sympathies might make them agents of sedition. In addition to the registration of aliens by the millions, under a new act of Congress (see *Legislation*, below), a process that went on for months in the post offices, there was a raising of barriers to entry over the borders and a resort to strict proceedings against persons of dubious loyalty, when they were found chargeable with fraudulently obtaining passports. Earl Browder, later the Communist candidate for President, was convicted (January 22) of using a passport obtained by making a false statement and was sentenced to four years of Federal prison and a \$2000 fine; he stayed free during appeal of his case. An order was issued for the deportation of his wife, an alien, for illegal entry into the United States. The Immigration and Naturalization Service (q.v.) started on July 1 to require documents with visas for all persons entering from Canada. An active and much reinforced patrol covered the Mexican border to intercept entries there. In August Attorney General Jackson renewed the investigation of the alien labor leader Harry R. Bridges, who, if found to be a subversive alien, might be deported for that reason alone, under a new law.

**Government and Labor.** The NLRB (q.v.), though winning a conspicuously high proportion of its chief cases in the Supreme Court, figured much less as the promoter of the interests of the industrial labor unions after the expiration of Chairman Madden's term of appointment: the two remaining members of the Board, differing in views of the NLRB's fundamental policy, stood deadlocked on matters that came before them and issued no more innovative orders. The eventual appointment of another comparatively conservative member, Harry A. Millis, caused several members of the staff, noted for their anti-employer leanings, to resign. Henry Ford remained obdurate against unions' demands that his great automobile-making establishment consent to an election among its employees to choose affiliation with a labor organization. After the National election, John L. Lewis resigned from the presidency of the C.I.O.; he had vowed, in an exhortation to the members to vote against President Roosevelt, that he would quit if Roosevelt were re-elected. Reportedly through his





*Wide World*

# THE FIRST TO BE CALLED UNDER THE SELECTIVE SERVICE ACT

A contingent being escorted to a camp in Illinois



*Wide World*

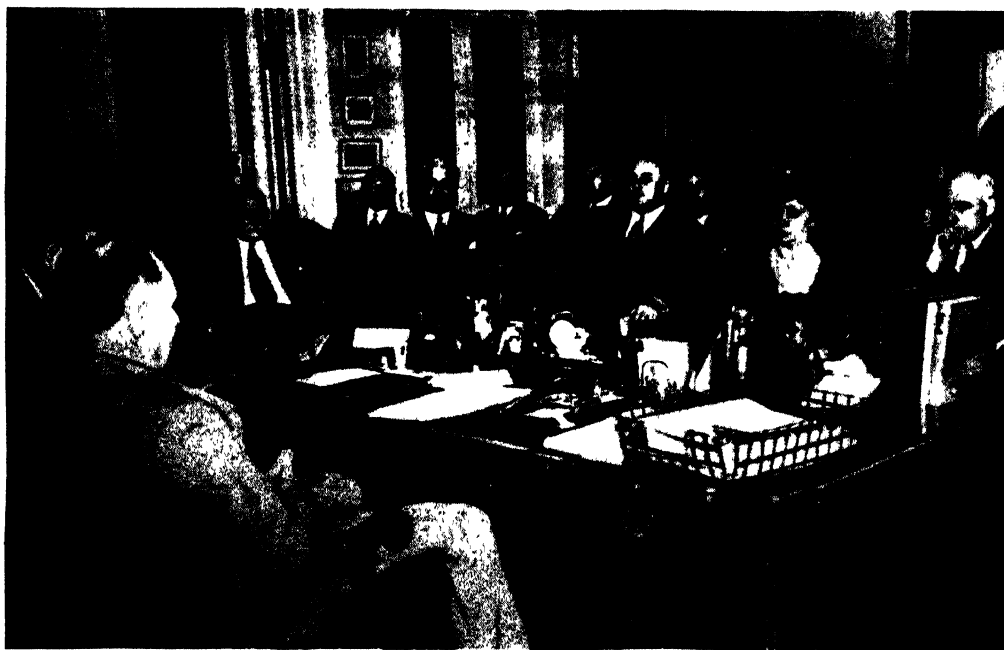
# TRANSFER OF THE NATIONAL GUARD INTO FEDERAL SERVICE

The 244th Coast Artillery of New York City mobilized for transfer



*Wide World*

INDUSTRY BEGINS THE MASS PRODUCTION OF COMBAT PLANES  
All-metal fuselages in the Buffalo Factory of the Curtiss Wright Corporation



*Wide World*

PRESIDENT ROOSEVELT AND MEMBERS OF THE NATIONAL DEFENSE COMMISSION

Grouped before the President's desk are, left to right William C. Knudsen, Ralph Budd, Edw. R. Stettinius, Jr., Secretary of War Harry Woodring, Attorney General Robert Jackson, Leon Henderson, Secretary of Navy Charles Edison, Harriet Elliot, and (with face turned) General George C. Marshall

influence another liberal, Philip Murray, was chosen to succeed him; and Murray displayed at the outset a tendency to ask new concessions to his organization at the moment when conservatives in Congress were crying for the suspension of labor disputes on account of the proclaimed need for utmost production to meet demands of National safety. But in the face of evident strong hostility, in many directions, toward any "labor war" hurtful to the defensive program, no union started any major strike comparable to those of 1937.

Under the terms of the Wage and Hour Act, Philip B. Fleming, Administrator of the Wage and Hour Division (q.v.), put into effect the 40-hour week (usually of 5 working days of 8 hours), which became obligatory on October 24 as to employment affected by the act. By the Supreme Court's ruling (April 29) such regulation applied even to work on Federal contracts. Though employers might still, under the 40-hour week, get more hours of employment to the week, they must pay  $1\frac{1}{2}$  times the regular pay for extra hours. The new arrangement delayed the generality of that part of industry which was trying to swell the output of goods demanded to raise the power of the army and navy; for at a moment when, as declared emphatically by the Administration, an unexampled peril urged the Nation to utmost effort, and when the manufacturers could not get enough machine tools for starting the desired production, the use of even the existing machine tools was cut down far below what the existing force of employees could get out of them unless the manufacturers paid heavily for additional working time. The Department of War met the demand on its own six arsenals by ordering their operation, from August 10, by three shifts every 24 hours for six days a week; privately owned establishments, still largely working on contracts for fixed amount, and also unable quickly to add competent people to their forces, did not readily follow this example. A group of Southern Governors failed in litigation to prevent new, higher minimum wages, regarded as a blow to Southern factories, from going into effect, under the Wage-and-Hour Act. A decision of the Supreme Court (May 27) gave the Wage and Hour Division, instead of the Interstate Commerce Commission, the regulation of about 200,000 employed in running trucks and busses. The rates of minimum pay of about a like number employed in making garments were raised (July 14) by the Administrator's order. The Division successfully maintained in the courts its asserted right to force employers to show it the accounts of their payrolls. An embargo was put in June on the exportation of machine tools; it was later (December 4) much expanded.

**Prosecutions.** The Department of Justice started, early in the year, to prosecute under the Anti-Trust law many trade unions, largely in the A.F.L., for alleged practices in restraint of trade; frequently groups of employers accused of a part in these practices were also defendants. Prominent prosecutions in this number are mentioned in articles on the several States. Counsel for the A.F.L. failed to forestall these prosecutions by pleading in the courts, as they did, that the Clayton Act fully exempted unions from the anti-trust law. These prosecutions figured less in the news in the latter part of the year. Anti-trust prosecutions of big corporations progressed. The Supreme Court held against the Ethyl Gasoline Corporation, which was ordered to cease making the maintenance of prices a feature of its permission to other parties to use

its patents. A Court of Appeals' decision against the American Medical Association's demurrer to its indictment for conspiracy brought nearer to trial the Government's charges that the Association had conspired in restraint of trade. The trial of a case, started in 1937, against the Aluminum Company of America, for conducting a monopoly, was finished in August, but the bulkiness of the case delayed decision. Anti-trust proceedings were started in July against eight chief manufacturers of tobacco. A suit to undo the elaborate corporate structures of 22 chief companies producing petroleum and its products ran into the objection from the National Defense Commission, in September, that such a course would so disturb the industry as to hurt the Nation's defensive efficiency; the suit was then reportedly shorn of a demand that the companies rid themselves of pipe lines and certain other means of transport. Conviction of 12 oil companies in the Madison case was sustained by the Supreme Court. Suits designed to aid the means of defense were brought against makers charged with fixing the price of cotton fabric used in airplanes and against American firms enjoying German patents (to free these patents from restrictions in the United States).

The Attorney General announced (March 17) that the Department of Justice had given up wire-tapping as means to get evidence.

**Regulation in Other Fields.** The *Bituminous Coal Division*, established in the Department of the Interior in 1939 to succeed the National Bituminous Coal Commission, fixed minimum prices at the outset of May for sales of soft coal by mines, according to districts. The Bituminous Coal Act, basis of the power of the Commission and of the Department of the Interior as its successor, passed muster with the Supreme Court (May 20) as constitutionally valid. The Court had killed the predecessor Guffey Act about 4 years before but had been largely made over with Presidential nominees.

The *Interstate Commerce Commission* (q.v.) reported (August 31) that it had in recent years set or proposed reductions of nearly 60 per cent in the debt, previously \$3,708,484,169, of 25 bankrupt railroads. The ICC reduced the freight rates on cotton in May. It reported (January 26) adversely to the President on a projected canal between Lake Erie and the Ohio River, as likely to weaken the railroads in the region. It made effective on March 25 a reduction of the basic fare for passengers on the Eastern railroads, to 2 cents a mile. The President assumed, by proclamation of June 27, power of control over the movement of ships, both American and foreign, in adjacent waters. The Priorities Board of the Defense Commission restricted commercial aviation, at the end of November, to the receipt of airplanes already toward completion and to parts urgently needed.

Alteration of the corporate structure of *holding companies* in the field of supplying electrical current was advanced early in the year, by the SEC. The Associated Gas and Electric Company, in this group, sought (January 10) reorganization under the bankruptcy law; its head, Howard C. Hopson, prosecuted thereafter for using the mail in fraudulent operations, was convicted (December 31) on evidence to the purport that he had wrongfully got nearly \$20,000,000 from companies in the Associated system. The RFC offered its credit (August 15) to the service of utility districts in the area of Seattle, to help them buy out the distributing properties of the Puget Sound Power and Light Company. The *Federal Power Commission* won (De-

ember 16) in the Supreme Court, the long-contested New River case, against the Appalachian Electric Power Company and 41 of the States; the Court affirmed the Commission's authority to give licenses, as it might decide, for enterprises to obtain hydroelectric power from rivers classed as waterways. (See **ELECTRIC LIGHT AND POWER.**)

A special Federal court of three judges decided against Secretary of Agriculture Wallace in the Kansas City Stockyard case: it restored earlier marketing rates that the Secretary had ordered changed in 1937 and awarded to the marketing people the impounded money resulting from the difference between the two sets of rates. A new head of the *Farm Credit Administration* (q.v.), A. G. Black, after taking office, pronounced (February 24) for a policy of leniency toward worthy delinquent agricultural debtors, designed to keep them on their farms. There followed, none the less, considerable display of dissatisfaction with the governmental reorganization of 1939 that had reduced the FCA from an independent office to a part of the Department of Agriculture; and the master of the National Grange asked Congress to restore the FCA to independence. The Department of Commerce gave much attention to obtaining and disseminating data on the barriers set up by the laws of individual States to the disadvantage of goods from other States. The Federal Communications Commission (q.v.) revoked (May 27) a previously-given order to permit broadcasts of television to start in September.

#### LEGISLATION

**76th Congress, Third Session.** (For names of members see SENATE, and REPRESENTATIVES, HOUSE OF.) The third (or regular second) session of the 76th Congress convened on January 3. It adjourned formally only on Jan. 3, 1941, the date of the convening of the 77th Congress. The session thus lasted for 367 calendar days, exceeding the duration of any previous session. Some members' aversion to disbanding the Legislative branch of the Government at a moment of grave uncertainties, rather than pressure of business, kept the session going; brief, successive recesses spaced out much of its last months. Prior to the end of October, however, it passed many measures of moment.

**Main Features of the Session.** From June onward, a prevailing sense of need to put the United States in such a state of warlike preparedness as to assure it against risk of numerous European nations' fate, which they were then suffering, governed the great majority of the members, whichever their party. Few openly tried to cast doubt on the peril or to bound measures against it within the order of any precedent short of an actual and dubious war. There resulted appropriations that dwarfed the deficit years of the New Deal; grants of Executive power comparable to these grants of money; a great increase in the Federal levies on the net return of profitable industry; a far more unprecedented demand upon the yet unestablished lives of the young men, in the form of peacetime conscription; and a flock of measures for the restraint of anti-Governmental activities that had in days of self-confidence been ignored or tolerated. Measures within the ordinary scope of Congress, though less noted at the time, covered much ground (see, below, *Transportation Act, Investment Company Act, Political Activity Act of 1940, Bridge Act, etc.*) and some were hailed as beneficent.

**Enactments.** There follows a brief summary

of conspicuous points in important measures enacted by Congress.

#### Taxation and National Debt:

**Revenue Act of 1940.** signed June 25, created an intended additional \$1,000,000,000 of internal revenue yearly, for five years, chiefly by lower exemptions and higher rates of tax and surtax on incomes and by defenses taxes adding generally 10 per cent to income taxes and most other internal revenue; also, authorized the Treasury to issue \$4,000,000,000 of short-term obligations above the previous debt-limit of 45 billions.

**Second Revenue Act of 1940 (Excess-Profits Tax Act),** signed October 8, further taxed a part of corporate income by levying up to 50 per cent on profits exceeding either 8 per cent of invested capital or 95 per cent of average yearly earnings of 1936-39, as the payer chose; also raised the normal corporate income tax for all but small companies to 24 per cent; and exempted from taxation, in the case of companies expanding to work for National defense, enough earnings to amortize cost of expansion in five years.

#### Chief Appropriations:

**Military Establishment Supply Act,** signed June 13, appropriated \$1,449,323,322 for the Army's expenditure in the fiscal year 1941, including \$79,505,988 for airplanes and their equipment, and authorized up to \$103,300,000 of further airplane contracts.

**Naval Appropriation Act,** signed June 11, appropriated \$1,308,171,138 for the Navy's expenses of the next fiscal year, including \$340,371,979 for building naval vessels and commencing, among others, two battleships.

**First Supplemental National Defense Appropriation Act,** signed October 9, appropriated \$1,497,777,147 for additional expenditure in many directions by army and navy, for defensive preparations. See also **DEFENSIVE PREPARATIONS.**

**Second Supplemental National Defense Appropriation Act,** signed September 9, appropriated \$1,793,372,532 for army requirements, including over \$500,000,000 each for Air Corps and Chemical Warfare Service, \$703,643,860 for the navy, largely for more airplanes and ships, and \$100,000,000 for the President to allocate for housing needed near army posts, navy yards, and factories; also authorized army and navy contracts for \$2,754,470,000.

**Third Supplemental Defense Appropriation Act,** signed October 8, appropriated \$1,248,792,636 for the army and \$75,401,000 for the navy, much of the army's total covering costs connected with the active service of the National Guard and the maintenance of the Selective-Service conscripts.

**Army Housing Act,** signed September 24, appropriated \$329,519,902 for constructing buildings and flying fields at army posts.

**Independent Offices Supply Act,** signed April 18, appropriated \$1,120,243,528 for the expenses, in the fiscal year 1941, of the Civil Aeronautics Authority (\$27,721,954), Civil Service Commission (\$97,241,000), Public Roads Administration (\$140,990,000, mainly road-aid to States), Veterans' Administration (\$580,003,544), TVA (\$40,000,000), and other offices.

**State, Commerce, and Justice Supply Act,** signed May 14, appropriated \$107,149,000 for the departments named.

**Interior Department Supply Act,** signed June 18, appropriated \$135,382,330 for that Department.

**Treasury and Post Office Supply Act,** signed March 25, appropriated \$1,032,801,095, of this, \$218,752,033 for the Treasury and \$814,049,062 for the Post Office Department (recoverable from its receipts, mostly, or all).

**Agricultural Appropriation Act,** signed June 25, \$212,000,000 for parity payments on wheat, cotton, corn, rice, and tobacco; \$438,560,000 for soil-conservation payments, plus \$60,000,000 of unobligated balances from 1940; \$3,075,000 for Rural Electrification Administration, with authority for it to borrow \$100,000,000 from the RFC; \$6,100,000 to aid tenant farmers and authority to borrow \$50,000,000 from the RFC therefor; total appropriation, \$918,603,918.

**War Department Civil Functions Act,** signed June 24, granted \$222,718,717, chiefly for work on rivers and harbors, control of floods, and the Panama Canal.

**First Supplemental Civil Functions Appropriation Act,** signed October 9, added \$228,132,013 to divers appropriations for the fiscal year 1941.

**Four deficiency appropriation acts:** \$487,809,261 for fiscal year 1940.

#### Fighting-Power:

**Naval Expansion Act,** signed June 14, added 167,000 tons, mainly in aircraft-carriers and cruisers, to the authorized tonnage of naval vessels, empowered the President to construct the additional ships, and set the intended minimum of useful naval airplanes at 4500. See **NAVAL PROGRAMS.**

**Naval Aircraft and Public Works Act,** signed June 15, authorized increase of naval airplanes to a maximum of 10,000 and the construction of \$144,132,000 of additional facilities for naval aviation.

**Naval Building Acceleration Act,** signed June 28, gave

the Secretary of the Navy and the President powers to promote quicker results in naval construction, by cash advances on contracts, by prior receipt of needed material, and by suspension of requirements of the Walsh-Healey Act, but limited the allowable profit, on contracts that allowed a percentage of cost, to 8 per cent.

**Defense Expediting Act**, signed July 2, similar to the Naval Building Acceleration Act, gave special powers to the Secretary of War to hasten production necessary to the land forces, and removed the limit to the number of the Army Air Corps's flying cadets.

**Two-Ocean Navy Act**, signed July 19, designed to provide secure naval defense in the Pacific and Atlantic oceans simultaneously, authorized an additional 1,325,000 tons of naval vessels, the total tonnage including 385,000 in capital ships, 200,000 in aircraft carriers, 420,000 in cruisers, and 70,000 in destroyers, and appropriated \$150,000,000 to help equip establishments to build the ships and \$65,000,000 and \$35,000,000 respectively for like aid to makers of ordnance and of armor. See **NAVAL PROGRESS**.

**National Guard Act**, signed August 27, empowered the President to put the National Guard into active service for 12 consecutive months prior to June 30, 1942.

**Selective Training and Service Act of 1940**, signed September 16, set up a system of compulsory service in the armed forces—in effect, the army only—for selected men of the group from 21 to 35 years old, and gave the President power to seize establishments that did not comply with Federal orders to produce war-goods. See **DRAFT, MILITARY**.

#### Federal Lending Agencies:

**RFC Act of 1940**, signed June 25, authorized the Reconstruction Finance Corporation to lend to, or buy stock in, any corporation producing, acquiring, or carrying strategic materials or needing to obtain facilities for producing war goods, subject to the President's approval.

**Commodity Credit Act of 1940**, signed August 9, raised the lending limit of the Commodity Credit Corporation to \$1,400,000,000 from \$900,000,000.

**Export-Import Bank Act**, signed September 26, authorized this Federal agency, on request of the Federal Loan Administrator, approved by the President, to lend to any government or its central bank, or with the guarantee of these two, to any agency or national of such a government, in the Western Hemisphere, and enabled the Bank to get up to \$500,000,000, for such loans, from the RFC.

#### Aid to European Lands:

**Finland Loan Act**, signed March 2, added to the Export-Import Bank's authority to lend to foreign governments and limited such loans to Governments not in default as to war debts (the object being a loan to Finland).

**Finland War-Debt Act**, signed June 15, granted Finland a postponement of payment on war debt till the end of 1940 and authorized the Secretary of the Treasury to agree that Finland make the postponed payment by installments over 10 years, with interest at 3 per cent.

**Red Cross Ship Act**, signed June 26, amended the Neutrality Act of 1939 so as to let American vessels convey Red Cross workers, medical supplies, food, and clothing to ports of belligerents.

**Mercy Ship Act**, signed August 27, amended the Neutrality Act of 1939 so as to let American ships bring refugee children away from areas of war.

#### Control of Aliens, Foreign Agents, Spies, etc.:

**Espionage Act**, signed March 28, raised the penalties for violation of the act of 1917 as to espionage and related acts in peacetime to 10 years and \$10,000 maximum for espionage, put the utmost penalty for sabotage at 20 years and \$10,000, and provided punishment up to 10 years and \$500 for injurious propaganda.

**Foreign Credits Act**, signed May 7, extended the President's powers over transactions in foreign values, to include rule over the handling of or dealing in evidences of debt or ownership involving any foreign State, subdivision, or national.

**Alien Registration Act**, signed June 28, obliged aliens to be registered and fingerprinted by the Bureau of Immigration and prohibited all persons' advocacy of insubordination, disloyalty, mutiny, or refusal of armed service.

**Anti-Propaganda Act**, signed October 17, required the registration of organizations engaged in political or civilian-military activity or advocating the overthrow of the Government.

**Repatriation Act**, signed July 2, restored citizenship to native-born women who, though married to aliens, had resided continuously in the United States since marriage.

#### Regulating Commerce:

**Transportation Act**, signed September 18, declaring a policy of impartial regulation of all modes of transportation subject to the Interstate Commerce Act, detailed and modified the Interstate Commerce Commission's powers at many points, required carriers by water to make through routes and rates with other carriers, subjected coastal, intercoastal, and internal carriers by water to the Commission's regulation in many respects, created a board to investigate the relative economy, fitness, tax burdens, and benefit from public expenditure on their right-of-way, of carriers by rail, water, and highway, raised the limit of the RFC's loans to

railroads, and abolished discriminative rates on freight. See also **INTERSTATE COMMERCE COMMISSION**.

**Investment Company Act of 1940**, signed August 22, required the registration and regulation of investment companies and of investment advisers, mainly by the hand of the SEC. See also **FINANCIAL REVIEW**, under **Financial Regulation**.

**Bridge Act**, enacted over the President's veto June 21, required the alteration of any bridge obstructing navigation and adopted the policy in the case of railroad bridges that the Government should bear such part of the cost as did not profit a bridge's owner.

**Convict-Made Goods Act**, signed October 14, made it a penal offence to transport in interstate commerce any goods produced by convict labor.

#### Affecting Politics and Government:

**Political Activity Act of 1940**, signed July 19, brought under the restrictions of the Political Activity Act (Hatch Act) of 1939 such employees of States as were connected with functions supported wholly or partly by Federal money and put a limit of \$3,000,000 on the yearly expenditure and receipt of contributions by any political committee.

**Civil Service Act of 1940**, signed November 26, permitted the President to admit into the classified civil service Federal employees not already included, with some exceptions, mainly the forces of the WPA and the TVA.

**Reapportionment Act of 1940**, signed April 25, postponed until the week of the meeting of the 77th Congress (in January, 1941) the President's submission of the required apportionment of the Representatives on the basis of the 16th Census, advancement in the dates for convening sessions having made the time for this duty of the President, as set in the old Reapportionment Act, come in advance of the census.

**Governmental Reorganization Act of 1940**, signed June 4, gave approval to the Executive reorganizations III, IV, and V, and set dates for their going into effect.

#### Public Support for the Poor:

**Emergency Relief Act of 1940**, signed June 27, appropriated \$1,157,711,357 for expenditure in the fiscal year 1941 on divers sorts of public support for individuals, of which \$975,000,000 was for the WPA and \$50,000,000 for the President to use in aiding refugees; also, excluded Communists and persons connected with the Nazis from the WPA's payroll.

**Total of Appropriations.** In common phrase the session "spent" or "voted" over 27 billions. That total included possible expenditure of several sorts: appropriations for the fiscal year 1941; some deficiency appropriations for the fiscal year 1940; "permanent" appropriations payable from receipts of trust funds; authorization of contracts committing the Government to pay money that would have to be appropriated later; and authorization of a plan to build the navy up, over a course of years, to effectual strength on two oceans at once (contracts therefor not generally being yet authorized as to amounts). Appropriations proper came to \$16,920,627,477 (of this, \$16,257,787,781 for fiscal year 1941); permanent appropriations, to \$2,148,921,298; authorizations for obligation by contract, to \$4,066,191,860; and the expected cost of building to attain a two-ocean navy, to \$4,586,000,000. For the Army, the share of appropriations (\$5,612,665,170 for 1941) and authorizations of contracts totaled \$8,792,145,145 (as reported in the *New York Times*); for the Navy, appropriations (\$2,512,448,407 for 1941) and authorizations totaled \$3,537,138,137; for civil costs connected with defense or with enforcement of law as to neutrality, \$766,944,648. The total likely to be spent in the fiscal year 1941 remained unpredictable: there lacked any way of telling how fast the work of armament would progress. The amount of all expenditure contemplated by acts of the session reportedly exceeded every previous total of the sort except that for the second session of the 65th Congress in 1918.

**Bills that Failed.** Bills killed by veto included mandatory deportation of aliens guilty of sabotage or espionage, having a criminal record, or violating the law on narcotics; permission to States to intervene in a suit raising an issue between Federal and State powers; extension of crop insurance to cotton; reimbursement of Ohio for social-security

money withheld in October, 1938; and appropriation of about \$110,000,000 for improvement of rivers and harbors. The Logan-Walter bill, to submit administrative agencies' rulings to courts' review, was passed after a long struggle; it was vetoed, December 18.

The House killed, by adverse amendments a bill strongly supported in the South, to extend exemptions from the minimum wages. A measure to terminate the President's authority to buy silver abroad passed the Senate but did not come through the House. Amendments to the National Labor Relations Act, tending to mend its conceived antagonism to employers, passed the House, with the aid of the A.F.L., but did not reach the statute books. The House sent to the Senate, as it had before, an anti-lynching bill, which the Southern strength in the Senate and a virtual cessation of lynchings of Negroes kept from going farther. A bill for the summary deportation of Harry B. Bridges, potentate over unionized maritime workers on the Pacific Coast, died after leaving the House. The House voted a resolution to invalidate Executive Reorganization IV, condemned because it put civil aeronautics back under departmental control; the Senate's rejection of a similar resolution let the change go into force.

**Organization of the Houses.** William B. Bankhead, speaker of the House, died on September 15. The members chose Sam Rayburn of Texas to succeed to the speakership and named John W. McCormack of Massachusetts to be floor leader in Rayburn's place.

The absence of Vice-President Garner in the latter part of the year left to substitutes the duties of the President of the Senate. The death of Senator Key Pittman of Nevada (November 10) deprived the committee on foreign affairs of an experienced chairman. William E. Borah of Idaho, who died on January 19, was not only the Senator of longest service but the foremost of the Senators in National renown.

**Investigations.** For the work of the House of Representatives' special committee investigating un-American activities, which by the nature of its task touched closely on some of the Nation's gravest current concerns and did much to shape opinion on disruptive groups; see **DIES COMMITTEE**. The House's committee investigating the NLRB, which had begun its work the year before, disclosed many purported singularities in the proceedings of that body: for instance, removal of its trial examiner from conduct of a case on the C.I.O. complaint that he had made rulings in the employer's favor, instructions from Board Chairman Madden to regional directors on how best to influence members of Congress, and consultation with Harry B. Bridges, C.I.O. leader, on what lawyer should be sent out to deal with a labor case. It appeared from testimony that the Board had in one case obtained information, outside of the proceedings of record, that helped it to decide in favor of employees, but that in another case it had refused to reopen proceedings for further information that an employer sought to put on the record. Chairman Madden testified on a so-called blacklist of employers, given to the RFC by the NLRB, which was likely to decide in some instances whether firms on the list should obtain loans. The committee, acting by a majority of 3 to 2, submitted to the House (March 7) a bill designed to abolish the NLRB and put in its place a board without prosecuting powers. The House's committee on appropriations, authorized in March, 1939, to investigate the WPA,

made an extensive report on the subject (May 15, 1940): dealing with operations in only a minority of the States, this report contained charges of undue favoring of individuals of liberal affiliations (as in New York City), want of thorough planning of expensive projects (notably New York City's North Beach airport), heedless extravagance (a rat-extermination project in New Orleans allegedly cost \$2.87 for each exterminated rat), and more or less illicit profiting; many of the accusations lacked novelty, so the report made no great sensation, but it gave strength to scattered criticism by uniting it, and it helped put through the anti-Communist provision included with the year's appropriation for the WPA. A special committee of the House, to investigate the migrant population, was authorized (April 22); its proponents had former farmers set adrift by drought—the "human erosion of the dust bowl"—particularly in view.

The Senate's committee investigating campaign expenditures performed much work during the National campaign of 1940, but its inquiries did not lead to the disqualification of any important candidate up to the end of the year. The committee's chairman, Gillette of Iowa, charged "debauchery of the ballot" in a public speech (December 2). The postponement in 1932 of an anti-trust case against the Radio Corporation of America was investigated by the Senate's committee on interstate commerce, and allegations adverse to a number of persons were brought out. The Senate's subcommittee investigating civil liberties (La Follette committee) obtained at San Francisco in January testimony on the close co-operation, in some of California's agricultural counties, of county officers with local organizations of the Associated Farmers to prevent strikes among the agricultural hired workers; in May the committee gave out data to show that the migratory agricultural hired workers in Texas got too little and too precarious pay for proper living. A Senate subcommittee brought out in November evidence of a covert business in wire-tapping for hire.

The Temporary National Economic Committee (a select committee of Senators, Representatives, and individuals from the administrative branch of the Government) made some further progress in 1940, along its immense potential orbit through the Nation's economic field. Among subjects investigated were the practices of life-insurance companies with regard to making profitable types of underwriting pay the losses of the unprofitable; States' laws indirectly excluding or hampering the introduction of goods from other States; and the disputed connection between increased use of labor-saving machinery and increased unemployment.

See ARGENTINA, AUSTRALIA, BOLIVIA, BRAZIL, CANADA, CHILE, CHINA, COLOMBIA, COSTA RICA, CUBA, DOMINICAN REPUBLIC, ECUADOR, FINLAND, FRANCE, GERMANY, GREAT BRITAIN, GREENLAND, GUATEMALA, HAITI, ICELAND, IRAN, IRAQ, ITALY, JAPAN, LITHUANIA, MEXICO, NETHERLANDS, INDIES, NEW ZEALAND, NICARAGUA, PANAMA, PERU, PHILIPPINES, SPAIN, TANGIER, URUGUAY, under *History*; FASCISM; INDUSTRIAL CHEMISTRY; LABOR CONDITIONS.

**UNIVERSALISTS.** A religious denomination which holds as part of its doctrine the universal fatherhood of God and brotherhood of man. Headquarters, 16 Beacon St., Boston, Mass. See **RELIGIOUS ORGANIZATIONS**.

**UNIVERSITIES AND COLLEGES.** According to the *Educational Directory* published by the U.S. Office of Education, there were 1699 in-

stitutions devoted to higher education in the United States in 1940. The distribution of these institutions by type, student body, and control is shown in the accompanying table:

See ARCHITECTURE; EDUCATION and the section on Education under the various countries; EDUCATION, U.S. OFFICE OF. For donations and grants, see BENEFACTIONS; CARNEGIE ENDOWMENTS;

# INSTITUTIONS OF HIGHER EDUCATION IN THE UNITED STATES

[Statistics from U. S. Educational Directory, 1940]

Type of institution	Total	Distribution according to Student Body			Distribution according to Type of Control				
		Institutions for men	Institutions for women	Coeducational institutions	State control	District or city control	Private control	Denominational	
								Protestant	Roman Catholic
College or university	673	99	148	426	96	13	170	255	139
Professional school	256	83	7	166	18*	1	153	65	19
Teachers college	169	2	15	154	147	5	12	1	4
Normal school	58	2	20	36	30	5	16	3	4
Junior college	435	31	86	318	32	172	88	104	39
<i>Negro institutions</i>									
College or university	61	2	2	57	15	2	6	37	1
Professional school	7	1		6	1		4	2	
Teachers college	12		1	11	9	3			
Normal school	4			4			1	3	
Junior college	24			24	6	1	3	14	
Total:									
White institutions	1,591	215	276	1,100	323	196	439	428	205
Negro institutions	108	3	3	102	31	6	14	56	1
Grand total	1,699	218	279	1,202	354	202	453	484	206

\* Includes 3 under Public control.

The Office of Education estimated the enrollment in all institutions of higher education at 1,425,000 (including 100,000 graduate students) for the school year 1940-41; of this number, approximately 400,000 were entering as college freshmen. The instructional staff, not including officers, etc., totaled 110,000. According to a survey by Dr. Raymond Walters of 652 approved universities and colleges, full-time enrollment for 1940 increased 2.7 per cent over 1939 to a total of 883,594. Part-time and summer school students brought the grand total to 1,347,146. The number of freshmen entering the engineering field (32,321) increased 5 per cent, while the Liberal Arts courses lost 1.5 per cent, teachers' colleges 7.4 per cent, and agriculture 8.4 per cent. New York University had the largest total, 35,623 although the University of California had the largest full-time student body, 25,989.

On pages 766-787, there appear in tabular form a list of and statistics for the accredited universities and colleges of the United States. This information has been compiled from the 1940 edition of *American Universities and Colleges*, edited by Clarence Stephen Marsh and published by the American Council on Education, Washington, D.C. Except as amended in footnotes, the information pertains to the academic year 1938-39. The following statement explains the compilation of the list:

"The American Council on Education does not accredit or approve educational institutions. It accepts the lists of institutions approved by the regional accrediting associations.

Each institution whose exhibit is contained in this book has been approved by one of these associations or in the case of one state by the state department of education. Associations whose accredited lists have been used are the Middle States Association of Colleges and Secondary Schools, the North Central Association of Colleges and Secondary Schools, the Northwest Association of Secondary and Higher Schools, the Southern Association of Colleges and Secondary Schools, the Association of American Universities, and the American Association of Teachers Colleges; college members of the New England Association of Colleges and Secondary Schools have also been included."

GENERAL EDUCATION BOARD; ROCKEFELLER FOUNDATION.

UTERMAYER COLLECTION. See ART under Art Sales.

URANIUM. See PHYSICS.

URUGUAY. A South American republic. Capital, Montevideo.

**Area and Population.** Area, 72,153 square miles; estimated population on Dec. 31, 1938, 2,122,628. During 1939, 1240 immigrants entered the country and 1441 left. The people are almost entirely of European descent, with Spanish, Italian, and Portuguese strains predominating. The language is Spanish. Estimated population of Montevideo, 703,518 (December, 1938); of other cities in 1936: Paysandú, 50,000, Salto, 48,000; Mercedes, 34,000; Minas, 30,000. United States citizens resident in Uruguay Jan. 1, 1940, numbered 210.

**Defense.** As of Nov. 1, 1939, there was a standing army of 7916 men, an air force of 318 with about 50 planes, and 24,000 trained reserves. The National Guard, or militia, in which service is compulsory in wartime, had a nominal strength of 100,000. The Navy consisted of 1 torpedo gunboat, a survey ship, 3 patrol vessels, and a few minor craft. Defense appropriations for 1940 were 11,721,000 pesos (11.9 per cent of the budget).

**Education and Religion.** Nearly 35 per cent of all adults are illiterate. Education appropriations for 1940 were 4.1 per cent of the total budget. A considerable number of new school buildings were completed during 1939. Educational statistics (1937): Elementary, 1624 schools, 203,616 pupils; secondary, 13,458 pupils; evening, 9918 pupils; normal, 1266 students; university, 17,122 students. The majority of the people profess the Roman Catholic faith but there is complete religious freedom and no State church.

**Production.** Processing and manufacturing industries account for about 59 per cent of the total national production, pastoral industries for 24 per cent, and agriculture for about 12 per cent. The 1937 livestock census showed 8,296,890 cattle, 17,-



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					Total	Men	Women	Graduate						
ALABAMA														
Alabama, University of	State	1820	300	12,200	5,409	4,000	1,409	122	2,623	81,530	4,875,123	1,516	7,238,802	R. C. Foster
Alabama College, Montevallo	State	1893	54	1,827	892	.....	892	..	577	3,270	594,722	46,980	2,005,750	A. F. Harmon
Alabama Polytechnic Institute, Auburn	State	1872	202	8,742	3,251	2,766	485	103	2,071	11,745	34,249	.....	3,164,643	L. N. Duncan
Alabama State Teachers College, Florence	State	1855	36	217	680	193	487	..	660	5,500	.....	..	1,221,714	James A. Keller
Alabama State Teachers College, Jacksonville	State	1883	52	500	930	372	558	..	807	5,000	.....	.....	1,265,500	C. W. Daugette
Alabama State Teachers College, Livingston	State	1880	23	186	428	118	310	..	326	189	.....	.....	704,088	Noble F. Greenhill
Alabama State Teachers College, Montgomery	State	1874	47	570	1,062	.....	.....	....	2,335	..	.....	.....	975,000	H. Council Tremblin
Alabama State Teachers College, Troy	State	1886	31	218	609	179	430	..	557	3,024	.....	24,545	641,000	C. B. Smith
Birmingham-Southern College, Birmingham	Methodist	1856	54	3,170	1,055	597	458	....	654	25,765	615,510	.....	1,980,000	Raymond R. Paty
Howard College, Birmingham	Baptist	1841	54	3,069	669	398	271	..	386	3,081	726,584	.....	853,945	Harwell G. Davis
Huntingdon College, Montgomery	Methodist	1854	28	498	498	..	498	..	94	15,884	398,232	.....	852,254	Hubert Searcy
Judson College, Marion	Baptist	1838	31	1,013	260	..	260	..	208	55,700	527,128	.....	677,244	L. G. Cleverdon
Spring Hill College, Spring Hill	Catholic	1830	39	1,252	341	..	341	..	208	22,000	127,157	.....	11,007,711	William D. O'Leary
Talladega College, Talladega	Cong.-Chr.	1867	306	1,108	284	110	174	....	828	15,000	1,136,107	.....	1,560,000	Buel G. Gallagher
Tuskegee Institute, Tuskegee	Private	1881	149	986	1,154	684	470	..	828	2,300	7,060,519	26,979	4,162,913	Frederick D. Patterson
ALASKA														
Alaska, University of, Fairbanks	Public	1915	28	177	291	196	95	..	...	14,285	1,000	.....	1,068,414	C. E. Bunnell
ARIZONA														
Arizona, University of, Tucson	State	1885	211	5,661	2,873	1,811	1,062	211	546	29,428	48,136	140,000	5,542,356	Alfred Atkinson
Arizona State Teachers College, Flagstaff	State	1899	37	976	490	248	242	7	589	4,632	..	11,835	1,573,363	Thomas J. Torney
Arizona State Teachers College, Tempe	State	1885	69	1,448	1,393	741	652	103	679	..	...	23,713	1,736,454	Grady Gammage
ARKANSAS														
Arkansas, University of, Fayetteville	State	1871	198	5,694	2,754	2,032	722	71	896	18,794	132,666	600,727	4,283,875	J. W. Fulbright
Arkansas State College, Jonesboro	State	1909	41	467	1,386	770	616	....	801	9,409	..	.....	1,754,300	V. C. Kays
Arkansas State Teachers College, Conway	State	1908	37	1,328	817	388	429	..	713	19,000	..	..	1,377,576	H. L. McAlister
Henderson State Teachers College, Arkadelphia	State	1890	33	1,052	622	301	321	....	478	18,303	1,026,063	24,863	260,180	J. A. Day
Hendrix College, Conway	Methodist	1876	37	1,264	400	218	182	....	.....	40,477	..	..	857,370	John H. Reynolds
CALIFORNIA														
California, University of, Berkeley and Los Angeles	State	1868	2,067	79,763	32,010	18,126	13,884	4,485	8,153	151,770	24,213,998	1,246,152	53,812,732	Robert G. Sproul
California Institute of Technology, Pasadena	Private	1910	124	.....	862	862	..	256	...	114,193	11,456,000	2,029,563	7,759,323	Robert A. Millikan
Chapman College, Los Angeles	Church	1920	23	479	348	180	168	..	64	48,979	175,000	..	775,000	Cecil F. Cheverton
Chico State College, Chico	State	1887	49	...	990	484	506	78	160	24,352	..	..	974,852	Amyer J. Hamilton
Claremont Colleges, Claremont	Private	1925	78	321	331	176	155	331	660	..	861,262	.....	1,086,770	Russel M. Story

Dominican College of San Rafael	1850	35	433	182	1,202	182	1,202	182	13	196	30,000	5,787	...	165,000	1,535,732	Sister Mary Thomas F. W. Thomas
Fresno State College, Fresno	1911	94	2,375	2,151		949	53	282			43,679	5,787	...	1,144,044	872,180	Hugh M. Tiner
George Peppercorn College, Los Angeles	1937	28	28	286	180	106					11,700	1,347	691,992			
Holy Names College of the, Oakland	1880	44	499	330	330	330	10	317			21,289	3,250	3,386,888		1,627,550	Sister Mary Aloyse Arthur S. Gist
Humboldt State College, Arcata	1913	24	409	396	195	201	9	93			19,006	1,539	...	224,000	743,983	
Immaculate Heart College, Los Angeles	1916	35	438	506		506		309			15,000	3,585	52,000		650,600	Sister M. Redemptio
Loyola University of Los Angeles	1865	56	835	686	686			58			36,050	20,656	...		676,000	Rev. Charles A. McQuillan
Medical Evangelists College of, Loma Linda and Los Angeles	1909	304	1,288	340	314	26		698			22,317	43,573	1,910,677		1,665,641	Percy T. Magan
Millia College, Oakland	1852	85	2,200	658	3	655	72				79,224	63,992		59,236	3,103,038	Aurelia H. Reinhardt
Mount St. Mary's College, Los Angeles	1925	32	367	265		265		307			12,000	54,697	1,237,150		700,000	Sister Mary Dolores
Occidental College, Los Angeles	1852	64	2,977	792	409	383	66				56,631	10,285	569,071		2,077,958	Renison D. Bird
Pacific College of the, Stockton	1851	68	2,625	566	281	285	152	284			35,625	10,285	...		1,175,958	Willy C. Soles
Pacific Union College, Angwin	1882	43	873	602	311	291		170			21,143	30,516	3,166,938		1,428,378	Walter L. Smith
Pemona College, Claremont	1887	74	4,817	801	424	377					91,346	83,098		377,790	3,135,964	Charles K. Edmonds
Redlands, University of, Redlands	1907	53	1,960	778	403	375	42	224			54,500	83,098	3,414,251		1,845,969	Elan J. Anderson
St. Mary's College, St. Mary's Park	1863	44	1,315	490	490						29,976	6,500	142,629		2,513,260	Brother Albert
St. Patrick's Seminary, Menlo Park																Very Rev. Joseph V. Nevins
San Diego State College, San Diego	1898	97	1,946	2,438	1,359	1,079		451			66,009	2,130			1,828,486	Walter R. Hepner
San Francisco, University of, San Francisco	1855	77	2,463	1,095	1,010	85		214			51,312	3,600	44,218		2,112,000	William J. Dunne
San Francisco State College, San Francisco	1921	30	220	201	..	201		181			100,000	2,280	...		1,000,000	Mother L. Mejia
San Jose State College, San Jose	1899	90	2,627	2,533	969	1,564		1,375			41,300	4,277	12,000		1,278,637	Alexander C. Roberts
Santa Barbara State College, Santa Barbara	1857	188	4,818	4,163	2,027	2,136					70,000	6,100	...		1,870,494	Thomas W. MacQuarrie
Santa Clara, University of, Los Angeles	1909	49	1,728	1,594	748	846	24	745			30,772	7,533			1,059,688	Clarence L. Phelps
Scripps College, Claremont	1777	28	292	528	528	213					65,000	17,984	770,205		2,000,000	Louis C. Rudolph
Southern California, University of, Los Angeles	1927			213							20,821	15,800			1,937,437	Ernst J. Jaqua
Stanford University, Stanford	1880	668	26,379	7,269	4,780	2,489	3,064	6,634			256,222	124,000	1,600,000		8,535,000	R. B. von Klein Smid
Whittier College, Whittier	1885	347	24,779	4,577	3,222	1,355	1,336	929			740,000	182,961	30,502,611		18,277,121	Ray L. Wilbur
	1891	47	1,567	586	297	289	39	196			41,587	36,652	624,000		516,600	William O. Mendenhall
Colorado																
Colorado, University of Boulder	1861	281	14,295	4,440	3,027	1,413	397	3,741			362,703	120,579	172,035		10,543,757	Thurston J. Davies
Colorado Western State College of Christian	1901	30	807	452	257	195	52	799			26,402	10,391			842,000	Charles C. Casey
Colorado College, Colorado Springs	1874	57	3,031	794	457	337	29	179			115,000	58,400	2,700,000		2,059,000	Robert L. Stearns
Colorado School of Mines, Colorado	1874	75	2,428	883				280			37,000		...		1,400,000	M. F. Coolbaugh
Colorado State College of Agriculture and Mechanic Arts, Fort Collins																
Colorado State College of Education, Greeley	1870	154	4,776	1,892	1,394	498	34	1,378			92,783	15,920	494,706		4,762,589	Charles A. Lory
Denver, University of, Denver	1889	98	6,133	4,300	1,671	2,629	341	2,840			93,658	12,205	2,631,645		2,247,455	George W. Frasier
Loretto Heights College, Loretto	1864	212	9,932	3,963	2,070	1,891	467	1,513			146,028	89,334	92,784		1,551,116	David S. Duncan
	1891	24	284	265		265		100			17,000		750,000		1,284,116	Paul J. Ketrick

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CONNECTICUT														
Albertus Magnus College, New Haven	Private	1925	35	267	176	..	176	..	14,482	19,534	2,350	774	685,000	Sister M. Isabel, O.P.
Connecticut Teachers College of New Britain	State	1849	32	793	494	145	349	....	19,500	6,025	..	13,472	1,915,000	Herbert D. Welte
Connecticut University of Storrs	Private	1881	113	2,292	1,116	787	329	13	70,000	12,305	305,986	91,412	2,586,502	Albert N. Jorgensen
Connecticut College for Women, New London	State	1911	72	2,115	742	..	742	5	83,341	21,777	1,361,261	456,993	3,737,493	Katharine Blunt
Danbury State Teachers College, Danbury	State	1904	40	75	215	45	170	..	25,000	3,900	..	5,908	600,000	Ralph C. Jenkins
New Haven State Teachers College, New Haven	State	1893	20	190	345	15	330	..	14,420	..	..	3,000	230,000	Finis E. Engelman
St. Joseph College, West Hartford	Catholic	1925	32	151	273	..	273	370	9,500	13,400	3,538,116	32,350	1,308,406	Rev. Mother M. Benedict
Trinity College, Hartford	Episcopal	1823	54	3,621	542	542	..	8	130,000	22,310	..	402,457	3,875,000	Remson B. Ogilby
Wesleyan University, Middletown	Methodist	1831	78	5,773	765	765	..	26	241,107	71,614	7,919,430	402,457	5,257,703	James L. McConaughy
Williamianic State Teachers College, Williamianic	State	1701	958	58,106	5,320	4,878	442	2,109	2,151,000	587,521	100,448,707	3,012,785	82,000,000	George H. Shafer
Yale University, New Haven	Private	1701	958	58,106	5,320	4,878	442	2,109	2,151,000	587,521	100,448,707	3,012,785	82,000,000	Charles Seymour
DELAWARE														
Delaware University of Newark	State	1743	96	3,359	938	581	346	11	69,038	4,519	625,232	421,408	4,542,725	Walter Hulihan
DISTRICT OF COLUMBIA														
American University, Washington	Methodist	1893	103	1,359	2,408	1,467	941	847	46,248	31,020	962,471	10,200	3,017,539	Joseph M. M. Gray
Catholic University of America, Washington	Catholic	1887	245	9,325	2,175	1,591	584	1,388	276,399	64,524	3,301,711	501,630	3,875,407	Joseph M. Corrigan
Georgetown University, Washington	Society of Jesus	1789	..	..	2,478	2,390	88	67	212,250	..	..	7,271,880	7,271,880	Rev. Arthur A. O'Leary
George Washington University, Washington	Private	1821	384	21,760	6,875	4,522	2,353	1,898	125,000	40,980	2,299,551	488,976	5,200,700	Cloyd H. Marvin
Howard University, Washington	Private	1867	186	10,537	2,404	1,181	1,223	715	119,146	31,980	979,098	34,162	7,212,613	Mordecai W. Johnson
James Ormond Wilson Teachers College, Washington	Public	1873	46	473	451	127	324	..	21,340	..	..	5,854	308,357	E. C. Higbie
Minor Teachers College, Washington	Public	1851	47	505	603	124	479	..	25,063	..	250,246	69,000	237,766	E. A. Clark
Trinity College, Washington	Catholic	1897	55	2,306	355	..	355	..	46,020	13,917	..	..	3,314,904	Sister B. Julia
FLORIDA														
Florida University of Gainesville	State	1853	194	6,556	3,438	3,386	52	340	141,000	15,000	261,848	594,640	8,033,756	John L. Tigert
Florida Agricultural and Mechanical College, Tallahassee	State	1887	72	35,000	822	379	443	..	13,258	..	..	..	1,463,737	J. R. E. Lee
Florida Southern College, Lakeland	Methodist	1886	47	..	894	237	657	..	24,168	..	525,000	..	572,603	Ludd M. Spivey
Florida State College for Women, Tallahassee	State	1905	134	4,470	1,871	8	1,863	31	76,468	37,460	208,701	..	4,013,892	Edward Conradi
John B. Stetson University, DeLand	Baptist	1883	59	..	884	399	485	10	52,500	..	942,300	..	926,000	William S. Allen
Rollins College, Winter Park	Private	1885	71	1,017	422	202	220	6	56,806	88,121	1,100,000	40,025	1,491,783	Hamilton Holt



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Illinois State Normal University, Normal	State	1857	153	2,833	2,076	771	1,305	1,612	85,909	\$	\$	330,000	1,938,428	R. W. Fairchild
Illinois State Teachers College, Eastern, Charleston	State	1895	90	869	1,095	551	544	673	48,961	2,986		656,810	1,881,771	Robert G. Buzzard
Illinois State Teachers College, Northern, DeKalb	State	1895	77	812	1,030	395	635	637	46,333	4,153		48,000	897,585	Karl L. Adams
Illinois State Teachers College, Western, Macomb	State	1899	80	1,529	999	455	544	1,208	48,290	530		120,995	2,400,000	W. P. Morgan
Illinois Wesleyan University, Bloomington	Methodist	1851	54	3,631	780	455	325	34	41,000	28,500	1,333,000	1,645	1,154,258	William E. Shaw
James Millikin University, Decatur	Presbyterian	1901	52	1,792	665	351	314	179	33,000	21,292	991,657		1,079,958	John C. Hessler
Knox College, Galesburg	Cong. Chr.	1836	58	4,472	636	357	279		55,255	24,942	2,245,583	35,021	1,651,868	Carter Davidson
Lake Forest College, Lake Forest	Presbyterian	1857	28	1,633	386	255	131		49,752	32,913	1,157,000	1,763,300	1,763,300	Herbert M. Moore
Lewis Institute, Chicago	Private	1895	92	2,772	2,542	1,932	610	349	38,217	4,820	1,408,003	4,972	936,116	F. A. Rogers
Loyola University, Chicago	Catholic	1870	735		4,321	2,407	1,914	453	119,533	16,495	1,012,963	19,239	5,394,859	Rev. Samuel K. Wilson
MacMurray College for Women, Jacksonville	Methodist	1846	48	1,180	766	766		140	27,213	54,727	1,769,521	61,564	1,693,138	Clarence P. McClelland
Monmouth College, Monmouth	Presbyterian	1853	45	3,137	557	318	239	48	55,000	31,715	2,000,000	8,028	1,108,592	James H. Grier
North Central College, Naperville	Evangelical	1861	40	2,461	600	346	254		25,691	18,926	872,662	6,467	1,308,335	Edward E. Rall
Northwestern University, Evanston	Methodist	1851	792	44,432	6,920	4,280	2,640	912	612,425	178,664	23,147,340	7,392,304	18,296,977	Franklyn B. Snyder
Principia, The, Elmhurst	Private	1910	26	219	305	153	152		21,474	6,333	603,814	116,632	2,758,310	Frederick E. Morgan
Rockford College, Rockford	Private	1847	36	1,665	284	284			27,455	15,741	1,009,832	39,870	650,109	Mary A. Cheek
Rosary College, River Forest	Catholic	1852	63	953	506	506		571	40,385	23,786	108,861	9,134	2,926,686	Sister M. Evelyn
St. Francis College of Joliet	Catholic	1874	37	161	276		276	352	20,000	1,111	13,000		1,427,795	Sister M. Ambeta
St. Francis Xavier College for Women, Chicago	Catholic	1915	33	370	303	303		202	36,000	12,239		15,106	1,117,377	Sister M. Inez
Wheaton College, Wheaton	Private	1853	75	2,693	1,140	589	551	35	50,026	126,883	680,799	19,815	767,920	James O. Burrell, Jr.
INDIANA														
Ball State Teachers College, Muncie	State	1918	98	2,737	1,757	684	1,073	69	73,000	12,641		716,960	3,750,000	Lemuel A. Pittenger
Butler University, Indianapolis	Christ	1849	84	5,642	1,774	971	803	135	73,821	28,032	1,833,209	554,152	3,970,073	Daniel S. Robinson
DePauw University, Greencastle	Methodist	1832	89	8,790	1,416	808	608	119	91,024	77,629	5,730,894	58,935	2,132,539	Clyde E. Wildman
Earlham College, Richmond	Friends	1847	37	2,904	450	228	222	7	59,435	15,871	1,260,636	54,744	817,517	William C. Dennis
Evansville College, Evansville	Methodist	1854	29	1,319	455	263	192	225	19,083	9,000	430,000	13,400	697,352	F. Marion Smith
Franklin College, Franklin	Baptist	1834	28	1,839	367	214	153	34	30,799	7,785	825,000	8,114	537,000	William G. Spencer
Hanover College, Hanover	Presbyterian	1827	24	1,974	374	224	150		35,000	14,500	770,000	400,000	750,000	Albert G. Parker, Jr.
Indiana State Teachers College, Terre Haute	State	1865	122	9,133	1,945	879	1,066	84	135,553	24,756	100,000	771,748	5,015,000	Ralph N. They
Indiana University, Bloomington	State	1820	403	26,198	6,492	4,212	2,280	576	329,450	49,836	2,404,167	1,779,163	15,057,096	Herman B. Wells
Manchester College, North Manchester	Brethren	1889	44	2,027	699	334	365	564	32,285	6,000	636,066	22,426	627,216	Otto Winger
Notre Dame du Lac, University of Notre Dame	Catholic	1843	220	10,418	3,196	3,196		141	192,894	47,300	1,920,806	267,598	12,264,539	Rev. John F. O'Hara
Purdue University, Lafayette	State	1865	437	20,406	7,098	5,798	1,300	515	127,357	116,890	340,000	3,398,654	13,775,097	Edward C. Elliott
Rose Polytechnic Institute, Terre Haute	Private	1874	27	1,800	250	250		52	23,400	12,765	1,935,773		559,971	Donald B. Prentice
St. Mary-of-the-woods College, St. Mary-of-the-woods	Catholic	1840	41	863	264	264		660	60,021	46,254	619,300	114,500	114,500	Mother Mary Bernard
St. Mary's College, Notre Dame	Catholic	1844	55	1,100	344	344		228	23,758	1,570		6,616	2,188,732	Sister M. Madeleva

Valparaiso University, Valparaíso	1859	43	1,171	506	343	163		105	43,372	5,394	548,633	39,511	1,057,250	Walter G. Friedrich
Wabash College, Crawfordsville	1832	32	2,959	442	442				84,516	41,265	2,078,466	37,228	893,700	Louis B. Hopkins
Iowa														
Clarke College, Dubuque	1843	38	800	367	428	367		234	17,789	9,500	211,150		1,575,000	Sister Mary A. Durkin
Coe College, Cedar Rapids	1851	67		778	778	350	3	147	47,476	35,480	1,696,357	1,650	1,465,281	Harry M. Coge
Cornell College, Mount Vernon	1852	48	3,839	296	296	321	2	120	60,000	30,548	2,247,986		1,114,448	John B. Magee
Drake University, Des Moines	1881	110	11,089	1,334	808	526	9	749	82,862	27,766	1,636,693	5,000	1,215,804	Daniel W. Morehouse
Dubuque University of Dubuque	1852	30	1,254	450	278	172	25	95	22,650	33,500	725,462	7,720	598,249	Dale D. Welch
Grinnell College, Grinnell	1847	67	4,654	773	385	388	11		99,393	40,011	2,153,555	22,160	2,064,049	John S. Nollen
Iowa State University of Iowa	1847	389	42,386	6,804	4,505	2,299	1,421	2,996	455,704	102,229	1,032,958	317,584	21,165,432	Eugene A. Gilmore
Iowa State College of Agriculture and Mechanic Arts	1858	513	20,304	7,075	5,021	2,054	727	1,685	286,500	236,000	1,045,000	788,000	14,130,915	Charles E. Friley
Iowa State Teachers College, Ames	1876	136	4,774	2,202	764	1,438		1,589	120,427	14,359	41,600	9,000	3,763,705	O. R. Latham
Iowa Wesleyan College, Mount Pleasant	1844	20		222	139	83		75	23,000	10,100	390,849		734,786	Stanley B. Niles
Loras College, Dubuque	1839	50	1,615	425	393	32		436	74,000	18,169	1,323,664	10,000	1,395,042	Very Rev. M. J. Martin
Luther College, Decorah	1861	34	2,838	492	335	137		71	11,025	8,141	569,000	22,500	1,113,475	O. J. H. Preuss
Morningside College, Sioux City	1889	43	2,273	575	328	247		94	41,851	40,053	327,260		406,028	Earl A. Readman
Parsons College, Fairfield	1875	29	1,488	263	160	103		95	22,430	8,772	432,399		570,064	Donald L. Hibbard
St. Ambrose College, Davenport	1882	67	655	532	479	553		280	20,000	4,277	600,000	2,000	1,103,871	Carl H. Meinberg
Simpson College, Indianola	1860	31	2,540	508	238	270		168	28,440	21,556	1,390,362		555,242	John O. Gross
KANSAS														
Baker University, Baldwin	1858	30	2,690	380	202	178		67	70,375	12,563	1,328,622		603,540	Nelson P. Horn
Bethany College, Lindsborg	1881	35	1,357	330	152	178		104	20,430	8,193	362,646	9,590	534,482	Ernst F. Pihlblad
Bethel College, North Newton	1887	36	536	378	206	172		144	20,500	4,710	318,000	16,000	380,067	Edmond G. Kaufman
Emporia College of Emporia	1882	25		343	183	160			23,000		214,363		754,000	Dudley Doolittle
Fort Hays Kansas State College, Hays	1901	70	1,950	1,095	625	470	53	857	41,669	6,903	256,000	4,000	1,229,666	Clarence E. Rarick
Kansas University of Lawrence	1855	263	24,150	4,878	3,295	1,583	382	1,266	309,777	44,083		556,000	8,516,942	Deane W. Malott
Kansas State College of Agriculture and Applied Science, Manhattan														
Kansas State Teachers College, Emporia	1863	419	13,810	4,205	3,007	1,198	267	886	122,653	121,596	505,509	193,531	4,549,986	Francis D. Farrell
Kansas State Teachers College, Pittsburg	1863	115	4,159	1,705	758	947	45	1,417	80,000	10,000	250,000		1,965,000	Thomas W. Butcher
Mount Saint Scholastica College, Mount St. Scholastica	1903	105	5,082	2,630	1,205	1,425	292	1,418	62,851	7,610	19,964	34,524	1,901,097	W. A. Brandenburg
Ottawa University, Ottawa	1863	34		277		277		350	19,000	4,700	458,008		1,010,000	Mother Lucy Dooley
St. Benedict's College, Atchison	1865	25	1,637	312	159	153		96	18,626	3,008	41,682		675,081	Andrew B. Martin
St. Mary College, Leavenworth	1859	34	377	294	294			239	75,000	9,000	455,380		455,380	Rt. Rev. Martin Veth
Southwestern College, Winfield	1866	32	1,611	297		297		239	75,000	9,000	530,675		522,385	Arthur M. Murphy
Washburn College, Topeka	1885	48	2,395	628	300	328		246	24,176	17,623	621,701	20,817	598,186	Frank E. Mossman
Wichita Municipal University of Wichita	1865	49	3,945	818	491	327		201	36,600	15,157	1,131,486	9,000	1,632,701	Philip C. King
	1892	81	1,865	1,591	967	624	20	425	52,313	5,980	107,778	127,665	1,592,443	W. M. Jardine
Kentucky														
Berea College, Berea	1855	67	2,013	841	432	409		156	85,181	19,160	3,233,300	57,970	5,288,410	Francis S. Hutchins
Centre College of Kentucky, Danville	1819	26	2,985	341	212	129		57	32,073	11,773	1,336,004	10,008	885,909	Robert L. McLeod, Jr.
Georgetown College, Georgetown	1787	31	2,849	419			1	192	16,000	56,843	583,470		405,466	Henry N. Sherwood

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Kentucky, University of, Lexington	State	1865	332	11,714	4,065	2,673	1,392	435	1,985	254,546	184,075	150,000	6,796,524	Frank L. McVey
Kentucky State College for Negroes, Frankfort	State	1886	28	826	676	327	349		256	18,000		181,175	1,048,725	Rufus B. Atwood
Kentucky State Teachers College, Eastern, Richmond	State	1906	77	1,538	1,396	580	816		776	56,898		320,000	3,225,000	H. L. Donovan
Kentucky State Teachers College, Western, Bowling Green	State	1906	110	3,399	3,305	1,733	1,572		574	55,567		39,986	2,408,627	Paul L. Garrett
Louisville, University of Louisville	Public	1837	366	21,480	2,300	1,441	859	117	406	96,557	985,748	106,632	2,168,334	Raymond A. Kent
Morehead State Teachers College, Morehead	State	1922	44	587	1,143	561	582		658	22,112			2,650,000	H. A. Babb
Murray State Teachers College, Murray	State	1922	54	1,354	1,142	586	556		634	25,971		37,500	1,950,754	James H. Richmond
Nazareth College, Louisville	Catholic	1920	46	381	611		611		337	19,620		13,482	389,405	Sister Mary A. Coady
Pennsylvania College, Lexington	Christian	1780	31	508	559	337	222		166	40,000	693,150		800,000	Raymond F. McLean
Union College, Barbourville	Methodist	1879	19	508	487	272	215		287	13,189	355,783		330,788	Conway Boatman
LOUISIANA														
Centenary College of Louisiana, Shreveport	Methodist	1825	45	1,353	672	389	283		285	22,000	461,738		824,000	Pierce Cline
Dillard University, New Orleans	Cong. Chr.	1930	25	137	275	114	161		87	20,000		43,322	623,944	William S. Nelson
H. Sophie Newcomb Memorial College, New Orleans	Private	1886	66	2,742	696		696	10	138	43,000	3,867,395	255	2,587,166	Rufus C. Harris
Louisiana College, Pineville	Baptist	1906	23	900	359	199	160		138	11,095	310,009	12,782	555,615	Claybrook Cottingham
Louisiana Polytechnic Institute, Ruston	State	1894	110	2,034	1,891	1,076	815		928	20,057		55,697	1,500,000	E. S. Richardson
Louisiana State Normal College, Natchitoches	State	1884	103	2,226	1,691	629	1,062		1,142	47,210		1,000,000	4,275,000	A. A. Fredericks
Louisiana State University and Agricultural and Mechanical College, University	State	1806	343	8,550	5,975	2,593	839		3,432	247,289	320,313	463,123	19,626,592	Paul M. Herbert
Loyola University of the South, New Orleans	Society of Jesus	1849	55	1,825	1,373	452			757	67,060	1,322,779	31,194	2,412,010	Rev. Percy A. Roy
Southern University and Agricultural and Mechanical College, Scottsbluff	State	1880	60	770	352	418			586	16,060		852,585	1,050,978	F. G. Clark
Southwestern Louisiana Institute of Liberal and Technical Learning, Lafayette	State	1898	100	2,038	2,020	1,206	814		1,320	30,372		2,063,066	1,580,000	Lether E. Fraser
Tulane University of Louisiana, New Orleans	Private	1834	500	17,517	4,155	2,715	1,440	687	872	239,094	10,664,448	259,076	7,355,935	Rufus C. Harris
Xavier University, New Orleans	Catholic	1918	56	533	918	461	457	28	454	24,150	170,222	68,002	1,014,900	Mother M. Agatha
MAINE														
Bates College, Lewiston	Baptist	1863	48	4,795	698	407	291		286	72,938	1,875,153	18,939	101,450	Clifton D. Gray
Bowdoin College, Brunswick	Private	1794	50	8,734	641	641			182,000	32,770	8,090,997	133,911	3,631,640	Kenneth C. M. Sills
Colby College, Waterville	Baptist	1813	50	4,633	687	422	265	3	96,000	42,620	2,765,705	205,504	2,009,833	F. W. Johnson
Maine, University of, Orono	State	1865	165	8,554	1,929	1,444	485	68	590	136,785	995,833	133,589	3,956,601	Arthur A. Hauck
MARYLAND														
Goucher College, Baltimore	Private	1885	70	5,131	655		655			71,836	2,456,141	23,031	3,589,298	David A. Robertson
Hood College, Frederick	Evangelical	1893	49	1,744	440		440			21,105	399,178	84,382	1,314,282	Henry I. Stahr



Johns Hopkins University, Baltimore	1867	668	11,618	1,765	1,614	151	857	946	552,850	195,881	30,387,196	570,654	13,998,663	Isiah Bowman
Loyola College, Baltimore	1852	31	980	331	331				30,000	10,397		129,265	1,120,000	Edward B. Bunn
Maryland College, University of, College Park	1807	764	35,000	4,582	3,303	1,279	447	1,401	82,891	56,228	2,061,535	6,242,069	9,347,107	Harry C. Byrd
Maryland State Teachers College, Towson	1865	38	128	562	108	454			35,875	3,036				M. Theresa Wiedefeld
Morgan State College, Baltimore	1867	34	950	558	183	375		405	25,600	13,496	81,088	92,182	1,318,210	D. O. W. Holmes
Mount St. Mary's College, Emmitsburg	1808	31		288	288			59	45,000	104,550	196,000	11,027	1,422,902	Rev. Mgr. J. L. Sheridan
Notre Dame of Maryland College, Baltimore	1848	32	513	208		208		87	16,208	23,865	1,427,250	5,000	2,846,950	Sister Mary Frances
St. Joseph's College, Emmitsburg	1809	38	650	184		184			13,178					Sister Paula Dunn
United States Naval Academy, Annapolis	1845	275	13,800	2,312	2,312				88,000				30,000,000	Rear Admiral Wilson Brown
Washington College, Chestertown	1706	27	1,300	341	223	118			19,500	12,043	45,000	125,000	770,000	Gilbert W. Mead
Western Maryland College, Westminster	1867	51	2,728	571	250	321	8	215	33,138	37,045	900,605	75,200	1,696,582	Fred G. Holloway
MASSACHUSETTS														
American International College, Springfield	1885	32	723	694	389	305			11,048	10,025		272,599	222,599	Chester S. McGown
Amherst College, Amherst	1821	70	8,489	2,901	2,454	471	27	635	227,612	92,028	11,954,000	270,386	5,170,000	Stanley Kug
Boston College, Chestnut Hill	1863	277	37,390	9,823	5,867	4,016	1,855	2,020	182,000	140,515	5,142,598	501,090	6,124,220	William J. McGarry
Boston University, Boston	1863	571	72,990	20,407	18,000	1,855	1,855	1,855	182,000	140,515	5,142,598	501,090	6,124,220	Daniel L. Marsh
Clark University, Worcester	1887	18	1,237	495	405	487	120	700	160,000	3,750			1,318,100	Wallace W. Atwood
Emmanuel College, Boston	1842	53	1,237	495	405	487	120	700	160,000	3,750			1,318,100	Sister A. Cecilia
Harvard University, Cambridge	1636	1,956	84,200	9,510	9,133	177	5,625	2,003	4,073,718	251,200	135,032,325	2,925,653	1,250,000	J. B. Conant
Holy Cross College, Worcester	1843	84	6,246	1,238	1,238		6		123,153	3,000			4,374,632	Very Rev. Joseph R. N. Maxwell
MASSACHUSETTS														
Massachusetts Institute of Technology, Cambridge	1859	393	21,482	3,093	3,043	50	692	1,586	340,000	375,000	36,230,000	1,289,157	16,000,000	Karl T. Compton
Massachusetts State College, Amherst	1863	135	4,891	1,351	956	395	194	158	116,612	31,300	154,873	156,400	4,137,228	Hugh P. Baker
Mount Holyoke College, South Hadley	1836	120	8,030	1,055		1,055		35	160,000	94,608	5,264,291	295,018	6,022,903	Roswell G. Ham
Radioli College, Cambridge	1879	35	6,792	1,041		1,041	234		90,000	88,168	5,264,291	295,018	6,022,903	Ada L. Constock
Regis College, Weston	1867	162	5,715	1,041		1,041		275	19,900	21,740	5,264,291	295,018	6,022,903	Sister G. Marie
Simmons College, Boston	1866	162	8,475	1,041		1,041	44		19,900	21,740	5,264,291	295,018	6,022,903	Bancroft Beasley
Smith College, Northampton	1871	245	17,070	2,170		2,170	156	312	265,312	185,179	6,380,412	572,208	113,848	Mrs. Elizabeth Morrow
Springfield College, Springfield	1865	52	13,916	2,149	540		44	223	200,000	149,550	7,839,549	205,988	1,607,674	Ernest M. Best
Tufts College, Medford	1852	420	13,667	2,149	1,789	360	778		200,000	149,550	7,839,549	205,988	1,607,674	Leonard Carmichael
Wellesley College, Wellesley	1870	163	13,667	1,526		1,526	53		189,738	95,463	10,125,961	155,090	1,133,857	Mildred H. McAfee
Wheaton College, Norton	1834	64	1,672	1,526		1,526			84,841	11,035	1,170,237	83,480	2,400,000	J. Edgar Park
Williams College, Williamstown	1785	98	8,518	832		474	7		171,400	54,695	10,636,305	4,495,881	2,400,000	James P. Baxter, 3d.
Worcester Polytechnic Institute, Worcester	1865	73	4,275	690	690		21	67	26,475	46,576	4,071,149	487,646	2,404,024	Wat T. Churvis
MICHIGAN														
Albion College, Albion	1835	48	3,902	826	495	331	20		53,017	15,500	1,765,837	63,496	1,708,927	J. L. Seston
Alma College, Alma	1886	27	1,165	427	272	155			50,047	8,797	376,256	497,460	497,460	John W. Dunning
Calvin College, Grand Rapids	1876	25	855	431	237	194	194		24,500		200,000	666,000	666,000	C. H. Bence
Detroit, University of, Detroit	1877	190	4,697	3,569	2,672	897	194	558	102,170	25,313	1,571,927	48,736	10,543,398	C. H. Cloud
Emmanuel Missionary College, Berrien Springs	1874	29	799	430	216	214		88	23,331	6,487	300,000	3,031	398,738	H. J. Kleoster
Hillsdale College of Michigan, Hillsdale	1844	37	5,269	477	228	249			27,000	10,982	815,328	13,239	736,574	Willford Mauck
Hope College, Holland	1851	36	2,400	509	319	188			35,651		872,000		1,061,577	Wynand Wichers

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Kalamazoo College, Kalamazoo	Baptist	1833	31	2,011	371	266	145	5	30,014	\$ 11,640	1,339,309	\$ 116,666	\$ 1,072,430	Paul L. Thompson
Marygrove College, Detroit	Catholic	1906	57	1,182	535		535		28,416	4,450			3,877,591	Sister M. Honora
Michigan, University of, Ann Arbor	State	1817	770	84,900	12,434	8,731	3,703	2,873	1,060,784	189,881	14,356,133		53,364,690	A. G. Ruthven
Michigan Central State Teachers College, Mount Pleasant	State	1892	79	2,191	1,229	553	676		39,861	19,678			1,532,538	Charles L. Auspach
Michigan College of Mining and Technology, Houghton	State	1885	73	2,210	802	786	16	7	38,964	775		42,109	1,933,633	Grover C. Dillman
Michigan Northern State Teachers College, Marquette	State	1899	53	1,192	698	357	341		33,331	4,430	30,000		770,660	Webster H. Pearce
Michigan State College of Agriculture and Applied Science, East Lansing	State	1855	420	12,960	6,221	4,327	1,894	350	139,000	68,255			7,405,030	Robert S. Shaw
Michigan State Normal College, Ypsilanti	State	1849	167	5,109	2,258	945	1,313		96,825	8,481	70,000	275,000	5,345,475	John M. Munson
Michigan Western State Teachers College, Kalamazoo	State	1903	208	4,941	2,894	1,356	1,538	106	48,011	28,194		10,566	2,837,776	Paul V. Sangren
Wayne University, Detroit	Municipal	1929	279	12,463	15,946	8,420	7,526	2,050	155,802	11,223		17,427	3,018,237	Frank Cody
MINNESOTA														
Bemidji State Teachers College, Bemidji	State	1913	36	197	337	141	196		18,426	1,715			644,000	Charles R. Sattgast
Carleton College, Northfield	Episcopal	1866	76	4,057	889	458	431	16	125,461	54,568	3,598,346	105,829	4,000,000	Donald J. Cowling
Concordia College, Moorhead	Lutheran	1891	41	1,397	523	272	251		25,809	3,900	585,966	2,838	694,940	J. N. Brown
Duluth State Teachers College, Duluth	State	1895	46	435	629	250	379		20,052	2,646			730,000	Herbert Sorenson
Gustavus Adolphus College, St. Peter	Lutheran	1862	30	1,972	570	366	204	1	28,759	2,845	541,904	15,600	719,908	O. J. Johnson
Hamline University, St. Paul	Methodist	1854	45	2,549	690	405	285		39,301	8,979	1,945,370	59,750	907,736	Charles N. Pace
Mercator College, St. Paul	Presbyterian	1885	48	2,048	703	379	324		30,000	13,486	1,807,725	72,600	1,253,720	Charles J. Turck
Mankato State Teachers College, Mankato	State	1866	54	556	791	260	531		26,480	10,019			1,044,845	Frank D. McElroy
Minnesota, University of, Minneapolis	State	1851	988	56,774	17,250	11,060	6,190	2,441	1,061,965	68,700	16,058,056	1,079,549	37,486,360	Guy S. Ford
Moorhead State Teachers College, Moorhead	State	1887	45	529	647	192	455		20,600	917		5,000	1,087,000	R. B. MacLean
St. Benedict, College of, St. Joseph	Catholic	1913	32	349	237		237		20,000	11,231			522,067	Mother Rosamond
St. Catherine, College of, St. Paul	Catholic	1906	57	1,356	651		651		57,102	1,496	584,189	5,575	2,450,502	Sister Eucharista
St. Cloud State Teachers College, St. Cloud	State	1858	64	705	955	286	669		41,920	3,838		24,500	1,125,000	George A. Selke
St. Mary's College, Winona	Catholic	1912	27	216	326	326			45,000	3,287		36,277	1,380,000	Brother Leopold
St. Olaf College, Northfield	Lutheran	1874	75	4,445	1,133	628	505		45,000	510	975,239		1,702,772	L. W. Boe
St. Scholastica, College of, Duluth	Catholic	1912	49	308	410		410		25,395	11,650	241,360	34,150	2,483,500	Mother M. Agnes
St. Teresa, College of, Winona	Catholic	1910	37	960	779		779		30,111	13,055	500,000	330,000	3,832,232	Sister Mary A. Molloy
St. Thomas, College of, St. Paul	Catholic	1887	64	1,200	735	735		66	30,111	13,055	706,350		1,711,972	Very Rev. J. A. Moynihan
Winona State Teachers College, Winona	State	1858	47	482	513	165	348		25,106	7,654		51,000	1,313,640	O. Myking Mehus
MISSISSIPPI														
Blue Mountain College, Blue Mountain	Baptist	1873	20	1,417	319	2	317		14,791	1,460	300,000	9,000	519,500	Lawrence T. Lowrey

Delta State Teachers College, Cleveland	1924	31	757	338	114	224		214	17,000	3,000	723,700	58,563	1,026,897	W M Kethley
Illiana College, Jackson	1890	23	1,857	609	397	212		143	26,000	5,062			923,453	Marion L. Smith
Mississippi University of, Uni- versity	1844	100	6,126	1,382	993	389	42	213	84,525	12,548	733,808		4,241,915	Alfred B. Butts
Mississippi College, Clinton	1826	24	2,517	385	385				22,000	2,100	633,478		645,312	Dorson M. Nelson
Mississippi Southern College, Hattiesburg	1910	53	1,935	971	287	684		780	31,995			176,000	1,645,000	J B George
Mississippi State College, State College	1878	130	5,784	2,286	2,177	109	183	765	72,491	30,813	239,788	223,005	5,614,262	G. D. Humphrey
Mississippi State College for Women, Columbus	1884	65	4,961	1,092		1,092			55,000	11,411		110,725	2,975,666	B. L. Parkinson
Tougaloo College, Tougaloo	1869	18	205	147	64	83			11,090	2,600	45,412		538,696	Judson L. Cross
MISSISSIPPI														
Central College, Fayette	1855	41	1,708	661	390	271		136	57,000	8,234	1,298,645	4,188	1,947,000	Robert H. Ruff
Culver-Stockton College, Can- ton														
Drury College, Springfield	1853	25	994	237	151	86		83	25,287	13,167		29,034	594,026	Walker H. McDonald
Harriet Beecher Stowe Teach- ers College, St. Louis	1873	31	1,887	385	207	178			57,625		1,003,821		689,029	Thomas W. Nadal
Kansas City Teachers College of, Kansas City	1890	18	240	283	72	211			12,282			182,974		Ruth Harris
Kansas City, University of, Kansas City	1911	14	301	165	25	140		537	15,167	1,200			520,259	J C Bond
Lincoln University, Jefferson City	1930	47	377	1,014	624	390	8	300	58,500	9,800	1,000	261,000	1,237,219	Clarence R. Decker
Lincoln University, St. Charles	1866	41		483	266	217		278	16,000	1,200	1,971,684	113,250	949,000	Sherman D. Scruggs
Missouri University of, Co- lumbia	1830	47		454		454			22,612			35,961	1,699,746	John Lincoln Roemer
Missouri State Teachers Col- lege, Central, Warrensburg	1839	508	26,985	6,441	4,993	1,448	623	3,313	380,649	50,000	1,821,204	731,808	9,413,900	Frederick A. Middlebush
Missouri State Teachers Col- lege, North, Kirksville	1870	68	20,004	1,513	616	897		1,613	50,028	7,692		199,780	2,000,000	George W. Diemer
Missouri State Teachers Col- lege, North, Maryville	1867	54		1,293	502	791		1,400	43,490	10,929		299,897	1,116,000	Walter H. Kyle
Missouri State Teachers Col- lege, Southeast, Cape Girardeau	1905	52	2,014	2,888	1,434	1,454		968	29,762	1,300			1,455,000	Uel W. Lamkin
Missouri State Teachers Col- lege, Southwest, Springfield	1873	57	1,700	1,894	949	945	2	1,309	70,000	2,118			1,250,000	W. W. Parker
Missouri Valley College, Mar- shfield	1905	79	3,172	2,018	830	1,188		1,959	52,421	8,040		418,181	1,918,000	Roy Ellis
Part College, Parkville	1889	23	1,128	277	163	114		75	25,000	9,003	612,417	13,000	800,416	Thomas W. Bibb
Rockhurst College, Kansas City	1875	38	2,513	550	272	278	4		30,769	3,734	1,721,924	9,343	1,497,769	William L. Young
St. Louis University, St. Louis	1910	33	216	554	453	101			25,234	4,365		25,000	694,858	Daniel H. Conway
St. Louis College, Tarkio	1818	777		5,216	2,947	2,269		1,275	133,534	5,716	1,800,000		6,012,000	Harry B. Crimmins
Washington University, St Louis	1883	21	1,014	242	134	108		822	16,327	5,716	632,104	30,000	428,220	Mr. Earle Collins
Webster College, Webster	1853	435	26,330	3,492	2,124	1,368	280	1,224	399,919	108,277	17,719,067	451,193	15,589,547	George R. Throop
Webster College, Fulton	1915	31	397	166				150	22,400	5,850			2,321,635	George F. Donovan
William Jewell College, Liberty	1851	19	1,068	321	321	166			27,600	6,313	944,055		608,424	Franc L. McCluer
William Jewell College, Harris College, St. Louis	1849	25		465	320	145		99	45,123	63,349	1,109,504		1,173,763	John F. Herget
	1857	35		615	195	420			20,995				188,097	David Reiss
MONTANA														
Billings Polytechnic Institute, Billings	1908	34	53	764	358	406		140	30,000	10,072	453,758		513,758	Ernest T. Eaton
Carroll College, Helena	1909	16	145	122	122				13,600	3,450	413,000		950,000	Rev. Emmet Rely

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Great Falls College of Education, Great Falls, . . . . .	Catholic State	1932	36	501	321	352	321	25	20,000	13,901	20,000	93,390	\$ 1,577,000	Rev. J. A. Rooney
Montana School of Mines, Butte	Catholic	1893	24		372		20		16,000		810,000			Francis A. Thomson
Montana State College, Bozeman . . . . .	Public	1893	107	2,975	1,665	995	670	61	60,000	6,250	1,894,838	19,402	2,713,700	A. L. Strand
Montana State Normal College, Dillon . . . . .	State	1893	28	180	293	105	188	177	22,185	6,010		4,631	871,703	Sheldon E. Davis
Montana State University, Missoula . . . . .	State	1893	111	4,885	2,198	1,407	791	87	212,695	12,496	837,961	502,786	3,480,174	George F. Simmons
NEBRASKA														
Cresington University, Omaha . . . . .	Catholic	1878	213	8,230	1,451	1,100	341	33	108,861	24,085	2,518,061	27,759	3,061,123	Rev. Joseph P. Zuercher
Doane College, Crete . . . . .	Cong.-Chr.	1872	26	996	259	130	129		28,710	9,508	902,797		425,702	Bryan S. Stoffer
Duquesne College, Omaha . . . . .	Catholic	1881	19	247	138		138		14,500	4,425	22,000		1,048,687	Mother Eleanor Regan
Hastings College, Hastings . . . . .	Presbyterian	1882	49	1,404	653	305	348	191	26,417	26,833	722,071		477,699	J. W. Cragdon
Nebraska, University of, Lincoln . . . . .	State	1869	503	29,176	7,210	4,697	2,513	591	342,000	72,653	954,654	55,000	12,473,546	Chauncey S. Boucher
Nebraska State Teachers College, Chadron . . . . .	State	1911	45	537	464	225	239	328	24,672				1,069,000	Robert I. Elliott*
Nebraska State Teachers College, Kearney . . . . .	State	1905	56		892	411	481	3	28,298	6,935			1,015,654	Herbert L. Cushing
Nebraska State Teachers College, Peru . . . . .	State	1867	45	1,188	549	234	315	2	45,699	2,320		49,082	1,720,000	W. R. Pate
Nebraska State Teachers College, Wayne . . . . .	State	1891	52	1,043	878	342	536	5	20,844	2,441			1,122,000	J. T. Anderson
Nebraska Wesleyan University, Lincoln . . . . .	Methodist	1887	44	2,461	456	231	225	6	29,975	11,229	996,913	1,000	629,560	Benjamin F. Schwartz
Omaha Municipal University of Omaha . . . . .	Municipal	1908	57	928	1,224	709	515		65,000	44,166	16,441	284,671	1,334,123	Rowland Haynes
Union College, Lincoln . . . . .	Adventist	1891	34	957	443	209	234	98	29,500	1,471		22,873	327,453	A. H. Ruhoffter
NEVADA														
Nevada, University of, Reno . . . . .	State	1874	82	2,994	1,263	743	520	96	61,776	10,405	364,738		2,570,502	Leon W. Hartman
NEW HAMPSHIRE														
Dartmouth College, Hanover	Private	1769	272	18,478	2,473	2,473	261	86	497,009	171,000	17,780,639	780,770	10,300,000	Ernst M. Hopkins
Keene Teachers College, Keene	State	1909	33	305	338	77			17,251				950,000	Lloyd P. Young
New Hampshire, University of, Durham . . . . .	State	1866	153	5,852	2,013	1,371	642	118	103,000	83,293	1,245,625	344,570	5,092,644	Fred Engelhardt
Plymouth Teachers College, Plymouth . . . . .	State	1870	29	185	193	20	173		18,000	300			570,000	Ernst L. Silver
NEW JERSEY														
Drew University, Madison	Methodist	1867	43	2,300	442	415	27	253	180,495	39,307	5,723,242	648,456	2,726,298	Arlo A. Brown
Georgian Court College, Lakewood . . . . .	Catholic	1908	32	536	152				30,000	5,000			4,115,500	Mother M. C. Scully
New Jersey College for Women, New Brunswick . . . . .	State	1918	101	2,994	990		990		74,268	93,940	1,939,434	16,176	4,551,270	Robert C. Clothier
New Jersey State Teachers College, Gloucester . . . . .	State	1917	30	230	392	75	317		23,000	7,308			1,250,000	Edgar F. Bunce
New Jersey State Teachers College, Jersey City . . . . .	State	1929	31	213	377	78	299		18,604	2,726			1,302,500	Roy L. Shaffer*
New Jersey State Teachers College, Newark . . . . .	State	1855	40	566	546	130	416	281	34,146	3,100			1,120,000	Roy Lee Shafer

New Jersey State Teachers College, Paterson	1855	23	172	349	136	213			16,481	4,413		8,150	25,000	C S Wightman
New Jersey State Teachers College, Trenton	1855	63	1,207	824	230	594		229	32,373	12,050		3,000	4,700,000	Roscoe L. West
New Jersey State Teachers College, Upper Montclair	1908	56	1,809	784	269	515		606	36,033	8,700	24,205	10,000	1,800,000	H. A. Sprague
Newark College of Engineering	1881	65	1,166	870	867	3		36	23,000	11,680	88,194	13,500	1,027,384	Allan R. Cullimore
Princeton University, Princeton	1746	354	25,500	2,716	2,716	3		275	940,000	212,753	31,532,296	1,031,739		Harold W. Dobbs
Rutgers University, New Brunswick	1771	288	413,765	6,513	4,449	2,064		714	500,000	333,926	4,517,206	458,346	13,846,522	Robert C. Clothier
St. Elizabeth, College of, Connecticut Station	1899	36	1,481	417		417		366	23,327	7,800	593,400	8,500	7,007,000	Sister Marie J. Byrne
St. Peter's College, Jersey City	1872	34	420	394	394		2		14,500	5,000			756,210	Very Rev. Dennis J. Donney
Seton Hall College, South Orange	1856	85	1,442	1,231				510	19,196	10,300	122,949		2,828,000	Very Rev. James F. Kelley
S Stevens Institute of Technology, Hoboken	1867	68	4,010	868	868		309	137	27,500	7,300			2,488,000	Harvey N. Davis
Ursula College, East Orange	1893	32	880	382	210	172		110	17,000	12,528			423,851	Ewald B. Lawson
<b>New Mexico</b>														
New Mexico, University of, Albuquerque	1889	107	2,195	1,698	1,006	692		137	75,724	11,170	744,748	3,000	2,112,605	James F. Zimmerman
New Mexico College of Agriculture and Mechanic Arts, State College	1889	82	1,185	1,310	924	386		316	37,776	2,854	268,831	37,855	1,249,101	Hugh M. Milton II
New Mexico Normal University, Las Vegas	1893	33	1,768	520	204	316		5	20,000	1,877	26,839	2,200	744,231	Edward Eyring
New Mexico State Teachers College, Silver City	1893	44	302	202	97	105			21,765	481	29,191	45,454	584,232	H. W. James
<b>New York</b>														
Adelphi College, Garden City	1896	51	3,052	460	460	460		4	32,804	27,103	43,150	7,503	2,309,077	Paul Dawson Eddy
Alfred University, Alfred	1836	59	2,763	654	459	195		7	58,375	19,380	1,088,000	16,800	1,506,950	J. N. Norwood
Bard College, Annandale-on-Hudson	1860	30	722	111	111	954			60,000	33,750	170,576	6,889	1,382,911	Nicholas M. Butler
Barnard College, New York	1889	96	6,521	954					62,000	75,748	4,994,854	189,674	5,131,694	Nicholas M. Butler
Brooklyn Polytechnic Institute of, Brooklyn	1854	167	2,770	2,938	2,938			513	22,430	11,390	1,694,560	20,404	2,537,386	Harry S. Rogers
Brooklyn College, Brooklyn	1930	516	8,296	12,986	7,357	5,627		3,709	151,497	52,007	7,064,139	7,064,139	7,064,139	Samuel P. Capen
Buffalo, University of, Buffalo	1846	349	13,545	4,822	2,873	1,949		433	67,047	52,048	5,654,981	89,475	6,298,523	Rev. F. A. O'Malley
Cornell University, Ithaca	1870	60	2,257	1,201	1,071	282		107	38,776	12,183	88,747	1,093,763	1,093,763	George B. Cullen
Columbia University, New York	1819	95	5,184	1,071	1,071				118,000	67,403	5,976,605	13,651	3,985,939	Nicholas M. Butler
Cornell University, Ithaca	1865	3,188	32,240	7,055	5,476	1,579		1,050	1,062,181	227,081	70,713,776	558,045	40,153,445	Edmund E. Day
D'Youville College, Buffalo	1908	30	960	313		313			24,060	7,800	30,877,433	359,387	27,893,634	Sister Grace of the Sacred Heart
Elmira College, Elmira	1853	51	3,187	360		360			48,062	9,596	860,167	3,480	1,608,036	William S. A. Potts
Fordham University, New York	1841	285	20,215	6,530	4,108	2,422		1,074	200,000	54,254	350,574	13,489	8,886,703	Rev. Robert I. Gannon
Good Counsel College, White Plains	1923	33	357	210	445	210			11,207	2,200	4,544,108	10,878	1,293,900	Mother M. Aloysis
Hamilton College, Clinton	1793	43	4,658	445					183,042	24,608	2,042,718	82	2,042,718	W. H. Cowley
Hobart College, Geneva	1822	53	2,560	374	374		2		105,485	26,450	1,353,217	36,621	1,017,637	William A. Eddy
Houghton College, Houghton	1883	34	674	427	223	204		24	13,721	1,050	238,155	10,830,000	10,830,000	Stephen W. Paine
Hunter College, New York	1870	389	23,452	7,877	7,877	7,877		2,383	108,730	1,137	373,428	6,979,000	6,979,000	George N. Shuster
Kenia College, Kenia Park	1892	28	734	211		211			18,134	8,000		150,000	1,030,053	J. Hillis Miller
Manhattan College, New York	1849	108	4,500	1,282	1,282	211		250	58,721	22,000		12,155	3,000,000	Brother A. Victor
Manhattanville College of the Sacred Heart, New York	1841	67	763	378		378			34,935	13,200	346,726	5,346	3,113,804	G. C. Dammann
Marymount College, Tarrytown-on-Hudson	1918	38	1,297	224		224			15,000	1,000	800,000	66,000	1,882,900	M. Gerard

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Mount St. Vincent, College of, New York	Catholic	1910	42	1,926	485	485	485	87	25,593	30,570	209,635	1,792	\$2,695,740	Archbishop F. J. Spellman
Nazareth College of Rochester, Rochester	Catholic	1924	31	462	234	234	234	84	15,900	8,775		1,043	393,400	Rev. Mother Rose Minam
New Rochelle, College of, New Rochelle	Catholic	1904	48	3,003	748	748	748		36,427	25,000			2,968,651	Rt. Rev. Msgr. F. W. Walsh
New York, College of the City of, New York	Municipal	1847	403	30,429	25,810	21,298	4,512	1,718	228,212	11,543		4,200	13,101,000	Nelson P. Mead
New York State College for Teachers, Albany	State	1844	91	7,505	1,379	486	893	184	27,082	33,353			1,652,979	John M. Sayles
New York State College for Teachers, Buffalo	State	1872	74	2,788	1,119	325	794	991	21,741	870			2,000,000	Harry W. Rockwell
New York University, New York	Private	1831	2,167	78,033	37,376	25,126	12,250	8,729	570,445	215,491	8,653,870	492,465	15,110,360	Harry W. Chase
Niagara University, Niagara Falls	Catholic	1856	81	1,226	1,086	1,086	1,086	22	36,988	28,854			2,140,000	Very Rev. J. M. Noonan
Rensselaer Polytechnic Institute, Troy	Private	1824	134	6,792	1,488	1,488	1,488	52	31,437	74,237	5,806,734	64,498	5,868,869	William O. Hotchkiss
Rochester, University of, Rochester	Private	1850	440	9,148	3,206	1,685	1,521	465	345,522	172,227	52,279,018	729,729	27,549,566	Alan Valentine
Russell Sage College, Troy	Private	1916	82	1,499	694	694	694	967	23,768	14,213	1,008,435	134,250	1,178,590	James L. Mender
St. Bonaventure College, St. Bonaventure	Catholic	1875	62	2,346	480	480	480	90	43,360	29,046		163,707	1,325,870	Rev. Thomas Plasmann
St. John's University, Brooklyn	Catholic	1870	247	1,008	6,166	5,208	958	166	50,130					Very Rev. Edward J. Walsh
St. Joseph's College for Women, Brooklyn	Catholic	1916	48	1,045	478	478	478		16,551	2,865			992,000	Most Rev. Thomas E. Molloy
St. Lawrence University, Canton	Private	1856	88	14,023	1,707	1,332	375	149	72,668	10,148	2,267,134	75,693	2,790,596	Laurens H. Seelye
St. Rose, College of, Albany	Catholic	1920	50	750	331		331	189	8,739	12,400	773,000		2,103,669	Most Rev. Edmund F. Gibbons
Sarah Lawrence College, Bronxville	Private	1926	59	143	287		287		32,363	25,775	444,735	124,531	1,888,381	Constance Warren
Skidmore College, Saratoga Springs	Private	1911	77	1,964	756		756		50,426	33,313	893,669	49,227	2,355,886	Henry T. Moore
Syracuse University, Syracuse	Methodist	1870	568	30,027	6,789	4,052	2,737	687	260,801		4,706,432		8,342,090	William P. Graham
Thomas S. Clarkson Memorial College of Technology, Potsdam	Private	1896	38	1,441	527	527	527	76	10,100	5,700	1,463,719	17,647	482,769	James S. Thomas
Union College, Schenectady	Private	1795	49	9,000	846	846	846	5	106,000	21,000	4,425,364		3,225,430	Duron R. Fox
United States Military Academy, West Point	Federal	1802	231	11,790	1,766	1,766	1,766		108,000				46,000,000	Brigadier General J. L. Benedict
Vassar College, Poughkeepsie	Private	1861	183	11,115	1,246		1,246	15	218,268	133,908	9,730,521	275,267	9,953,640	Henry N. MacCracken
Wagner Memorial Lutheran College, Staten Island	Lutheran	1833	29	269	272	178	94	30	15,800	13,470	335,082	8,350	1,162,000	Clarence C. Stoughton
Wells College, Aurora	Private	1868	48	1,768	313		313		88,266	25,829	1,480,818	48,873	1,846,981	William E. Weld
William Smith College, Geneva	Private	1908	753	654	161		161		105,485					William A. Eddy
NORTH CAROLINA														
Appalachian State Teachers College, Boone	State	1903	51		951	330	621	720	24,000	13,919	401,500			B. B. Dougherty
Ashville Normal and Teachers College, Asheville	Presbyterian	1887	30	840	468		468	406	15,259	9,063	353,440	207,292	1,003,278	Frank C. Foster
Bennett College, Greensboro	Methodist	1873	28	284	315		315		11,957				1,075,671	David D. Jones
Catawba College, Salisbury	Evangelical	1851	35	254	497	254	243	202	25,422	1,275	385,831	50,140	575,964	Howard R. Onyiah
Davidson College, Davidson	Presbyterian	1837	45	3,453	671	667	4	97	42,290	19,400	1,625,000	77,684	1,570,500	Walter L. Lingle

Duke University, Durham	1838	428	9,011	3,552	2,479	1,073	935	2,617	569,140	146,187	34,397,616	225,069	28,719,647	William P. Few
East Carolina Teachers College, Greenville	1907	57	1,743	1,269	202	1,067	7	590	31,938	6,078	457,764	339,413	3,000,000	Leon R. Meadows
Greensboro College, Greensboro	1838	27	1,110	416	16	400			18,624	6,159	28,771	28,771	1,231,156	Luther L. Gobbel
Gulford College, Guilford	1834	26	1,107	367	238	129		48	20,955	16,000	658,220	13,500	489,095	Clyde A. Milner
Johnson C. Smith University, Charlotte	1867	24	381	277	277	104	23	297	23,238	2,235	1,749,220	4,771	1,060,768	Henry L. McCrorey
Lenoir Rhyne College, Hickory	1891	25	1,200	525	258	267		389	16,031	11,200	424,999		620,714	P. E. Monroe
Livingstone College, Salisbury	1879	16	1,879	302	128	174		115	16,821	396	46,500		500,000	William J. Trent
Meredith College, Raleigh	1891	46	1,896	583		583			22,432	18,212	539,914	4,730	1,771,561	Carlyle Campbell
North Carolina, Agricultural and Technical College of, and														
North Carolina, University of, Chapel Hill	1891	50	646	809	576	233		450	52,000	10,000		260,000	1,024,156	F. D. Bluford
North Carolina, Woman's College of the University of, Greensboro	1776	312	11,916	3,842	3,338	504	585	1,818	374,000	133,899	2,121,758	1,162,490	15,411,487	Frank P. Graham
North Carolina College for Negroes, Durham	1891	162	5,424	2,114		2,114		621	82,707	16,760			6,943,288	Frank P. Graham
North Carolina State College of Agriculture and Engineering, Raleigh	1910	29	369	501	175	326		368	18,656	5,000		338,000	1,215,349	James E. Shepard
Queens College, Charlotte	1887	184	2,297	2,279	2,279	18	120	839	51,160	25,900	125,000	1,617,198	5,271,127	Frank P. Graham
St. Augustine's College, Raleigh	1857	34	410			410			16,224	4,500	312,953	4,700	686,831	Hunter B. Blakely
Salem College, Winston-Salem	1867	15	228	106	122	122			14,312	16,000			560,000	Rev. Edgar H. Goold
Shaw University, Raleigh	1772	37	1,337	319	177	313	7	524	18,817	18,817	16,504	16,504	823,446	Howard E. Rondthaler
Wake Forest College, Wake Forest	1865	29	1,698	467	169	298			15,668	3,000	383,243		648,288	Robert P. Daniel
Western Carolina Teachers College, Cullowhee	1833	58	4,590	993	993		2	900	72,000		2,292,655		1,019,271	Thurman D. Kitchin
	1889	43	453	762	237	525		336	15,834	4,750		196,576	1,300,000	H. T. Hunter
NORTH DAKOTA														
Jamestown College, Jamestown	1883	30	1,046	432	215	217		29	16,000	23,000	1,068,979		853,867	B. H. Kroeze
North Dakota, University of, Grand Forks	1883	119	7,124	1,939	1,351	588	169	347	108,104	9,200	1,700,000	10,000	2,823,700	John C. West
North Dakota Agricultural College, Fargo	1891	123	3,719	1,631	1,252	379	44	87	61,200	7,531	1,566,720		2,455,238	Frank L. Eversull
North Dakota State Teachers College, Dickinson	1916	27	126	646	291	355		331	12,682			5,862	720,000	Charles E. Scott
North Dakota State Teachers College, Mayville	1889	25	319	517	187	330		196	17,103	503	300,000	2,764	579,616	Cyril W. Grace
North Dakota State Teachers College, Minot	1913	47	534	913	336	577		483	26,633	3,905			952,494	C. C. Swain
North Dakota State Teachers College, Valley City	1889	53	787	707	226	481		452	34,707	2,294	647,210	17,500	651,864	James E. Cox
OHIO														
Akron, University of, Akron	1870	102	3,766	1,736	1,050	686	57	440	52,370	3,300	153,421	22,980	1,478,214	H. E. Simmons
Antioch College, Yellow Springs	1852	98	1,364	751	478	273	1		53,561	11,000	305,292	20,078	1,562,867	W. B. Alexander
Ashland College, Ashland	1878	39	2,500	374	182	192		235	16,500	10,000	419,622		451,017	Edward G. Mason
Baldwin-Wallace College, Berea	1845	62	2,778	666	329	337		138	26,940	24,573	1,724,489	117,075	1,614,802	L. C. Wright
Bowling Green State University, Bowling Green	1910	71	1,796	1,290	637	653	35	1,023	47,824	1,419		299,136	321,605	Frank L. Prout
Capital University, Columbus	1850	72	1,578	770	418	352	56	372	32,250	2,466	562,000	35,450	1,564,183	Otto Mees
Case School of Applied Science, Cleveland	1880	101	4,796	992	992		65	230	34,543	57,854	4,327,658	110,691	2,758,611	William E. Wickenden
Cincinnati, University of, Cincinnati	1819	455	26,528	11,444	7,325	4,119	330	870	471,596	163,318	9,444,454	236,918	9,942,617	Raymond Walters
Dayton, University of, Dayton	1850	84	1,667	703	593	340			130,000				2,270,000	Rev. John A. Elbert
Dayton, University, Granville	1831	62	4,338	871	461	110			34,900	35,000	3,159,750	103,759	3,014,880	Avery A. Shaw
Findlay College, Findlay	1882	24	715	277	181	96		73	20,000	8,000	439,096	25,520	274,960	Honor R. Dunathan



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					Total	Men	Women	Graduate						
Heldberg College, Tiffin	Evangelical	1850	33	2,177	371	212	159		32,000	\$ 9,949	\$ 967,576	\$ 113,789	\$ 716,915	Clarence E. Josephson
Hiram College, Hiram	Private	1850	28	2,277	378	210	168		37,000	12,630	1,057,890	12,848	896,450	Kenneth I. Brown
Indiana College, Indianapolis	Catholic	1886	49	690	568	568			29,816	2,028		12,044	2,467,270	Rev. Edmund C. Horne
Kent State University, Kent	Public	1910	125	2,385	2,591	1,315	1,276	4	58,781			650,000	3,549,946	Karl C. Leebick
Kenyon College, Gambier	Episcopal	1824	36	1,209	313	313			59,910	39,840	1,758,273	13,053	2,118,930	Gordon K. Chalmers
Lake Erie College, Painesville	Private	1856	28	1,209	170	170			28,470	10,470	809,344	680	1,286,941	Vivian B. Small
Marietta College, Marietta	Cong.-Chr	1797	38	2,420	421	253	168	1	115,093	15,275	1,291,883	152,010	913,814	Harry K. Eversall
Mary Mann College, Toledo	Catholic	1873	30	233	262	262			60	13,892	5,660		300,000	Sister M. C. Raynor
Miami University, Oxford	State	1809	223	7,627	3,130	1,841	1,289	47	152,025	23,460		599,311	5,539,216	Alfred H. Upham
Mount St. Joseph-on-the-Ohio,	Catholic	1852	34	530	253		205		15,188	4,000	1,725,000	2,000	1,247,279	Mother Mary Regina
College of Mount St. Joseph,	Catholic	1846	40	3,123	694	389	305		63,000	12,339	1,495,453	8,681	1,004,819	Charles B. Ketcham
Mount Union College, Alliance	Methodist	1837	61	3,512	767	380	387		30,100	7,695	918,780	2,290	1,841,059	Robert N. Montgomery
Muskingum College, New Concord	Presbyterian	1837	61	3,512	767	380	387		30,100	7,695	918,780	2,290	1,841,059	Robert N. Montgomery
Notre Dame College, South Euclid	Catholic	1922	34	384	154		154		18,354	12,200		35,657	1,570,094	Mother Mary Evarista
Oberlin College, Oberlin	Private	1832	160	14,061	1,860	911	949	170	395,879	129,238	19,050,541		4,976,989	Ernst H. Wilkins
Ohio State University, Columbus	State	1864	838	47,395	14,368	10,309	4,059	1,808	528,000	41,365	1,603,820	179,884	24,665,186	William McPherson
Ohio Wesleyan University, Delaware	Methodist Brethren	1804	234	9,156	3,520	2,006	1,514	139	121,800	29,722	85,814	223,004	4,625,574	Herman G. James
Ottawa College, Westerville	Methodist	1841	105	11,785	1,459	676	783	32	155,170	56,715	3,657,365	27,462	3,236,094	Herbert J. Burzstahler
St. Mary of the Springs College, Columbus	Catholic	1847	36	2,852	418	236	182		28,093	6,280	1,296,921	4,607	857,895	John R. Howe
Sisters College of Cleveland, Cleveland	Catholic	1911	34	269	135		135		24,000	4,675			799,071	Sister M. Aloyse
St. Xavier College, Cincinnati	Catholic	1928	24	215	190		190		18,770				366,350	Most Rev. Joseph Schrembs
University of the City of Toledo	Municipal	1872	96	2,813	3,276	2,049	1,227	97	75,511	14,536		34,000	3,502,000	Philip C. Nash
Ursuline College for Women, Cleveland	Catholic	1871	30	422	184		184		15,444		910,621		1,230,064	Mother M. Concepcion
Western College, Oxford	Presbyterian	1853	44	2,134	317		317	4	40,223	7,521				Ralph K. Hucker
Western Reserve University, Cleveland	Private	1826	516		4,720	2,391	2,329	2,397	510,000	97,339	11,131,413	1,811,156	11,685,152	Winifred G. Leutner
Wilberforce University, Wilberforce	State	1856	64	1,997	724	370	354		17,000		35,000	23,625	2,203,000	D. Ormonde Walker
Wilmington College, Wilmington	Friends	1863	25	1,754	297	125	172		16,400		324,765		396,917	Walter L. Collins
Wittenberg College, Springfield	Lutheran	1842	62	5,353	1,028	524	504	25	62,240	33,582	2,057,989	56,635	2,284,989	Rees E. Tullous
Wooster College, Wooster	Presbyterian	1866	84	6,767	1,001	495	506	3	85,900	60,036	3,435,650	67,704	3,433,029	Charles F. Wishart
Xavier University, Cincinnati	Catholic	1831	66	2,321	514		514		75,000	6,300	201,000	2,060	1,453,603	Rev. Dennis F. Burns
Oklahoma, University of, Norman	State	1890	329	19,979	7,239	5,070	2,169	576	221,221	40,075	3,717,347	772,867	7,522,838	William B. Bissell
Oklahoma Agricultural and Mechanical College, Stillwater	Public	1890	309	7,861	6,185	4,032	2,153	401	116,761	41,500	3,894,261		6,797,354	Henry G. Bennett
Oklahoma Central State College, Edmond	State	1890	58		1,333	519	814		22,192				150,000	R. R. Robinson
Oklahoma College for Women, Chickasha	State	1908	65	1,463	1,124		1,124		26,131	2,255			1,980,000	M. A. Nash
Oklahoma East Central State College, Ada	State	1909	60	2,800	1,464	529	935	1,183	28,178			2,000	1,047,260	A. Linscheid

Oklahoma Northeastern State College, Tahlequah	1852	48	1,141	483	658	..	1,343	30,788	1,435	..	890,000	John Vaughn
Oklahoma Northwestern State College, Lawton	1897	41	896	432	464	..	496	17,537	..	220,000	1,052,268	Chester O. Newlun
Oklahoma Southeastern State College, Durant	1909	45	2,287	841	1,260	..	1,212	29,500	..	..	520,385	T. T. Montgomery
Oklahoma State College of Education, Weatherford	1903	48	1,943	525	1,050	25	851	28,927	500	..	905,970	James B. Boren
Phillips University, Andover	1907	35	2,006	395	455	161	255	32,568	16,862	679,360	383,167	Eugene S. Briggs
Tulsa, University of, Tulsa	1894	64	1,351	623	388	2	313	55,091	6,257	1,254,666	1,343,044	C. I. Pontius
Oregon												
Linsfield College, McMinnville	1857	37	1,260	308	284	15	..	30,000	23,875	927,120	678,445	William G. Everson
Marquette College, Marysville	1893	28	151	169	169	..	89	17,500	..	..	492,573	Sister M. E. Clare
Mount Angel College and Seminary, St. Benedict	1883	40	150	177	107	12	50	26,000	4,800	96,000	840,000	Eugene Medved
Oregon State College of Engineering, Corvallis	1872	168	3,644	2,270	1,374	242	828	23,318	148,518	497,771	5,969,234	Donald M. Erb
Oregon State College, Corvallis	1858	269	4,579	3,117	1,562	313	987	163,000	70,384	223,723	7,916,449	George W. Peavy
Portland, University of, Portland	1849	24	1,189	223	125	..	..	40,750	8,600	238,226	497,225	John F. Dobbs
Reed College, Portland	1901	41	273	744	509	235	76	18,000	15,000	..	632,000	Rev. Michael J. Early
Willamette University, Salem	1904	44	1,196	550	307	243	17	65,884	3,728	1,740,680	919,475	Dexter S. Keeser
Pennsylvania												
Albright College, Reading	1856	30	2,116	380	237	143	146	20,000	37,950	616,132	1,397,978	Harry V. Masters
Allegheny College, Meadville	1815	48	4,506	704	370	334	123	130,649	89,157	1,450,000	1,786,380	William P. Tolley
Bryn Mawr College, Bryn Mawr	1880	76	4,025	603	595	146	573	166,000	95,111	6,640,000	4,595,000	Marion E. Park
Bucknell University, Lewisburg	1846	94	7,190	1,324	866	458	17	96,689	55,111	1,387,523	2,968,828	Arnold C. Marks
Carnegie Institute of Technology, Pittsburgh	1900	246	2,375	1,528	847	75	817	62,421	56,419	17,464,419	7,964,784	Robert E. Doherty
Chestnut Hill College, Philadelphia	1858	45	549	265	265	..	286	23,553	26,000	406,000	2,910,000	Mother M. James
College Mercator, Dallas	1923	38	655	261	261	..	349	16,200	34,304	1,091,500	1,091,500	Sister Marie Teresa
Dickinson College, Carlisle	1783	33	5,518	584	425	159	..	64,464	..	1,397,964	1,549,500	Fred P. Corson
Drexel Institute of Technology, Philadelphia	1891	119	2,985	1,956	1,275	681	68	64,733	27,830	3,275,322	50,000	Parke R. Kolbe
Duquesne University, Pittsburgh	1878	189	5,108	2,905	1,812	1,093	79	50,000	11,586	55,000	1,583,500	J. J. Callahan
Franklin and Marshall College, Lancaster	1787	43	914	914	..	..	..	80,000	60,000	1,223,091	2,108,491	John A. Schaeffer
Geneva College, Beaver Falls	1848	32	2,401	523	334	189	292	32,798	735,000	732,735	1,435,000	McLeod M. Pearce
Gettysburg College, Gettysburg	1832	45	4,214	666	506	160	84	59,256	30,000	815,000	35,000	Henry W. A. Hanson
Grove City College, Grove City	1876	51	3,864	929	520	409	107	37,075	4,800	783,214	105,283	Weir C. Ketter
Haverford College, Haverford	1833	43	3,227	327	327	..	..	144,000	23,375	4,442,000	27,848	Felix Morley
Immaculata College, Immaculata	1920	37	658	260	260	..	234	14,292	12,577	709,821	4,117,100	Rev. F. J. Furey
Junata College, Huntingdon	1876	45	1,564	476	293	183	129	50,000	47,321	812,053	812,053	Charles C. Ellis
Lafayette College, Easton	1826	98	8,050	953	953	11	..	108,267	..	3,933,580	2,002,900	William M. Lewis
La Salle College, Philadelphia	1860	31	805	391	391	..	50	11,000	..	..	..	Rev. Brother E. Aunein
Lebanon Valley College, Annville	1866	36	2,241	554	312	242	99	21,877	5,514	918,312	681,402	Clyde A. Lynch
Lehigh University, Bethlehem	1865	164	8,151	2,034	2,011	23	666	238,000	174,839	7,700,000	6,373,135	C. C. Williams
Lincoln University, Lincoln	1854	27	2,579	334	334	..	..	35,000	16,913	1,050,773	861,046	Walter L. Wright
Marywood College, Scranton	1915	52	2,011	458	..	458	363	27,457	9,950	600,000	15,300	Mother M. Joseph
Mercyhurst College, Erie	1871	32	325	210	210	..	105	14,300	..	1,680,000	1,800,000	Sister M. X. O'Neill
Moravian College, Bethlehem	1807	23	..	..	..	..	..	25,000	..	384,928	667,000	William N. Schwarz
Mount Mercy College, Pottsville	1929	32	188	237	237	..	291	18,280	43,000	850,000	1,650,000	Mother M. I. Dougherty
Muhlenberg College, Allentown	1848	35	3,007	501	501	..	245	56,321	..	1,007,500	2,236,211	Levering Tyson

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Pennsylvania, University of, Philadelphia	State	1740	1,565		16,137	11,479	4,658	1,444	1,882	528,506	22,323,269	1,671,762	34,045,777	Thomas S. Gates
Pennsylvania, College for Women, Pittsburgh	Presbyterian	1869	36	1,513	319		319			27,751	556,672		1,473,996	Herbert L. Spencer
Pennsylvania, State College, State College	State	1855	613	1,608	6,996	5,523	1,473	566	3,012	82,111	517,000	551,982	11,470,676	Ralph D. Hetzel
Pennsylvania, State Teachers College, Bloomsburg	State	1839	44	955	700	345	355		379	18,149			1,347,668	Harvey A. Andrus
Pennsylvania, State Teachers College, California	State	1849	38	990	1,009	466	543		538	17,500	1,500		1,143,590	Robert M. Steele
Pennsylvania, State Teachers College, Clarion	State	1866	25	289	261	133	128		218	19,022			1,760,000	Paul G. Chandler
Pennsylvania, State Teachers College, East Stroudsburg	State	1893	52	1,107	517	286	231		321	15,000		11,373	1,291,724	Daniel W. LaRue <sup>b</sup>
Pennsylvania, State Teachers College, Edinboro	State	1859	25	800	314	141	173		202	19,251		754,000	1,763,088	Carnon Ross
Pennsylvania, State Teachers College, Indiana	State	1871	110	1,860	1,354	425	929		581	19,731		3,062,261	3,062,261	LeRoy A. King
Pennsylvania, State Teachers College, Kutztown	State	1860	37	508	506	210	296	15	256	26,070	1,368		1,380,534	Q. A. W. Rohrbach
Pennsylvania, State Teachers College, Lock Haven	State	1870	35	508	403	197	206		264	20,065	4,800		1,604,084	J. G. Flowers
Pennsylvania, State Teachers College, Mansfield	State	1857	60	1,320	583	193	390		236	24,401	1,950		1,239,865	Joseph F. Noonan <sup>b</sup>
Pennsylvania, State Teachers College, Millersville	State	1854	45	960	531	255	276		357	26,922	3,571		1,724,257	Landis Tanger
Pennsylvania, State Teachers College, Shippensburg	State	1873	43	855	503	232	271	12	292	22,000	2,891		2,336,558	Albert L. Rowland
Pennsylvania, State Teachers College, Slippery Rock	State	1889	51	1,006	587	251	336		410	21,904	2,194	1,204,464	3,548,466	Charles S. Miller
Pennsylvania, State Teachers College, West Chester	State	1812	82	1,857	1,620	570	1,050		605	34,583	4,485		3,548,466	Charles S. Swope
Pittsburgh, University of, Pittsburgh	State	1787	564	27,000	11,474	7,547	4,017	3,584	3,310	357,816	2,762,918	399,372	19,214,732	John G. Bowman
Rosemont College, Rosemont	Catholic	1922	44	443	245	245	245		53	24,894	1,000,000	13,000	1,131,367	Mother M. Cleophas
St. Francis College, Loretto	Catholic	1847	24	763	194	194				17,000	4,450	12,000	908,318	Edward P. M. Caraher
St. Joseph's College, Philadelphia	Catholic	1851	34	887	519	519				11,000		7,900	2,046,545	Rev. Thomas J. Love
St. Vincent College, Latrobe	Catholic	1846	72	887	393	393		125	450	63,560	21,075		2,046,545	Rt. Rev. Alfred Koch
Scranton, University of, Scranton	Catholic	1888	46	1,373	578	578			187	21,891	1,500,000	3,800	790,938	Brother D. Edward
Seton Hill College, Greensburg	Catholic	1889	56	837	437		437		285	22,900	500,000	1,848	2,059,263	James A. W. Reeves
Susquehanna University, Selinsgrove	Lutheran	1858	33	1,857	331	208	123			15,400	403,320	5,000	804,770	G. Morris Smith
Swarthmore College, Swarthmore	Private	1864	116	4,131	678	352	326		115,000	87,955	7,721,638	3,671	4,092,591	John W. Nason
Temple University, Philadelphia	Evangelical	1884	758	21,000	6,434	4,150	2,284	1,085	1,384	176,809	107,622	10,242	6,776,677	Charles E. Beury
Ursinus College, Collegeville	Reformed	1869	45	2,170	554	283	271		30,000	45,000	599,903	14,663	1,759,809	Norman E. McClure
Villanova College, Villanova	Catholic	1882	25	239	395	395			185	11,460	1,000,000		1,113,150	Joseph J. Wehrle
Washington and Jefferson College, Washington	Catholic	1842	72		924	914			1,079	50,110	2,923,440	34,794	4,747,724	Edward V. Stamford
Westminster College, New Wilmington	Presbyterian	1780	44	6,453	560	560		8	88	57,415	1,754,235	323,000	1,419,651	Ralph C. Hutchinson
Wilson College, Chambersburg	Presbyterian	1852	46	3,468	684	302	382		19,000	22,579	578,683	6,265	1,310,714	Robert F. Galbreath
	Presbyterian	1869	49	2,602	393	393			42,000	63,870	816,814	55,796	1,123,005	Paul S. Havens

RHODE ISLAND	Private	1764	163	16,311	2,215	1,387	489	339		552,000	190,597	11,785,927	584,688	6,881,576	Henry M. Wriston
	Private	1891	134	2,752	489	850	489	150		12,000	23,771	580,754	21,667	915,255	Margaret S. Morris
	Catholic	1917	79	1,728	850					30,204	2,500	70,000	126,000	1,988,000	John J. Dillon
	State	1892	86	2,685	1,244	937	307	35		57,364	13,295	50,000	25,000	4,887,600	Raymond G. Bressler
	Baptist	1894	20	2,188	395	168	227	2	374	18,686	5,890	136,317		503,202	J. J. Starks
	Municipal	1770	22	1,466	373	184	189		141	29,436	3,267	360,000	82,000	777,000	Harrison Randolph
	State	1842	68	2,742	1,101	1,101				22,678	6,706		5,028,659	General C. P. Sumner	
	State	1893	134	5,036	2,150	2,150		498		50,416	3,163	164,439	270,738	5,231,564	Enoch W. Sikes
	Baptist	1894	30	913	241		241			17,828	12,848	505,000	1,491	615,000	C. Sylvester Green
	Methodist	1854	24	2,329	332		332			13,182	10,937	467,002	5,000	622,551	J. Caldwell Guilds
SOUTH CAROLINA	Private	1889	39	2,211	382	5	377	1	37	28,430	15,000	624,325	39,215	1,136,137	Edward M. Gwaltney
	Presbyterian	1839	23	2,400	359	196	163			19,642	13,659	538,163	110,000	342,600	R. C. Orter
	Baptist	1825	66	2,727	969	498	471	28	335	47,031	19,454	838,837	110,000	2,356,967	John L. Tyler
	Baptist	1845	24	2,727	969	498	471	28	335	47,031	19,454	838,837	110,000	2,356,967	R. C. Orter
	Lutheran	1856	23	1,918	404	259	362	137	92	17,800	6,150	332,000	10,000	454,000	James C. Kinard
	State	1801	103	7,502	1,845	1,266	579	97	698	150,000	8,888		230,000	4,007,116	James R. McKissick
	State	1896	57	2,369	809	395	414		507	14,117	17,650		20,808	1,308,500	M. F. Whitaker
	State	1886	88	8,104	1,660	486	1,660	10	124	62,391	16,058	665,537	19,618	744,674	Shelton Phelps
	Methodist	1851	24	2,818	486					34,802					Henry N. Snyder
	Lutheran	1860	31	631	586	239	347	99		29,165	3,742	439,779		419,504	Clemens M. Granakou
SOUTH DAKOTA	Methodist	1883	29	1,200	442	232	210	82		26,933	5,539	584,548		553,795	Joseph H. Edge
	Presbyterian	1883	21	741	288	175	113	85		22,160	2,542	935,689		472,671	Milton C. Towner
	Baptist	1881	26	1,023	342	210	132	132		14,000		265,461		193,000	W. P. Behan
	Public	1862	102	4,268	864	542	322	46	353	100,250	5,135			2,180,000	I. D. Weeks
	State	1899	49	814	1,467	377	1,090	475		25,434	2,228			1,055,963	N. E. Steele
	State	1983	116	3,625	1,294	949	345	27	183	64,602	10,060	577,621	324,727	2,437,327	C. W. Pugsley
	State	1885	33	911	423	408	15	3		15,000	6,729	796,470		957,294	Joseph P. Connolly
	Cong.-Chr.	1881	29	1,112	324	189	135		50	31,000	4,275			744,365	George W. Nash
	Baptist	1851	28	1,577	487	217	270	..	129	20,000	12,599	533,854	24,236	307,904	James T. Warren
	Methodist	1886	51	1,804	841	410	431	165		32,163	30,281	873,834	172,533	2,900,000	Archie M. Palmer
TENNESSEE	Cong.-Chr	1866	40	2,169	504	206	298	78		67,265	12,950	2,609,548		1,347,950	Thomas E. Jones
	Private	1875	118	9,000	1,161			504		125,000		5,100,000	100,000	4,789,054	Sidney C. Garrison
	Private	1863	21	690	292	124	168		2,711	11,040	3,463	680,362	5,000	669,879	Samuel M. Laing
	Methodist	1882	21	512	492	134	358		220	8,000		50,000	13,500	456,000	I. F. Lane
	Private	1897	30		471	246	225	193		17,737	13,101	830,021	11,926	1,080,412	Stewart W. McClelland
	Presbyterian	1819	46		804	363	441			46,057	42,291	1,744,035	34,412	816,186	Ralph W. Lloyd
	Episcopal	1858	28	2,073	273	273		15		50,281	12,600	1,556,399	66,633	1,648,089	Alexander Guerry
	Episcopal	1858	28	2,073	273	273		15		50,281	12,600	1,556,399	66,633	1,648,089	Alexander Guerry
	Episcopal	1858	28	2,073	273	273		15		50,281	12,600	1,556,399	66,633	1,648,089	Alexander Guerry
	Episcopal	1858	28	2,073	273	273		15		50,281	12,600	1,556,399	66,633	1,648,089	Alexander Guerry

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					Total	Men	Women	Graduate						
Southwestern University, Memphis, Tenn.	Presbyterian	1848	36	1,352	464	293	171	.	86	12,651	435,900	7,499	\$ 1,504,622	Charles E. Diehl
Tennessee University of Knoxville	State	1794	216	13,657	4,758	3,196	1,562	337	2,536	110,390	480,833		10,845,088	James D. Hawkins
Tennessee Agricultural and Industrial State Teachers College, Nashville, Tenn.	State	1909	38	1,290	1,388	520	868		597	900		18,000	2,428,800	W. J. Hale
Tennessee Polytechnic Institute, Cookeville, Tenn.	State	1915	32	507	956	507	449	.	275	591			750,000	J. M. Smith
Tennessee State Teachers College, Johnson City, Tenn.	State	1909	45	1,040	928	351	577		793	3,357			1,350,500	Charles C. Sherrod
Tennessee State Teachers College, Memphis, Tenn.	State	1909	42	1,260	1,395	624	771		413	3,350			1,400,000	Richard C. Jones
Tennessee State Teachers College, Murfreesboro, Tenn.	State	1909	51	1,386	1,141	444	697		647	2,800	1,000,933	296,000	1,050,000	O. M. Smith
Tusculum College, Greeneville, Tenn.	Presbyterian	1794	21	966	285	145	140		135	65,910	2,213,072	623,439	617,129	Charles A. Anderson
Vanderbilt University, Nashville, Tenn.	Private	1872	298	15,010	1,804	1,348	456	120	.	750,000			7,303,784	O. C. Carmichael
TEXAS														
Baylor University, Waco, Tex.	Baptist	1845	332	9,745	3,144	1,841	1,416	112	662	72,152	1,940,793	441,139	2,884,967	Pat. M. Neff
Bishop College, Marshall, Tex.	Baptist	1880	22	1,251	1,714	885	829	.	587	6,191	13,846	12,029	409,708	Joseph J. Rhoads
Hardin-Simmons University, Abilene, Tex.	Baptist	1891	25	2,394	793	416	377	18	304	25,896	2,260	32,500	834,645	J. D. Sanderford
Incarinate Word College, San Antonio, Tex.	Catholic	1881	43	742	576	...	576		418	4,656	264,167	13,166	1,890,366	Sister M. Columville
Mary Hardin-Baylor College, Belton, Tex.	Baptist	1845	36	2,380	437	...	437	14	197	27,825	698,495	9,561	1,310,610	Gordon G. Singleton
Mines and Metallurgy, College of El Paso, Tex.	State	1913	46	623	1,108	645	463		477	8,443	599,200		912,954	D. M. Wiggins
Our Lady of the Lake College, San Antonio, Tex.	Private	1896	52	709	385	...	385		726	4,400	207,701		1,592,758	Very Rev. H. A. Constantineau
Prairie View State Normal and Industrial College, Prairie View, Tex.	State	1876	98	2,388	1,218	554	664	14	809	7,807	15,525,628	25,000	1,779,936	W. R. Banks
Rice Institute, Houston, Tex.	Private	1891	92	3,924	1,369	1,008	361	46	.	28,876		484,235	4,494,737	Edgar O. Lovett
Sam Houston State Teachers College, Huntsville, Tex.	State	1879	60	3,119	1,253	597	656	33	1,394	21,307	10,500		1,289,719	C. N. Shaver
Samuel Houston College, Austin, Tex.	Methodist	1876	22	784	317	136	181		236	5,806			300,000	Stanley E. Grauman
Southern Methodist University, Dallas, Tex.	Methodist	1911	123	5,476	2,041	1,173	868	175	979	80,678	2,325,597	251,188	3,657,221	Umphrey Lee
Southwestern University, Georgetown, Tex.	Methodist	1873	31	2,719	423	238	185	4	155	13,250	606,915	12,675	1,038,581	John W. Bergin
Stephen F. Austin State Teachers College, Nacogdoches, Tex.	State	1917	60	1,764	936	428	508	16	1,158	6,745		85,090	1,220,240	Alton W. Birdwell
Sul Ross State Teachers College, Alpine, Tex.	State	1920	29	951	429	200	229	40	.	1,885			847,191	H. W. Morelock
Texas Agricultural and Mechanical College of College Station, Tex.	State	1862	287	9,070	5,862	5,862		195	1,959	49,000	209,000		13,474,591	Thomas O. Walton
Texas University of Austin, Tex.	State	1919	442	28,890	11,444	7,917	3,527	816	6,062	53,400	3,342,824	2,220,669	26,859,663	Homer P. Rainey
Texas Christian University, Fort Worth, Tex.	Disciples of Christ	1873	86	3,182	1,188	648	540	44	435	27,359	4,134,911	113,546	1,885,236	Edward M. Waits
Texas College, Tyler, Tex.	Methodist	1894	25	557	487	214	273		350	19,485			241,041	Dominion R. Glass
Texas College of Arts and Industries, Kingsville, Tex.	State	1917	62	1,387	1,242	651	591	62	834	16,300		135,648	1,178,486	J. O. Loftin

Texas State College for Women, Denton.	1901	162	5,962	2,847	2,847	901	2,847		1,101	68,000			3,750	4,118,104	L. H. Hubbard
Texas State Teachers College, East, Commerce.	1894	99	4,105	1,802	901	901	901	105	2,456	94,517	3,250			1,543,478	S. H. Whitley
Texas State Teachers College, North, Denton.	1890	141	6,774	2,891	1,406	1,406	1,455	134	3,091	98,893	68,000		211,704	2,951,312	W. J. McConnell
Texas State Teachers College, Southwest, San Marcos.	1899	60	2,939	1,516	595	595	921	111	1,994	43,100	7,500		163,607	1,502,708	C. E. Evans
Texas State Teachers College, West, Canyon.	1909	55	2,556	1,165	527	527	633	63	845	47,706	7,711			1,787,368	J. A. Hill
Texas Technological College, Lubbock.	1923	175	3,937	3,996	2,510	1,366	1,366	123	1,932	65,032	25,653		137,500	4,219,369	Clifford B. Jones
Tillotson College, Austin.	1877	27	337	426	144	232	232	76	1,263	16,432	2,500		6,000	211,000	Mary E. Branch
Trinity University, Wrazhachie.	1869	29	1,595	360	205	205	353	102	1,263	18,601	26,283			318,203	Frank L. Wear
Wiley College, Marshall.	1873	26	1,012	572	227	227	345	233		16,297	12,581			447,000	M. W. Logan
UTAH															
Brigham Young University, Provo.	1875	117	3,663	2,782	1,562	1,562	1,226	138	608	113,925	26,410		277,199	1,390,034	F. S. Harris
St. Mary-of-the-Wasatch, Col- lege of Salt Lake City.	1895	19	80	118			118		70	11,880	6,000			861,375	Sister Mary Agnes
Utah, University of, Salt Lake City.	1850	213	9,726	4,315	2,776	2,776	1,539	269	733	142,429	36,178		23,185	4,100,000	George Thomas
Utah State Agricultural College, Logan.	1888	148	5,116	3,229	2,224	2,224	1,005	201	850	73,150	18,758		110,617	3,302,628	Elmer G. Peterson
VERMONT															
Bennington College, Bennington	1925	45	300	280			280		170	18,062	56,942		116,760	1,283,050	Robert D. Leigh
Middlebury College, Middle- bury.	1800	59	4,810	807	431	431	376	29	700	110,452	43,560		2,246,458	2,246,458	Paul D. Moody
Norwich University, Northfield.	1819	35	1,786	373	373	373			36	35,500	19,420		14,679	1,175,234	John M. Thomas
St. Michael's College, Winooski	1904	22	237	201	201	201				19,000	9,628		25,070	462,925	Leon E. Gosselin
Vermont, University of, and State Agricultural College, Burlington.	1791	230	9,749	1,448	858	858	590	43	941	150,230	262,657		117,267	3,619,762	Guy W. Bailey
VIRGINIA															
Bridgewater College, Bridge- water.	1880	25	749	283	163	163	120			16,000	18,375		4,000	483,973	Paul H. Bowman
Emory and Henry College, Emory.	1838	20	1,813	350	256	256	94		129	22,000	3,000		5,000	508,000	J. N. Hillman
Hamden-Sydney College, Hamden-Sydney.	1776	21	371	371	371	371	369		456	35,000	11,642		4,648	673,142	Edgar G. Gammon
Hampton Institute, Hampton.	1868	113	1,317	969	600	600	326			61,807	7,031		125,826	3,675,978	Arthur Howe
Hollins College, Hollins.	1842	41	1,043	326	326	326	326			30,592	5,500		38,432	1,468,522	Bessie C. Randolph
Lynchburg College, Lynchburg.	1903	19	778	303	196	107	107		36	17,000	15,799		10,000	510,450	Riley B. Montgomery
Medison College, Harrisonburg	1908	70	1,761	1,139	13	13	1,126		533	27,811	10,024		213,000	2,175,000	Samuel P. Duke
Mary Baldwin College, Staunton	1842	27	415	320	320	320	320			23,500	3,715		11,165	682,832	L. Wilson Jarman
Mary Washington College, Fred- ericksburg.	1908	74	941	1,330			1,330		448	28,000	2,735		600,000	3,500,000	Morgan L. Combs
Randolph-Macon College for Men, Ashland.	1830	17	1,618	319	314	314	5			32,319	9,792		4,000	582,353	J. Earl Moreland
Randolph-Macon Woman's Col- lege, Lynchburg.	1893	72	3,556	683			683			50,045	14,242		58,162	1,994,656	Theodore H. Jack
Richmond, University of, Rich- mond.	1832	85	4,334	1,609	1,211	1,211	398	23	329	90,362	69,443		55,066	2,694,494	F. W. Boatwright
Roanoke College, Salem.	1842	28	1,425	382	290	290	92		147	21,575	13,000		6,551	691,876	Charles J. Smith
Sweet Briar College, Sweet Brar	1901	55	1,304	450	450	450	450			51,720	18,037		14,012	1,560,439	Meta Glass
Virginia, University of, Char- lottesville.	1819	243	12,881	2,934	2,802	2,802	132	281	1,599	320,835	241,093		449,068	8,878,639	John L. Newcomb

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					Total	Men	Women	Graduate						
Virginia Military Institute, Lexington	State	1839	56	4,412	717	717			51,448	26,756	229,636	270,080	\$ 2,797,349	Charles E. Kilbourne
Virginia Polytechnic Institute, Blacksburg	State	1872	207	6,144	2,780	2,684	96	208	81,513	31,185	344,312	958,566	7,137,295	Julian A. Burruss
Virginia State College for Negroes, Hurtsville	State	1882	73	1,109	1,077	436	641	19	24,896	2,600	173,000	41,863	2,226,734	John M. Gandy
Virginia State Teachers College, Farmville	State	1884	49	1,649	866		866		30,718	7,993		335,690	1,832,000	J. L. Jarman
Virginia State Teachers College, Radford	State	1910	49	1,017	540	7	533		23,708	18,073	160,100		1,252,975	David W. Peters
Virginia Union University, Richmond	Baptist	1865	28		616	289	327	6	20,000	2,200	873,088		1,077,171	William J. Clark
Washington and Lee University, Lexington	Private	1749	61	5,421	955	955		5	116,191	34,000	3,166,632	260,744	1,940,836	Francis P. Gaines
William and Mary College of Williamsburg	State	1660	109		1,311	635	676	21	140,169	37,989	1,321,952	18,735	7,000,000	John S. Bryan
WASHINGTON														
Gonzaga University, Spokane	Catholic	1889	86		852	852			65,000	1,950	1,792,920		1,941,433	Leo J. Robinson
Holy Names College, Spokane	Catholic	1907	28	15	250	250			317	3,000			200,000	Sister Esther Mary
Puget Sound College, Tacoma	Methodist	1888	42	1,405	648	375	273	24	33,115	10,020	1,145,049	57,550	873,969	Edward H. Todd
St. Edward's Seminary, Seattle	Catholic	1882	92	344	513	280	233		20,423					Very Rev. T. C. Mulligan
Seattle College, Seattle	Catholic	1891	28		355	142	213		14,792	21,821	87,000	10,366	202,415	Francis E. Corkery
Seattle Pacific College, Seattle	Methodist	1891	28		601	323	278		15,980			16,100	390,646	C. Hoyt Watson
Walla Walla College, College Place	Adventist	1892	31	657	601	323	278		400,000	64,587	7,192,031	461,375	6,260,132	G. W. Bowers
Washington State College of, Pullman	State	1890	224	10,513	4,178	2,898	1,280	239	444,934	27,664	5,021,381	18,252,351	1,576,500	Ernest O. Holland
Washington University of, Seattle	State	1861	385	27,940	12,271	7,674	4,597	1,130	29,726	3,227		51,744	1,098,703	Lee Paul Sieg
Washington College of Education, Central, Ellensburg	State	1891	45	313	834	334	500		45,742	5,553		300,000	599,701	Robert E. McConnell
Washington College of Education, Eastern, Cheney	State	1890	57	761	1,378	484	894	12	52,164	10,664	1,108,606	54,826	233,608	C. S. Kingston
Washington College of Education, Western, Bellingham	State	1893	68	324	1,962	789	1,173		68,838	28,175		400		W. W. Haggard
Whitman College, Walla Walla	Private	1859	43	1,963	601	315	266	15	14,000	431				Walter A. Bratton
Whitworth College, Spokane	Presbyterian	1890	23	428	215	117	98	18						Frank F. Warren
WEST VIRGINIA														
Bethany College, Bethany	Disciples of Christ	1840	35	2,493	401	222	179		30,802	35,646	2,221,452	9,590	1,227,382	W. H. Cramblet
Concord State Teachers College, Athens	State	1872	33	840	599	277	322		18,000			10,000	1,000,000	J. F. Marsh
Fairmont State Teachers College, Fairmont	State	1867	42	1,252	624	324	300		23,437	900		8,000	991,000	Joseph Rosier
Glenville State Teachers College, Glenville	State	1872	23	457	429	227	202		17,500	1,023		17,000	678,000	E. G. Rohrbough
Marshall College, Huntington	State	1837	86	2,699	2,008	964	1,044		32,851	3,168			4,022,000	James E. Allen
Shepherd State Teachers College, Shepherdstown	State	1871	23	352	634	261	373		15,000				420,000	W. H. S. White
West Liberty State Teachers College, West Liberty	State	1837	23	405	304	128	176		17,526				750,000	Paul N. Elbin
West Virginia State College, Institute	State	1891	43	1,321	1,312	752	560	131	21,053	515		7,500	2,154,188	John W. Davis



State	1867	262	11,144	3,136	2,294	842	232	1,239	191,265	30,535	105,300	..	8,852,553	Charles E. Lallall
West Virginia University, Morgantown	1867	262	11,144	3,136	2,294	842	232	1,239	191,265	30,535	105,300	..	8,852,553	Charles E. Lallall
Beloit College, Beloit	1846	52	3,482	601	334	267	1	66	115,102	32,787	2,299,518	50,000	1,445,158	Irving Maurer
Carroll College, Waukesha	1840	30	1,543	633	406	227	6	66	20,000	26,992	837,983	20,000	901,101	G. T. Vander Lugt
Lawrence College, Appleton	1847	70	1,543	669	323	346	6	66	137,820	32,440	1,526,000	20,000	1,973,000	Thomas N. Barrows
Marquette University, Milwaukee	1855	351	12,098	4,379	3,095	1,284	385	878	97,476	21,705	2,258,960	298,381	5,597,581	Rev. R. C. McCarthy
Milwaukee-Downer College, Milwaukee	1851	51	1,408	335	335	335			39,512	7,900	2,101,247	55,707	1,683,053	Lucia R. Briggs
Mount Mary College, Milwaukee	1872	60	570	418		418		609	20,693	15,920			2,194,392	Edward A. Fitzpatrick
Ripon College, Ripon	1850	35	1,939	472	311	161			35,276	15,408	806,434	111,130	674,522	Silas Evans
St. Norbert College, West De Pere	1893	31	405	405	311	94		330	20,000	3,168				Rt. Rev. A. M. Keefe
Stout Institute, Menomonie	1903	48	1,821	605	312	293		507	20,677					Burton E. Nelson
Wisconsin University of Medicine	1836	1,039	51,080	12,134	8,394	3,740	1,520	4,680	472,061	150,000	1,510,000	620,691	20,477,744	Clarence A. Dykstra
Wisconsin Central State Teachers College, Stevens Point	1894	48	945	753	376	377		863	33,670	1,876		10,000	977,000	E. T. Smith
Wisconsin State Teachers College, Eau Claire	1916	46	714	618	346	272		495	28,210				581,460	H. A. Schofield
Wisconsin State Teachers College, La Crosse	1909	43	921	843	415	428		431	28,645	4,120		12,160	1,098,706	C. A. Whitney
Wisconsin State Teachers College, Milwaukee	1880	86	1,918	1,467	511	956		1,284	49,627	4,735			1,800,000	Frank E. Baker
Wisconsin State Teachers College, Oshkosh	1871	50		957	431	526		877	31,105				1,760,000	Forrest R. Polk
Wisconsin State Teachers College, Platteville	1866	34	645	616	339	277		444	28,265	5,830			540,000	Asa M. Royce
Wisconsin State Teachers College, River Falls	1874	42	694	755	464	291		377	20,500			10,860	859,660	J. H. Ames
Wisconsin State Teachers College, Superior	1896	56	1,047	852	421	431		493	29,356	4,676			1,059,000	Jim Dan Hill
Wyoming														
Wyoming University of Laramie	1886	138	3,041	2,188	1,417	771	116	915	100,631	40,655	3,915,813	155,714	3,370,040	Arthur G. Crane

Cong.-Chr. Congregational-Christian.

Chr. Reformed Christian Reformed

\* In some instances degree-granting privileges were gained many years after the date of founding, which accounts for the relatively small total.

† Corrected.

\* Three hundred and fifty members of the Harvard faculty gave part-time instruction. Ninety-five of the Harvard faculty gave instruction under the tutorial system.

\* Total degrees, endowment, and gifts or appropriations since foundation include the New Jersey College for Women.

\* Figures were supplied by the university for faculty, total students, men, women, and summer school students.

† Served by faculty and library of Hobart College.

\* No information supplied by institution.

931,327 sheep, 600,000 horses and 308,000 swine. In 1939, 961,096 cattle, 1,501,752 sheep, and 106,419 swine were slaughtered at the frigoríficos (packing plants). The 1939-40 wool clip was nearly 132,000 bales; exports, 104,933 bales. Production of the chief crops in 1939-40 was (in metric tons): Wheat, 260,400; barley, 16,800; oats, 44,600; corn, 158,700 (1938-39); rice, 22,164; potatoes, 38,500 (1938-39). The 1936 industrial census showed 11,470 factories employing 90,128 workers.

**Foreign Trade.** Merchandise imports in 1939 were valued at 84,090,240 pesos (95,600,000 in 1938) and exports at 101,366,300 pesos (96,355,000 in 1938). In order of value, the chief 1939 exports were unwashed wool, washed wool, linseed, frozen beef, preserved meats, salted cowhides, and wheat. Great Britain took 18.5 per cent of the 1939 exports (26.2 in 1938); United States, 13.9 (4.0); Germany, 12.1 (23.5). Of the 1939 imports, Great Britain supplied 18.3 per cent (19.8 in 1938); Germany, 16.4 (16.8); United States, 5.3 (12.1).

**Finance.** Budget estimates for the calendar year 1940 were the same as for 1939 (receipts, 92,600,000 pesos; expenditures, 91,200,000). The national debt increased 13.7 per cent from 350,170,089 pesos on Dec. 31, 1938, to 398,084,266 pesos on Dec. 31, 1939. On the latter date the internal debt was 245,909,699 pesos; external, 147,309,067; international, 4,865,500. Average free exchange rate of the peso was \$0.3626 in 1939 (\$0.4173 in 1938); controlled free rate, \$0.4995 in 1939 (\$0.5697 in 1938).

**Transportation.** In 1940 there were about 1520 miles of railway lines, including a 33-mile section of the state railways completed Dec. 4, 1939, some 22,750 miles of highways (about 260 miles completed in 1939); and air connections at Montevideo with all parts of the Americas. The European air mail services were in most cases interrupted by the European War. During 1939, 806 commercial aircraft landed at 9943 airports and 1026 ocean-going ships and 943 river steamers entered the ports.

**Government.** The Constitution of May 18, 1934, vested executive power in a President aided by a Council of Ministers, and legislative power in a Senate of 30 and a Chamber of Deputies of 99 members, elected by popular male and female suffrage for four years. The Senate seats are divided equally between the two political parties receiving the highest number of votes in a presidential election. The legislators proclaim as President for four years the candidate chosen by the voters from the political party polling the highest vote. His cabinet of nine members is selected from the two strongest parties. President in 1940, Gen. Alfredo Baldomir (Colorado party), who assumed office June 19, 1938. His cabinet contained six Colorados and three Blancos. The composition of the Chamber elected Mar. 27, 1938, was: Colorados, 64; Blancos, 29; Socialists, 3; Catholics, 2; Communists, 1. In the Senate there were 15 Colorados and 15 Blancos.

### HISTORY

**The German Plot.** An unsuccessful conspiracy by the Uruguayan branch of the German National Socialist party to convert Uruguay into an agricultural colony of the Third Reich produced profound repercussions within that republic and throughout the Western Hemisphere in 1940. The Nazi organizations in every American republic had been frequently accused of subversive activities and in some countries documentary and other supporting evidence had been obtained by public au-

thorities (see articles on ARGENTINA, BRAZIL, CHILE, COLOMBIA, etc., in YEAR BOOKS for 1937 to 1940 inclusive). But the Uruguayan conspiracy was the first instance in which a branch of the German Nazi movement in the New World was shown, by evidence submitted in a court of law, to have prepared to seize power directly, without operating behind the customary screen provided by native revolutionary elements.

The preliminary evidence leading to the unveiling of the conspiracy was presented to the Ministry of Defense early in May by Prof. Hugo Fernández Artucio, who had conducted a private investigation of German activities in Uruguay. This evidence was produced before the Chamber of Deputies with the result that on May 15 it appointed a committee to conduct a formal inquiry. The inquiry proceeded while German armies crushed the Netherlands, Belgium, Luxemburg, and France. Alarmed by the evidence turned up by the investigating committee, the Uruguayan Government on May 28 urgently requested Congressional approval of universal conscription and general rearmament. It asked for funds to purchase two 1500-ton destroyers, naval and military airplanes, heavy-caliber coast defense artillery, and complete new equipment for the army and navy.

At the same time President Baldomir asked Congress to amend the Constitution so as to outlaw associations spreading propaganda against the democratic republican form of government and all political organizations with foreign connections. Other amendments banned use in Uruguay of uniforms, salutes, and insignia of foreign political parties, placed all foreign language schools under government control, curbed the importation of printed political propaganda, and in other ways empowered Uruguayan authorities to control Nazi agents and their activities. Meanwhile the government sought to discourage anti-Nazi demonstrations in various parts of the country and to avoid an open break with the Reich at a time when a complete German victory in Europe seemed imminent.

The rearmament bill and constitutional amendments were both adopted by Congress with little discussion due to the increasing gravity of the crisis. Acting on information furnished by the Brazilian Government, the police on May 29 discovered in the home of Arnulf Fuhrmann, a Nazi leader, at Salto on the Uruguay River a document describing a plan for the overthrow of the republic with the aid of German war veterans from Argentina. It called for the "immediate elimination of all Jews, Masons, and political leaders." Other documents indicated a plan to use Uruguay as a base for extending German domination over all South America.

**Foreign Aid Asked.** The Uruguayan Government immediately sent secret calls for aid to Argentina, Brazil, and the United States. Argentina rushed a flotilla of gunboats up the Uruguay and Paraná rivers to patrol the river frontiers of Uruguay and Paraguay. Brazil shipped Uruguay 5000 rifles and 5,000,000 rifle cartridges to arm the numerous Uruguayan volunteers enlisting in the militia as a result of an urgent government appeal. President Vargas also concentrated Brazilian troops along the Uruguayan frontier and offered military aid in crushing the threatened uprising. The United States hurriedly dispatched two cruisers to Montevideo and sent a military and a naval officer by air to consult with Uruguayan officials.

Meanwhile on June 6 the Uruguayan Minister

of Defense mobilized all military and police forces and placed guards at key communication and transportation centers, especially along the frontiers. Licenses of all amateur radio stations were cancelled. German Nazi and Italian Fascist leaders were placed under surveillance along with some Uruguayan anti-government politicians suspected of conspiring with the Nazis. Legal steps were also planned to dissolve the German Nazi organizations and prosecute their leaders.

At this point the German Minister in Montevideo informed Uruguayan authorities (June 12) that the Nazi party and German Labor Front organizations had been dissolved and their properties turned over to the German Legation. He declared German organizations in Uruguay had been under his personal supervision since the outbreak of the European War and had complied strictly with all Uruguayan laws. Nevertheless the Uruguayan Government on June 17 announced the arrest of 12 leading Nazi agents.

**Report on Inquiry.** The same day the Chamber of Deputies in secret session heard the report of its special committee investigating Nazi activities. This report sustained Professor Artucio's original charges. It stated that Nazi plans for the domination of all South America were being developed through a secret lodge within the Nazi party operating from Montevideo. The 12 Germans under arrest were said to constitute the secret order's supreme council for Uruguay. The report set forth in detail the organization, methods, and objectives of the Nazi movement in Uruguay and other American republics.

Publication of this sensational report was suppressed by the Uruguayan Government following representations from the German Minister, who was said to have threatened a diplomatic break if any of the Nazi leaders were convicted or deported. The morale of the Uruguayan people was bolstered by the arrival of the American cruiser *Quincy* in Montevideo June 20. But in Congress the section of the Blanco party led by Sen. Luis Alberto de Herrera strongly opposed any action that would offend the Reich. The Baldomir Government feared that a victorious Germany would retaliate and apparently was not satisfied that it could depend upon Argentina, Brazil, and the United States for the necessary economic and military support. Consequently the Nazi prisoners were released on June 27.

**Germans Rearrested.** Subsequently Britain's resistance to the German *blitzkrieg* and the pledge of assistance in dealing with subversive activities given by the other American republics at the Havana Conference lessened Uruguay's fear of German reprisals. At the same time wide public indignation was aroused by boasts of the freed Nazi leaders that they would "get" Professor Artucio and by the filing of criminal libel charges against him by a pro-Nazi editor. This suit, which was dismissed by a Montevideo court on November 22, provoked sharp denunciation of the government and the courts in the Chamber of Deputies for failing to bring the accused Germans to trial. With only two Deputies dissenting, the Chamber voted to send the record of this debate to the Supreme Court and Minister of Interior. Immediately afterward (September 20) the government filed a 29-point indictment against the Nazi leaders and the eight remaining in the country were re-arrested and brought to trial.

Those arrested included Arnulf Fuhrmann, confessed author of the plot; Julio Holzer, leader of

the Storm Troop units in Uruguay; Rudolf Meissner, agent in Uruguay and adjacent territories of the German secret police; Otto Klein, chief of the Nazi commercial propaganda organization; Rudolf Paetz, organizer of Nazi cells in Uruguay; Adolf Dutine, leader of the Nazi *stutzpunkt* (support point) at Paysandú; Reginald Becker, organizer of propaganda in Uruguayan schools; and Fred Sconfeld Gordon, alleged international spy and Gestapo liaison agent. The Fuehrer of the Nazi party in Uruguay was Julius Dalldorf, who as press attaché of the German Legation in Montevideo was immune from arrest.

**The Trial.** The indictment charged the defendants with being leaders of an unassimilable, ultranationalist racial and political party controlled from Germany and engaged in spreading its ideas among German residents of Uruguay, forcing them to choose between Uruguayan citizenship and membership in the German National Socialist party. It alleged that teachers of German schools in Uruguay were appointed by the party's foreign organization in Germany; that the party carried on an intense propaganda campaign in Uruguay; that "there exists a plan to attack this country, drawn up by an ardent propagandist of the National Socialist movement"; that the plan "contains measures tending to insure the functioning of our country as a German agricultural colony without delay or quibbling, the plan being similar in this respect to those put into effect by the Germans in their recent conquests." Private hearings before the examining magistrate began on September 23 and were still under way at the end of the year. The eight defendants remained in jail.

**Relations with Axis.** As a result of the trial and of accompanying anti-German and anti-Italian demonstrations, relations between Uruguay and the Rome-Berlin Axis became greatly strained. There had been controversy since the *Graf Spee* entered Montevideo harbor to escape British warships the preceding December (see 1939 YEAR BOOK, p. 789). On Jan. 1, 1940, the Uruguayan Government interned the German freighter *Tacoma* for the duration of the war as an auxiliary of the German Navy. When British sailors from the cruiser *Ajax* visited Montevideo on shore leave immediately afterward to celebrate their victory over the *Graf Spee*, they received a warm popular welcome. A week after the German invasion of the Low Countries, a great pro-Ally demonstration was held in the principal square of Montevideo and German shops were stoned. Anti-Italian demonstrations broke out when Italy entered the war. On August 24 the celebration of Uruguay's independence day was the occasion for another great demonstration against both Germany and Italy.

On July 22 the Uruguayan Foreign Office in a sharp note to the German Minister warned him that German diplomatic agents would not be permitted to serve as officials of Uruguayan Nazi organizations. Following the Havana Conference, Pedro Manini Rios, chairman of the Uruguayan delegation, was appointed Minister of Interior. He launched a drive against Nazi organizations and the anti-democratic propaganda of pro-Axis Uruguayans. On September 25 he and the Minister of Defense issued a decree asking all Uruguayans to co-operate in aiding the authorities to uncover all persons and organizations affiliated with the Nazi movement. The decree declared that the Uruguayan Government had assumed the obligation under Pan American agreements to prevent political activities by foreigners antagonistic to American

democratic institutions. Five days later the Minister of Interior demanded the resignation of the heads of the Montevideo police and detective departments, apparently because of their complacent attitude toward the Nazi menace.

These developments brought threats of reprisals from the German and Italian press, but Uruguayan opinion grew steadily more pro-British. The British auxiliary cruiser *Carnarvon Castle* was allowed to stay 72 hours in Montevideo harbor on December 8-10 to repair damage sustained in a clash with a German raider. A British trade mission received a hearty welcome on December 22. Leading newspapers urged the government to abandon neutrality in favor of "non-belligerency" in order to permit unrestricted use of Montevideo harbor by British warships patrolling the South Atlantic.

**United States Negotiations.** The German conspiracy brought Uruguay into unprecedentedly close political and military relations with the United States. Economically the two countries had appeared to be drifting apart as a result of the collapse of negotiations for a reciprocal trade pact on January 8 and the continuance of Uruguayan restrictions on imports from the United States. Uruguay's appeal for aid from Washington in June met a prompt response insofar as naval and military aid was concerned. But the United States rejected Uruguay's request for a \$7,000,000 loan with which to rearm. This was said to have influenced the Uruguayan Government to exercise caution in dealing with the Nazi issue, despite the declaration of the United States Minister to Uruguay on June 23.

"I am authorized to state," the Minister said, "that it is the intention and avowed policy of my government to co-operate fully, whenever such co-operation is desired, with all of the other American governments in crushing all activities which arise from non-American sources and which imperil our political and economic freedom."

At the same time two United States officers, authorized by Washington to work out details of possible American military, naval, and air aid to Uruguay, offered to furnish land as well as naval forces if needed. The question of creating naval and air bases in Uruguay to facilitate such aid was also raised informally. Uruguayan officials were said to have replied that they would consider this only if the bases were made available to all of the Pan American republics. Consultations on this and other aspects of joint military-naval-air co-operation were continued during the visit to the United States in October of Gen. Marcelino Bergalli, Inspector General of the Uruguayan army, and Col. Oscar Gestido, commander of the air force.

On November 11 the government at Montevideo announced plans for the construction of naval or air bases in co-operation with other American republics, i.e. with the financial and technical aid of the United States. They were to be "directed, maintained, and controlled" by the Uruguayan Government and "placed at the disposition of another American republic only in a pressing continental military defense necessity upon conditions established by the government." Despite the political opposition encountered in Congress (see below under *Internal Politics*), the government proceeded with its plans. On December 29 a decree created a commission of army officers to plan and supervise construction of a military air base near the capital. A credit of \$7,500,000, to be used partly for the construction of bases and purchase of military

equipment, was obtained from the Export-Import Bank in Washington in December.

**Accord with Argentina.** Uruguay's negotiations with the United States aroused some apprehension in Argentina over the possible consequences of Uruguayan bases controlling the entrance to the Rio de la Plata. The issue was discussed by the Uruguayan and Argentine Foreign Ministers meeting at Colonia, Uruguay, on December 11-14. On December 14 the Ministers reached an agreement for the co-operation of their governments in preparations to defend that part of South America against aggression from overseas. Closer trade relations also were envisaged. It was agreed to invite neighboring republics, especially Brazil and Paraguay, to join in this enterprise. The accord stipulated that the defense of the Rio de la Plata zone was to be studied in co-operation with "continental forces" without endangering the territorial integrity of either party.

**Internal Politics.** The Nazi conspiracy also had important internal consequences. A serious political crisis developed early in the year as a result of Congressional apathy and refusal to consider a number of important bills submitted by the Baldomir Government. One of these measures, inspired by Uruguay's defenselessness during the *Graf Spee* incident, called for establishment of compulsory military training and the purchase of additional naval vessels. Congress's failure to act on this bill caused Defense Minister Alfredo Campos to resign in protest on February 23. Accusing Congress of hamstringing legislation, President Baldomir demanded revision of the 1934 Constitution to increase the Presidential powers. When Congress refused even to debate this proposal, talk arose of a military coup by the President to remove the recalcitrant legislature.

A compromise was finally reached whereby the President named a new Defense Minister acceptable to Congress and that body undertook to act on administration measures. The debate over Nazi and "fifth column" activities that developed soon afterwards raised new difficulties for President Baldomir, as his administration was partly dependent upon the support of the seemingly pro-Nazi *Herrerista* faction of the Blanco party. Nevertheless the pressure of public opinion caused the resignation on June 27 of Minister of Interior Manuel Tiscornia because of his weak handling of the Nazi menace, and even Sen. Alberto de Herrera was forced to abandon his opposition to conscription. The compulsory service bill was finally adopted July 11, after more than 70,000 men had already volunteered for military training. In September the *Batllista* faction of the Colorado party voted to end its policy of non-co-operation with the government, adopted in 1933. This was considered further evidence of the reviving vigor of Uruguay's democratic institutions.

The government's acceptance of United States offers of assistance in constructing naval and air bases was approved by three *Herrerista* members of the cabinet but was denounced by their party as an infringement upon Uruguay's sovereignty. Pro-Fascist groups in Uruguay and Argentina and the government-controlled press in Spain also joined in the outcry, charging that "Yankee imperialism" was scheming to establish domination over South America under the guise of promoting continental solidarity. Although the Uruguayan Government gave repeated assurances that the agreement with the United States in no way infringing upon Uruguay's sovereignty, the Senate

on November 21 adopted a resolution, 25 to 1, stating that it would "in no case lend its support to any treaty or convention that applies to the establishment of air and naval bases in a manner lessening the country's sovereignty."

The government proceeded with its plans, which were approved by the Chamber of Deputies on November 27 by a vote of 53 to 21. The three Herrerista members of the Cabinet resigned on December 12 over the issue, but on Jan. 1, 1941, the government announced that the Herrerista party had withdrawn its opposition and concluded a political truce with President Baldomir that would permit the three cabinet officials to retain their posts. See ARGENTINA under *History*; FASCISM; PAN AMERICANISM.

**USHA.** See HOUSING AUTHORITY, U.S.

**U.S.S.R.** See UNION OF SOVIET SOCIALIST REPUBLICS.

**UTAH.** Area, 84,990 square miles; includes water, 2806 square miles. Population (U.S. census), April, 1940, 550,310; 1930, 507,847. Salt Lake City, the capital: (1940) 149,934. The State's predominant urban population (dwellers in places of 2500 or over) increased further (1930-40), by 39,229, or 14.7 per cent, to 305,493, or 55.5 per cent of the whole population; while the rural group increased by only 3234, to 244,817.

**Agriculture.** Utah harvested, in 1940, 1,042,000 acres of the principal crops. Tame hay, on 513,000 acres, bore 1,062,000 tons (\$8,708,000 in estimated value to the farmer; wheat, 251,000 acres, made 4,861,000 bu. (\$3,014,000); sugar beets, 48,000 acres, 506,000 tons (\$2,828,000 for 1939's considerably greater crop); potatoes, 12,000 acres, 2,040,000 bu. (\$1,040,000); barley, 76,000 acres, 2,812,000 bu. (\$1,265,000). Farms numbered 25,411 in 1940 and averaged 287.4 acres.

**Mineral Production.** Yearly production of native minerals in Utah, as estimated in 1940 by the U.S. Bureau of Mines, totaled \$59,236,355 for 1938, which was less than three-fifths of the total for 1937. The quantity of copper in the ores mined yearly diminished to 216,252,000 lb. for 1938, then increased to 343,780,000 lb. for 1939 and to 459,846,000 approximately, for 1940; totals by value, \$21,192,696 (1938), \$35,753,120 (1939), and \$51,962,598 (1940). Corresponding figures for gold, 200,630 oz. (1938), 277,751 (1939), and 352,770 (1940); by value, \$7,022,050 (1938), \$9,721,285 (1939), and \$12,346,950 (1940). Both copper and gold (1940) exceeded all prior yearly quantities in Utah's record. Totals for gold mounted with those for copper because much of the gold occurred in ores mined principally for copper. Other metals extensively mined were silver, 12,266,138 oz., value approximately \$8,722,587 (1940); 154,094,000 lb. of lead, value about \$7,704,700 (1940), and zinc, 87,746,000 lb., value \$5,703,490 (1940). Of coal, the mines produced 3,524,000 tons in 1940, as against 1938's 2,946,951 tons (valued at \$6,875,000).

**Education.** For the academic year 1939-40 Utah's inhabitants of school age were reckoned at 143,537, from 6 to 17 years old. The year's registrations of public-school pupils numbered 137,434: in elementary study, 78,394; in high school, 59,040. The year's expenditure for public-school education totaled \$9,754,606, current; \$13,271,541, all. The 4608 teachers' salaries for the year averaged \$1376.19.

**History.** The rise of about 8.4 per cent in Utah's population during the ten years 1930-40 indicated that the prolonged depression of the mining industries, through much of that period,

and the consequent widespread lack of employment had passed without permanently upsetting the economy of the State. The condition of the inhabitants in 1940 improved by reason of further increase in mining and allied activity.

A noteworthy event in partisan politics was the Democrats' repudiation of the veteran U.S. Senator William H. King. Seeking the Democratic nomination for a fifth term, King was defeated at the primary election (September 3) by Representative Abe Murdock in nearly a 3-to-1 vote. King had lost his popularity by opposing many of the New Deal's policies; his victor offered a record of legislative compliance with the recommendations of the Federal Administration.

At the general election (November 5) the popular vote for President went to Roosevelt (Dem.) by a total of 154,277, to 93,151 for Willkie (Rep.). Democrats won the other chief contests on the ticket: for U.S. Senator, Abe Murdock (Dem.) defeated Philo T. Farnsworth (Rep.); Democrats were elected to both seats in the U.S. House of Representatives; and for Governor, Herbert B. Maw (Dem.) defeated Don B. Colton (Rep.).

**Officers.** Utah's chief officers, serving in 1940, were: Governor, Henry H. Blood (Dem.); Secretary of State, E. E. Monson; Auditor, John W. Guy; Treasurer, Reese M. Reese; Attorney-General, Joseph Chez; Superintendent of Public Instruction, Charles H. Skidmore.

**UTILITIES.** See FINANCIAL REVIEW under *Financial Regulation*; UNITED STATES under *Administration*; also ELECTRIC LIGHT AND POWER, GAS INDUSTRY, etc.

**UZBEK SOVIET SOCIALIST REPUBLIC.** See UNION OF SOVIET SOCIALIST REPUBLICS under *Area and Population*.

**VATICAN CITY.** A sovereign State, officially known as the State of Vatican City, established within the city of Rome as the seat of the Papacy on June 10, 1929, in accordance with the Italo-Vatican (Lateran) Treaty of Feb. 11, 1929 (see 1929 YEAR BOOK, p. 417). Sovereign in 1940, Pope Pius XII (Eugenio Pacelli), who succeeded Pius XI Mar. 2, 1939.

The area of Vatican City is 108.7 acres, including St. Peter's Square, and in addition 13 ecclesiastical buildings outside of its limits enjoy extraterritorial rights. It has its own coinage, import duties, railway station, and its postal, telegraph, and radio facilities. The census of 1939 showed 953 inhabitants. Under the Constitution of June 7, 1929, the Pope exercises full legal, judicial, and executive powers. Pius XII placed the administration of Vatican City and its civil offices in the hands of a commission of Cardinals headed by Cardinal Canali. The legal system is based on canon law and ecclesiastical rules.

Foreign relations are conducted by the Secretary of State. (Cardinal Luigi Maglione was appointed to this office Mar. 11, 1939.) The Holy See maintains diplomatic relations with 35 governments and has unofficial relations by means of Apostolic Delegates with a number of other countries, including the United States.

**History.** Italy's entrance into the European War on June 10, 1940, confronted the Vatican with the necessity of adjusting its relations with the Italian Government under the Lateran Treaty of 1929 to the fact of Italian belligerency. Some friction had developed earlier in the year as a result of Fascist resentment at the publication by the Vatican of denunciatory reports on German rule in Poland and of war news from all of the

belligerents. As the only news organ circulating in Italy exempt from government censorship, the semi-official Vatican newspaper *Osservatore Romano* increased rapidly in circulation. Its issue of May 11, containing the Pope's message to the rulers of Belgium, the Netherlands, and Luxemburg condemning the German invasion, sold 180,000 copies.

Government protests forced the newspaper at the beginning of June to cease printing political news and editorials, and when Italy declared war it was announced that war communiqués and other official bulletins of all the warring powers would be omitted for the duration of the conflict. As a result, the circulation of *Osservatore Romano* dropped from about 120,000 to 28,000 in less than two months. Following its policy of strict neutrality, Vatican authorities on June 20 forbade political discussions on international affairs in public premises within Vatican City. They established censorship over the Vatican telephone exchanges on Italy's war declaration, and on October 25 extended the censorship to include mail passing through Vatican City postoffices.

The Papal Secretary of State asked the Italian Government "to continue to extend all the customary prerogatives and immunity to the diplomats of belligerent countries accredited to the Holy See and that their seats remain on Italian territory." When this request was rejected, the British, French, Polish, and Belgian Ambassadors to the Holy See moved on June 13 to residences within Vatican City where they remained incommunicado from their governments. On August 1 the Pope granted Vatican citizenship to all papal diplomatic representatives abroad. Most of them being Italians, Vatican citizenship gave them greater freedom of action.

Referring to the international situation on July 10 for the first time since Italy's declaration of war, the Pope urged Germany and Italy to grant France lenient peace terms that would not foster hatred. The *Osservatore Romano* announced July 18 that the Pope had appealed to the British and French Governments to spare Rome from bombing raids in view of its sacred character. He received assurances that the churches and buildings within Vatican City would not be bombed, but the British reserved the right to bomb other parts of Rome. The Vatican's sympathy and approval of the Pétain regime in France was expressed several times in *Osservatore Romano* during July.

See BELGIUM, FRANCE, GERMANY, ITALY, LITHUANIA, MEXICO, and SPAIN, under *History*; ROMAN CATHOLIC CHURCH.

**VEGETABLES.** See **HORTICULTURE.**

**VENEREAL DISEASE.** See **PUBLIC HEALTH SERVICE.**

**VENEZUELA.** A republic of South America, consisting of a Federal District, 20 States, and two Territories. Capital, Caracas.

**Area and Population.** Area, 352,143 square miles; population, 3,491,159 at December, 1936, census (3,552,000, estimate for June, 1938). There are whites, Indians, Negroes, and mixtures of all three races. Registered births in 1939 numbered 129,482 (91,836 in 1938); marriages, 16,005 (8881 in 1935). Populations of the capital and five largest State capitals in 1937 were: Caracas (Federal District), 203,342; Maracaibo (State of Zulia), 110,010; Barquisimeto (Lara), 50,774, Valencia (Carabobo), 49,963; Maracay (Aragua), 29,255; and San Cristóbal (Tachira), 22,058. United States citizens resident in Venezuela on Jan. 1, 1940, num-

bered 3357. During 1939, 1583 immigrants entered the country exclusive of more than 600 Venezuelans repatriated at government expense.

**Defense.** As of Nov. 1, 1940, the active army numbered 11,000 men; trained army reserves, 7500; active air force, 373. The navy comprised 6 gunboats and patrol vessels and several auxiliary craft. The defense appropriation for 1939-40 was 42,111,000 bolívares.

**Education and Religion.** At the 1926 census, about 57 per cent of the adult population were illiterate. Out of an estimated school-age population of 720,000 in 1939, 295,462, or 41 per cent, were registered in classes, as against 19.9 per cent of the school-age population in 1936. There were 4142 public primary schools (1938) with 234,024 pupils; 65 secondary and special schools, with 3705 pupils; and three universities, with 2125 students. Roman Catholicism is the predominant religion.

**Production.** The principal industries are agriculture, stock raising, petroleum mining, manufacturing, pearl fishing, and forestry. Production of the chief crops was: Coffee, 835,562 bags (of 101.43 lb.) in 1939-40; cacao, 15,378 metric tons (exports in 1939); cane sugar, 24,500 metric tons in 1938-39. Tobacco, cotton, corn, beans, fruits, potatoes, coconuts, rice, and wheat are other leading crops. Petroleum production in 1939 was 207,055,000 bbl., giving Venezuela second rank among world producers; gold, 4440 kilograms (kilo equals 2.2 lb.). Some salt, copper, coal, iron, tin, and asbestos are mined. The forests yield balata, tonka beans, divi-divi, vanilla, etc. At the end of 1936 there were 3285 industrial establishments with 27,500 workers. Oil refining is the only large-scale industry.

**Foreign Trade.** Imports in 1939 totaled 324,751,802 bolívares (310,949,240 in 1938); exports, 953,337,086 (887,275,955). Petroleum and its products accounted for over 90 per cent of all exports and coffee and cacao for most of the remainder. Of the 1939 imports, 59 per cent by value came from the United States, 7.8 per cent from Germany, and 6.7 per cent from the United Kingdom. The bulk of the petroleum exports went to Aruba and Curaçao for refining. The United States took 15.8 per cent of the direct exports; United Kingdom, 5.2 per cent; Germany, 2.5 per cent.

**Finance.** The budget for the fiscal year ended June 30, 1941, reduced estimated revenues and expenditures to 344,515,000 bolívares from the 1939-40 estimates of 361,325,000 bolívares. Further reductions in expenditures, estimated at 33,000,000 bolívares, were instituted Oct. 1, 1940, covering the balance of the 1940-41 fiscal year. There was a surplus of 17,725,000 bolívares in 1937-38 and a deficit of 20,166,000 bolívares in 1938-39. Treasury reserves on Apr. 15, 1940, amounted to 42,657,500 bolívares. The public debt was about 3,000,000 bolívares on Dec. 31, 1938. Average exchange rate of the bolívar in 1939: Bank rate, \$0.3135 (\$0.3135 in 1938); open market rate, \$0.3115 (\$0.3067).

**Transportation.** The railways, with 589 miles of line (exclusive of 62 miles of oil company line), carried 981,850 passengers and 453,843 metric tons of freight in 1939. Highways extended 5882 miles (315 miles completed in 1939). The Mene Grande-Motatán highway, connecting link between Maracaibo and the Trans-Andean Highway at Motatán, was opened in July, 1940. The government-owned airways system, with over 2560 miles of route, carried 10,740 passengers and 52,656 lb. of mail during 1939; total mileage flown was 462,968. Pan American Airways planes touch

at Caripito, Guanta, La Guaira, Coro and Maracaibo. La Guaira, Puerto Cabello and Maracaibo are the chief ports. A contract for the construction of a new oil terminal and dock at Puerto de la Cruz for the use of the newly opened oil fields and pipe line in Eastern Venezuela was awarded in 1940.

**Government.** The Constitution of July 11, 1936, vests executive powers in a President elected by Congress for five years and ineligible for re-election. There is a Senate of 40 members chosen by the State legislatures and a Chamber of Deputies of 85 members elected by municipal councils. The State legislatures and municipal councils are elected by direct ballot of literate males 21 or more years of age. The Constitution prohibits communism and anarchism. President in 1940, Gen. Eleazar López Contreras (elected by Congress Apr. 25, 1936, after having been named Provisional President by the cabinet on Dec. 18, 1935, upon the death of the Dictator-President, Gen. Juan Vicente Gómez).

**History.** President López Contreras continued during 1940 to guide Venezuela successfully and peaceably in the direction of what he called "Bolivarian democracy" and away from the harsh dictatorship of his predecessor. That this transition was not complete was indicated in March by the action of the governor of the Federal District in imprisoning a well-known columnist, Enrique Bernardo Núñez of the newspaper *El Universal* in Caracas, for alleged disrespect to the President, and in fining the publisher. The governor objected to the fact that the columnist had compared two speeches praising democracy—one by President López Contreras and the other by the exiled Venezuelan leftist, Rómulo Betancourt. Two other Venezuelan newspapers joined *El Universal* in protesting the governor's arbitrary action. The Federal Government, however, took no notice of the incident.

The general satisfaction with the President's leadership was reflected in demands that he become a candidate for a second term, despite the constitutional bar against re-election. However General López Contreras reiterated his intention to retire upon the expiration of his term on Apr. 25, 1941. Local elections held in 13 of the 20 States in November gave some 65 per cent of the votes to a group of parties supporting the national government. This suggested that a successor endorsing President López Contreras's policies would be selected in 1941.

The prosperity of 1939 showed some decline in 1940 as a result of the curtailment of petroleum, coffee, and other exports by the spreading European War. Due to the republic's excessive dependence upon the oil industry, the press and government showed alarm when the Standard Oil Company began to reduce production because of declining markets. Unemployment of oil workers caused a revival of radical agitation in the Maracaibo district. However the government continued its extensive public works program, aided by funds advanced by the oil companies in consideration of the abolition in 1938 of certain vexatious special fees. The decline in oil production was offset in part by an increased demand for metals needed by the U.S. armament industries. Early in the year a large American steel company commenced the development of iron ore deposits south of the Orinoco River.

The increasing shortage of foreign exchange led the government on June 26 to abolish the free exchange market and expand the exchange control

system to cover all transactions. Nevertheless the exchange rate of the bolivar continued to decline (from \$0.3162 cents in July to \$0.25) and on October 25 a system of import licenses was introduced to curtail imports further. Toward the close of the year the government negotiated a loan, reported at \$10,000,000, from the National City Bank of New York to pay for essential imports and liquidate commercial arrears. Petroleum production in November reached the lowest level in three years, but this adverse influence was partly offset by the new inter-American coffee cartel program, under which Venezuela was authorized to ship 420,000 bags annually to the United States as against 220,800 bags in 1939-40.

In furtherance of the President's Three-Year Plan of social and economic reform, the government completed preparations for the establishment of a compulsory social security law. In October the new Central Bank, authorized in 1939, began operations. See LEAGUE OF NATIONS; PAN AMERICANISM.

**Foreign Relations.** Venezuela's resignation from the League of Nations became effective July 18, 1940. The withdrawal from the Geneva organization coincided with increasing political, economic, and military collaboration with the other American republics and particularly the United States. The European War came close to Venezuela when British and French forces in May occupied the Netherlands' colonies of Curaçao (qv) and Aruba where most of Venezuela's oil is refined. Subsequently War Minister Isaías Medina made a tour of U.S. defense establishments and conferred with North American civil and military officials on hemisphere defense plans. The reciprocal trade treaty signed by the United States and Venezuela on Nov. 6, 1939, went into effect Dec. 14, 1940, following its ratification. A quarrel with the government of the Dominican Republic over alleged indignities inflicted on Venezuelan citizens in that country led Caracas authorities to boycott the Second Caribbean Conference held in Ciudad Trujillo in June. Annulment of the Japanese-Venezuelan trade pact on June 30 caused a setback to Japanese trade with the republic.

**VENTILATING.** See HEATING AND VENTILATING; also, ELECTRICAL INDUSTRIES under *Air Cleaning*.

**VERMONT.** Area, 9564 square miles, includes water, 440 square miles. Population (U.S. Census), April, 1940, 359,231; 1930, 359,611. Burlington (1940), 27,686; Montpelier (the capital), 8006. The urban population (dwellers in places of 2500 or more) increased (1930-40) by 4473, to 123,239; the rural group diminished by 4853, to 235,992.

**Agriculture.** Vermont harvested, in 1940, 1,093,300 acres of the principal crops. Nearly 6 out of 7 acres in this area grew tame hay; corn, the next crop for extent, covered only one in 15. Tame hay, on 932,000 acres, bore 1,113,000 tons (\$11,241,000 approximately in estimated value to the farmer). Corn, 71,000 acres, made 2,627,000 bu. (\$1,918,000), potatoes, 15,300 acres, 2,142,000 bu. (\$1,585,000), oats, 55,000 acres, 1,760,000 bu. (\$898,000); apples for market, 413,000 bu. (\$454,000). Farms numbered 23,582 in 1940 and averaged 155.5 acres.

**Mineral Production.** Production of the minerals native to Vermont totaled \$6,439,552 for 1938. Stone and slate (which were totaled separately) contributed three-fourths of this amount. Producers of stone sold or used 232,770 short tons in 1939,



somewhat less than the total of 264,480 tons for 1938: but by yearly value the total rose to \$3,412,005 (1939), from \$3,148,950 (1938). Almost all of these amounts was for relatively small quantities of costly stone: granite for monuments, 689,600 cu. ft., worth \$2,051,251, was sold or used in 1939; the corresponding totals for blocks of monumental and building marble were 228,550 cu. ft., \$1,038,351. The production of slate attained about \$1,948,000 for 1939; of the total, some 106,500 squares of roofing slates contributed nearly \$764,000.

**Education.** For the academic year 1939-40, Vermont's inhabitants of school age (from 6 years to 18) were reckoned at 77,235. The year's enrollments of pupils in the public schools numbered 62,908; this lacked 3062 of the enrollments reported for the year before. Enrollments of elementary pupils in the year 1939-40 numbered 45,981; those in high school, 16,927. Outside the ordinary public-school system, over 900 pupils were studying vocational courses, while 11,000 or more other pupils were in private schools. The year's expenditure for public school education totaled \$5,800,000, the teachers, 2745 in number, averaged \$982.46 in yearly pay.

**History.** Vermont's experiment in helping a railroad to keep going entered a stage of litigation and uncertainty. The Rutland Railroad Company seemed to be operating without further current loss under the plan of 1938 (see 1939 YEAR BOOK, p. 793), by which taxing authorities, bondholders, and employees of the line all made concessions, with a Federal District Court's approval. Suit was brought, however, in the Federal Circuit Court at New York, to compel the line's payment of full wages, both current and in arrears. The Court ordered (February 13) that the line pay the whole accumulation of the deficiency in wages since July 30, 1938; this deficiency averaged 17 per cent and added up to \$455,722, a sum in excess of the receiver's entire cash on hand. The Court, on declaration that enforcement of the order would compel operation to cease, granted (March 18) a stay, expected to last until completion of the line's appeal to the U.S. Supreme Court. The future of the unusual venture in operation by composition with employees remained uncertain.

The death of U.S. Senator Ernest W. Gibson left a seat to be filled by election; Gov. George D. Aiken won the Republican nomination for this seat in the primary elections (September 10); U.S. Senator Warren R. Austin was renominated for another term.

**Elections.** At the general election (November 5) the vote was consistently Republican. The popular vote for President totaled 78,371 for Willkie (Rep.); 64,269 for Roosevelt (Dem.). For Governor, William H. Wills (Rep.) defeated John McGrath (Dem.). For U.S. Senator, full term, Warren R. Austin (Rep.) was re-elected, over Ona S. Searles (Dem.); for Senator, unexpired term, Governor George D. Aiken (Rep.) defeated Herbert B. Comings (Dem.).

**Officers.** Vermont's chief officers, serving in 1940, were: Governor, George D. Aiken (Rep.); Lieutenant Governor, William H. Wills; Treasurer, Thomas H. Cave; Secretary of State, Rawson C. Myrick; Auditor, Benjamin Gates; Attorney General, Lawrence C. Jones; Commissioner of Education, Francis Bailey.

**VETERANS.** See VETERANS ADMINISTRATION; also, CIVIL SERVICE COMMISSION; RED CROSS.

**VETERANS' ADMINISTRATION.** As of June 30, 1940, there were in force 608,923 United States Government life insurance policies representing \$2,564,984,223 of insurance. During the fiscal year 1940, there were issued 52,713 new policies aggregating \$144,315,328. The actual disbursements made during the fiscal year 1940, to policy-holders of this form of insurance was \$69,812,755. Military and Naval insurance covers contracts held by veterans of the World War for a form of insurance formerly designated as "War Risk" insurance. The disbursements for this type of insurance totaled \$19,601,577 during the fiscal year 1940.

During the fiscal year 1940, 235,264 United States veterans received hospitalization, 179,497 being admitted during the fiscal period. As of June 30, 1940, 56,596 United States veterans were receiving hospitalization. These veterans were classified by wars as follows: World War, 50,912; Spanish American War, 2900; Civil War, 37; Regular Establishment, 2679; and all other wars, expeditions and occupations, 68.

At the close of the fiscal year 1940, the veteran population reported as present in domiciliary status in facilities under the control and jurisdiction of the Veterans' Administration totaled 16,518. Of this number approximately 92.27 per cent were veterans of the World War; 4.55 per cent, Spanish American War; 3.06 per cent, Regular Establishment; and 0.12 per cent, other wars, expeditions, and occupations.

The following table shows the number of pension and compensation cases of living and deceased veterans by wars including Regular Establishment and Honor Roll—Yellow Fever Experiments as of June 30, 1940, and the disbursements during the fiscal year 1940

War	On Roll June 30, 1940	Disbursements Fiscal Year 1940
Honor Roll—Yellow Fever Experiments		
Living veterans	10	\$ 15,000 00
War of 1812		
Deceased veterans	1	240 00
Mexican War		
Deceased veterans	130	84,613 33
Indian Wars—Total	6,271	3,177,954 84
Living veterans	2,216	1,694,482 65
Deceased veterans	4,055	1,483,472 19
Civil War—Total	52,522	27,790,252 93
Living veterans	2,381	3,158,998 10
Deceased veterans	50,141	24,631,254 83
Spanish American War—Total	216,950	127,427,375 83
Living veterans	159,230	106,203,201 30
Deceased veterans	57,720	21,224,174 53
Regular Establishment—Total	46,177	15,811,766 25
Living veterans	36,051	12,728,872 47
Deceased veterans	10,126	3,082,893 78
World War—Total	527,247	254,846,261 38
Living veterans	410,244	190,648,859 39
Service connected	348,164	168,387,884 83
Non-service connected	60,296	19,324,715 45
Emergency Officers	1,784	2,936,259 11
Deceased veterans	117,003	64,197,401 99
Service connected	99,479	56,799,064 01
Non-service connected	17,524	7,398,337 98
Grand Total—Pensions and Com-		
pensation	849,308	\$429,153,464 56
Living veterans	610,132	314,449,413 91
Deceased veterans	239,176	114,704,050 65

During the fiscal year 1940, the total disbursements made by the Veterans' Administration from all appropriations and trust funds (including adjustments on lapsed appropriations) was \$639,126,697.

FRANK T. HINES.

**VETERINARY MEDICINE.** Success rewarded the efforts of disease control workers in

the field of comparative medicine. None of the livestock diseases that have from time to time wrought havoc among the herds of other continents gained entrance to the United States, and the progress of eradication of insidious diseases within was most gratifying to the authorities in charge. The completion of the campaign of eradication of tuberculosis from the dairy and beef herds of the United States, a co-operative project of the Federal and State governments, which was announced on December 2 after twenty-three years of constant effort, represents one of the outstanding events of history in the advancement of the welfare of a people, both from its economic and its public health benefits—physicians having credited it with much of the recent decrease in human tuberculosis. Particularly noteworthy was the action taken at the seventy-seventh annual meeting of the American Veterinary Medical Association held at Washington in August adopting a plan for the control of rabies in the United States, authorizing the publication of a quarterly American Journal of Veterinary Research that commenced issue October 15, and the selection of Dr. I. Forest Huddleson of Michigan as the 1940 recipient of the Twelfth International Veterinary Congress Prize for his investigations of brucellosis.

**Brucellosis or Bang's Disease, Eradication.** Announcement was made on February 2 of the practical eradication of Bang's disease from the dairy and breeding cattle in 209 counties of 17 States containing some 1,560,000 animals six months of age and over. In the co-operative Federal-State project the area plan used in the eradication of tuberculosis was followed. The method of accrediting areas has the particular merit of protecting breeders who desire to eradicate the disease, against possible infection from adjacent farms. Applied usually to a county the plan consists in testing all cattle six months of age or more, except steers. When the degree of infection in such an area is found at not more than 1 per cent of such cattle and to occur in not more than 5 per cent of the herds, the area may be officially declared a modified accredited Bang's disease-free area. This procedure was adopted and approved in December, 1939, and by July 1, 1940, there were 298 counties in twenty States so classified. The owners of cattle that react to the official test for Bang's disease and that are disposed of by slaughter, receive all the salvage, and in 35 States they also receive some payment, as partial compensation, from the State and Federal Governments. The average salvage for the year was about \$35, the average Federal payment \$15, and the average State payment \$17.15. The amount paid by the Federal Government cannot exceed that paid by the State or other co-operating agency. While the test-and-slaughter plan of suppression adopted in July, 1934, has resulted in much progress and the provisions will undoubtedly be continued in the future, the U.S. Bureau of Animal Industry, through which the work is conducted, has announced that it is prepared to approve a suitable plan that will incorporate the vaccination of calves at the proper age as an adjunct. This is the outcome of investigational work which has shown that calves vaccinated when from five to seven months of age with the BAI strain 19 of *Brucella abortus* that has been developed possess a rather high immunity to infection and do not become carriers. In Canada the interest of stock owners in the control of Bang's disease was on the increase, with 2134 herds in nine Provinces under supervision and 1027 listed as disease free.

**Equine Encephalomyelitis, Infectious.** From the 184,000 outbreaks of sleeping sickness of the horse in the United States in 1938 and 8000 in 1939 there was a reduction to 4500 in 1940, about half of which occurred during late September and early October. The low incidence was attributable to the dry weather during the summer in many sections being unfavorable to transmission by mosquitoes and to the protective vaccination that was used.

**Necrotic Enteritis of Swine.** Experimental work with the affection of swine now known as infectious necrotic enteritis has suggested that it is a secondary complication due to the intestinal invasion of *Salmonella choleraesuis* and probably other organisms after the symptoms of a deficiency of nicotinic acid have developed.

**Parasitology.** Investigations reported indicate that the dog flea is a potential vector of the heartworm of the dog (*Dirofilaria immitis*), suggesting that it may play a role in the transmission of this parasite of the bloodstream especially throughout portions of the South. The larvae of the red flour beetle and the confused flour beetle were successfully infected with the common poultry tapeworm *Raillietia cesticillus*. They became infected when offered the gravid segments in the presence of either a large or small amount of food, such as bran. It was shown that the process of metamorphosis of the beetles from larvae to pupae or pupae to adults does not destroy all of the cysticercoids present. The common liverfluke of cattle in Hawaii *Fasciola gigantica* was reported to be best combated through control of the snail *Fossaria allula*, a common inhabitant of fresh-water streams and swamps. The affection of turkeys due to a parasite of the white blood corpuscles, *Leucocytozoon smithi* transmitted by black flies, first recorded from Virginia, was reported to have been the cause of outbreaks in nearly all sections of Alabama in the past two years. In experimental medication of cattle for control of the horn fly, rotenone was effective in much smaller doses than any other substance and had no apparent harmful effect on the animal. A few flies emerged from droppings of cattle fed 0.3 gram per hundred body weight administered daily, all having been killed by a 0.4 gram dose. Phenothiazine was effective in doses as small as 1 gram per hundred body weight but had the undesirable quality of imparting a reddish tinge to the milk of cows. Investigations in Florida revealed the fact that both the common housefly, *Musca domestica*, and eye gnats (*Hippelates* spp.) are natural vectors of the mastitis of dairy cattle. Progress was made in the eradication of sheep scabies, in the course of which 13,825,734 inspections were made in the field and 1,406,380 dippings supervised; and with cattle scabies in five western range States where 31,069 herds were found infected, and 114,267 dippings supervised.

**Phenothiazine as an Anthelmintic.** In the search for a substance that is toxic to insects but of low toxicity to warm-blooded animals the value of the sulphur compound, phenothiazine, was discovered by investigators of the U.S. Department of Agriculture in 1935 to be particularly promising. This parent substance of many dyes, prepared from diphenylamide, a coal tar derivative, is chemically related to sulfanilamide. Experimental work in 1938 revealed it to be of exceptional value as an anthelmintic for the removal of worms from sheep and swine. The work that has followed has shown it to be one of the most versatile chemical substances brought to light in recent years. Follow-

ing litigation that arose, a patent was issued and dedicated to the public for use in the treatment of certain worm infestations of sheep, goats, swine, cattle, and horses, which heretofore have resisted medication. The drug possesses several practical advantages over other known anthelmintics, including low toxicity, greater efficiency in heavily infested than in lightly infested animals, ease of administration, and anthelmintic activity against more than one species of worm parasite. A method of administering the substance in the form of compressed tablets that disintegrate rapidly in the stomach has been developed. Used in this way the anthelmintic efficiency of the chemical is increased and it can be employed without prior fasting. Work in Washington State has led to the recommendation of its use in the removal of heterakids of chickens.

**Sulfanilamide Therapy.** While reports regarding the value of sulfanilamide in the treatment of bovine mastitis have been somewhat conflicting, it was reported from Ohio to have been found of value, especially in large herds for cows that suddenly develop an inflammation in one or more quarters, and in small herds in which mastitis appears quite frequently. In preliminary work reported, it appeared to be of value in the treatment of calf diptheria and perhaps other affections due to or associated with *Actinomyces necrophorus*. It proved to be highly effective in septicemic diseases of the dog when given in initial daily doses of one grain per pound body weight divided into four doses. Report came from Australia of its high value when administered to horses suffering from severe hemolytic streptococcal infections, although no benefit resulted in a case of strangles. Experimental tuberculosis work with the rabbit at the Johns Hopkins Hospital confirmed the results of earlier work with the guinea pig, demonstrating that adequate doses of sulfanilamide properly administered has a definite inhibitory effect upon the development of the infection. An outstanding cure of a case of horse sickness resulting from the administration of prontosil was reported from South Africa. Sulfapyridine, like sulfanilamide, proved effective when used against several species of coccidia affecting the chicken although neither drug is effective against the two most destructive species, *Eimeria tenella* and *Eimeria necatrix*.

**Tick Fever and Cattle Tick Eradication.** The eradication campaign against the cattle-fever tick which has been under way since 1906 was continued in the remaining infested areas of Florida, Texas, Puerto Rico, and the Virgin Islands. During the fiscal year ended June 30, the whole or remaining parts of two counties in Florida and seven counties in Texas with an aggregate area of 1135 square miles and the middle one-third of Puerto Rico covering an area of 373 square miles were released from quarantine. Parts of three counties in Texas aggregating 373 square miles were quarantined. During the fiscal year a total of 16,214,872 inspections or dippings of cattle and 1,592,317 inspections or dippings of horses and mules were conducted. It was necessary in Puerto Rico and the Virgin Islands, where the tropical variety of the cattle-fever tick is prevalent, to treat the sheep and goats and a few deer on infested premises and 1,278,921 inspections or dippings of these animals were conducted. On July 1 only 1 per cent of the area in the 985 counties placed under Federal quarantine in 1906, and this all in twelve counties, remained to be freed of the cattle-fever tick. Cattle-tick infested deer continued

to be the most troublesome phase in the four remaining infested counties in Florida.

**Toxicology.** In feeding experiments to determine the minimum lethal dose of selenium, as sodium selenite, for livestock, the findings were as follows: for the horse and mule 1.5 milligram per pound of body weight, for the cow between 4.5 and 5.0 milligrams, for 4 to 6 months old pigs between 6.0 and 8.0 milligrams. *Peganum harmala*, a plant known as Syrian or African rue that has lately appeared and become abundant on a section of land in New Mexico, was proved to be poisonous to stock. Wheat screenings containing nutlets of *Amsinckia intermedia*, a plant that grows abundantly in grain fields in certain semiarid regions of Washington, Oregon, and Idaho, was proved to be toxic to horses, cattle, and swine. The condition produced, hepatic cirrhosis, as it occurs in cattle and swine is known locally as hard liver and in horses as walking disease.

**Tuberculosis Eradication, Bovine.** With the release of the three remaining counties of California, Puerto Rico, and the Virgin Islands the campaign for eradication of tuberculosis from the cattle herds of the United States was brought to a successful close. This milestone of progress in the advance of public health and the prevention of economic loss took its place on December 2d, at which time each and every county in the United States and the Territories of Puerto Rico and the Virgin Islands were declared to be modified accredited areas. This means that the degree of infection in every county of every State of the Union has been reduced to less than one-half of 1 per cent, signifying practical eradication. In the course of this work more than 232 million tests and retests were made and about 4 million diseased cattle were detected and removed for slaughter. Future work will consist in precautionary retesting to safeguard the health of herds against possible reinfection and a new spread of the disease. Work with the avian type of the disease which menaces the poultry and swine industries in the Central and North Central States was continued. It was found in an investigation in England following an outbreak of avial tuberculosis among the stock in a well managed poultry establishment that from 1.3 to 4.8 per cent of the starlings were infected with the organism. Substantial progress was made in the bovine tuberculosis eradication work in all the Provinces of Canada.

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**VICALLOY.** See TELEPHONY.

**VICTORIA.** A State of Australia. Area, 87,884 square miles; population (Mar. 31, 1940), 1,896,934, exclusive of full-blood aboriginals. Vital statistics (1939): 30,493 births, 20,169 deaths, 17,368 marriages. Capital, Melbourne, 1,046,750 inhabitants (1939). Other important cities are Geelong

long, 40,050; Ballarat, 38,430; Bendigo, 30,030. Education (Dec. 31, 1937): 3391 schools and 367,848 students. In 1938 there were 3931 students attending lectures at the University of Melbourne.

**Production.** Chief agricultural crops: wheat (45,054,592 bu. in 1939-40), oats, barley, potatoes, hay, grapes. Dairy products (1938-39): 130,573,918 lb. of butter, 19,544,061 lb. of cheese, 16,510,137 lb. of bacon and ham. Livestock (1940): 18,251,870 sheep, 1,787,597 cattle, 326,217 horses, 297,655 swine. Wool (as in the grease) output (1940): 187,000,000 lb. Chief mineral output (1939): gold (£1,533,899), coal (£645,766). Manufacturing (1938-39): 9250 factories, 201,831 employees, £65,996,069 net value of production. The State railways, in 1938-39, had 4767 route miles of track open to traffic and carried 148,543,000 passengers and 5,990,000 tons of freight.

**Government.** Finance (1939-40): revenue, £27,464,000; expenditure, £27,999,000; public debt, £180,550,000. The executive authority is vested in a governor, aided by a responsible ministry. Parliament consists of a legislative council of 34 members elected for a 6-year term (17 elected every 3 years), and a legislative assembly of 65 members who are elected for a 3-year term by universal adult suffrage. Governor, Maj. Gen. Sir Winston Dugan (assumed office July 17, 1939); Premier, A. A. Dunstan. See AUSTRALIA under *History* for the standing of the political parties in the legislative assembly as a result of the State general election of Mar. 16, 1940.

**VILNA TERRITORY.** See LITHUANIA under *Area and Population and Communications.*

**VIRGINIA.** Area, 42,627 square miles; includes water, 2365 square miles. Population (U.S. Census), April, 1940, 2,677,773; 1930, 2,421,851. Richmond (the capital), 193,042 (1940); Norfolk, 144,332. The urban population—dwellers in places of 2500 or more—grew the most, increasing (1930-40) by 159,138, or 20.3 per cent, to 944,675; the rural population gaining 96,784, attained 1,733,098.

**Agriculture.** Virginia harvested, in 1940, 3,791,000 acres of the principal crops. The tendency was to raise less corn and tobacco and more tame hay. Corn, on 1,377,000 acres, bore 36,940,000 bu. (\$28,097,000 in estimated return to the farmer); tobacco, 114,000 acres, made 97,540,000 lb. (\$15,048,000); tame hay, 1,091,000 acres, 1,252,000 tons (\$15,149,000); wheat, 546,000 acres, 8,463,000 bu. (\$7,278,000); peanuts, 164,000 acres, 196,800,000 lb. (\$6,691,000); potatoes, 76,000 acres, 10,412,000 bu. (\$6,351,000); apples, 10,325,000 bu. (\$6,711,000); sweet potatoes, 31,000 acres, 3,875,000 bu. (\$2,906,000); barley, 88,000 acres, 2,376,000 bu. (\$1,331,000); cotton, 31,000 acres, 25,000 bales (\$1,188,000).

**Mineral Production.** Virginia's production of its native minerals, as stated by the U.S. Bureau of Mines in 1940, totaled \$42,370,169 for 1938; to this, coal contributed the greater part. The production of bituminous coal rose to some 13,230,000 net tons for 1939, from 12,283,036 tons (value, \$24,054,000) for 1938; and heavier production in 1940 yielded 14,950,000 tons in 12 months. Stone, of which the output attained \$5,606,470 (1938) and \$5,879,447 (1939), averaged the producers not far from \$1 a ton; it contributed the second greatest part, in value, of the State's mineral total. Cement and zinc came next; their annual totals were not published separately as to Virginia. Clay products (exclusive of pottery and refractories) attained \$1,885,876 for 1938. Lime was produced (1938-39) to the value of about \$1,000,000 a year.

A small production of anthracite (109,642 tons for 1938) continued to form a minor feature of the State's mineral industry.

**Education.** For the academic year 1939-40, Virginia's inhabitants of school age (from 7 years to 19) were reckoned at 712,081. Enrollments of pupils in all public schools numbered 556,552; this comprised 434,479 in elementary study and 122,073 in high school. Teachers in public schools numbered (October, 1939) 17,734; the yearly pay of the teachers, principals, and supervisors averaged \$952. The enrollments of elementary pupils fell short, by nearly 23,000, of those for the academic year 1938-39, in accordance with a prevailing tendency among the States.

**History.** Shipyards at tidewater were busy on huge Federal orders. They got most of the advantage that the rearmament boom brought to the State. See PORTS AND HARBORS.

Virginia's ambition to increase its population's employment in manufacturing took more definite form. The University of Virginia, to serve this aim, created a bureau of industrial research. Under Robert H. West, former head of the Riverside and Dan River cotton mills, director of the new bureau, a scheme of policy was considered; its reported features were the planning of new industries, the effort to decentralize the development of manufacturing, and the encouragement of new locations of enterprises in areas having an available surplus of population above the number needed in existing employment. A study of the population of the State was under way, in connection with the industrial research; the Rockefeller General Education Board made grants for both purposes. A related study of the use made of the land proceeded under the Virginia Polytechnic Institute, aided by a similar grant. The State Planning Board co-ordinated the three studies. See INSURANCE.

U.S. Senator Harry F. Byrd, though noted as opposed to the course of the New Deal on frequent occasions, gained the Democratic renomination unopposed.

At the general election (November 5) the usual Democratic majority prevailed. The popular vote for President totaled 235,961 for Roosevelt (Dem.) and 109,363 for Willkie (Rep.). Harry F. Byrd was re-elected U.S. Senator, with only Socialist and Communist opposition. The nine incumbents were re-elected U.S. Representatives.

**Officers.** Virginia's chief officers, serving in 1940 were: Governor, James H. Price (Dem.); Lieutenant Governor, office left vacant by the death of Saxon W. Holt; Secretary of the Commonwealth, R. L. Jackson; Treasurer, Edwin B. Jones; Auditor, S. McCarthy Downs; Attorney General, Abram P. Staples; Superintendent of Public Instruction, Dr. Sidney B. Hall.

**VIRGIN ISLANDS.** An insular possession of the United States, situated about 60 miles to the east of Puerto Rico. This possession forms the southwestern part of a group which, as a whole, also bears the name, Virgin Islands, and of which the rest is a British possession. When needful for distinction, and commonly abroad, the U.S. possession is known as the Virgin Islands of the United States. This possession comprises three inhabited islands—St. Thomas, St. Croix, and St. John—and some 50 uninhabited islets. Total area, 132 square miles; population, 24,889 in 1940; 22,012 in 1930. Areas and populations (1930) of the individual islands: St. Thomas, 22 square miles, 9834 inhabitants; St. Croix, 84 square miles, 11,413 inhabitants; St. John, 20 square miles, 765 in-

habitants. Of the whole population, 78 per cent in 1930 were Negroes, 12 per cent of mixed race, and 9 per cent whites; 1939's birth rate 35.8, death rate 20.9, per 1000. Capital, Charlotte Amalie, on the island of St. Thomas.

**Production and Trade.** The main productive activity is the growing of sugar cane, chiefly on the island of St. Croix and the production of sugar and rum from the cane. Cattle are raised for domestic needs and for exportation to Puerto Rico. St. Thomas, an island too rugged for extensive agriculture, derives some of the support of its population from catering to tourists and from services to vessels that resort to the harbor of Charlotte Amalie for fuel, supplies, or repairs. After decades of economic decline the Virgin Islands became destitute in 1933. Federal grants of divers sorts, totaling \$8,347,000 approximately for the ten fiscal years 1931-40 or about \$340 to the inhabitant, have kept industry going and have otherwise assured part of the people's subsistence. Thus the Virgin Islands Co., a Federally owned corporation, in the years 1935-39, against an original Federal outlay, in capital, of \$3,409,404 and five years' gross receipts of \$824,914, had expenses, before tax-payments, of \$873,321 and a consequent deficit before taxes of \$48,407; deficit after taxes, \$139,926; but the company furnished

employment for a considerable part of the population.

In the fiscal year 1940, 985 ships, having a total tonnage of 3,844,289, entered port at the island of St. Thomas; 21 of these were carriers of tourists. Exports of cattle (fiscal year 1939) totaled 1944, in value \$49,306. For the calendar year 1940 the Virgin Islands' imports of merchandise from the United States amounted to \$3,023,979; exports thereto, of native products of the Islands, to \$1,448,020. Of the year's exports, rum furnished \$501,924; bitters, \$366,559. For 1939 exports of sugar to the United States totaled \$376,151. The imports, widespread in variety, covered most of the Islands' needs, including a considerable part of their animal and vegetable foods; main components were non-metallic minerals (nearly three-fourths being fuels), \$428,326; metal products, \$619,229; and (separate from the foregoing) machinery and vehicles, \$335,454.

**Government.** Under previous dispositions and an act of the U.S. Congress, the Organic Act of 1936, the Virgin Islands have as their chief executive a Governor, holding office by appointment of the President and, since 1939, acting under the supervision of the U.S. Department of the Interior. Justice is dealt by the U.S. District Court of the Virgin Islands and such subordinate courts as

TABLE 1—DEATHS (1939) AND DEATH RATES (1935-39) FROM SELECTED CAUSES UNITED STATES

	Total Deaths	Death rate (number per 100,000 estimated population)				
		1939	1938	1937	1936	1935
All causes	1,387,897	1,062.7	1,065.3	1,126.6	1,157.2	1,097.5
Typhoid and paratyphoid fever	2,001	1.5	1.9	2.1	2.5	2.8
Cerebrospinal (meningococcus) meningitis	863	0.7	0.8	1.7	2.4	2.1
Scarlet fever	853	0.7	0.9	1.4	2.0	2.1
Whooping cough	3,026	2.3	3.7	3.9	2.1	3.7
Diphtheria	1,997	1.5	2.0	2.0	2.4	3.1
Tuberculosis of respiratory system	56,398	43.2	44.7	49.2	50.9	50.0
Tuberculosis (other forms)	5,211	4.0	4.4	4.7	5.1	5.2
Dysentery	2,537	1.9	2.3	2.3	2.4	1.9
Malaria	1,761	1.3	1.8	2.1	3.1	3.5
Syphilis (all forms)	19,604	15.0	15.9	16.2	16.2	15.4
Influenza	21,464	16.4	12.7	29.5	26.5	22.2
Measles	1,174	0.9	2.5	1.2	1.0	3.1
Polioomyelitis and polioencephalitis (acute)	773	0.6	0.4	1.1	0.6	0.8
Cancer of the digestive organs and peritoneum	71,690	54.9	54.6	53.9	53.4	52.4
Cancer of female genital organs	20,737	15.9	15.6	15.5	15.5	15.1
Cancer of the breast	14,868	11.4	11.2	10.8	10.7	10.4
Cancer (other forms)	46,551	35.6	33.7	32.2	31.9	30.5
Acute rheumatic fever	1,733	1.3	1.6	1.5	1.7	1.8
Diabetes mellitus	33,395	25.6	23.9	23.8	23.8	22.4
Exophthalmic goiter	3,676	2.8	2.9	2.9	3.0	2.9
Pellagra (exc alcoholic)	2,419	1.9	2.5	2.5	2.9	2.8
Alcoholism (ethylishm)	2,558	2.0	2.0	2.6	2.9	2.6
Intracranial lesions of vascular origin	114,967	88.0	86.0	86.8	91.2	85.9
Other diseases of the nervous system, etc	14,207	10.9	11.4	12.4	13.5	12.9
Diseases of ear, nose, throat	7,521	5.8	6.5	7.4	8.4	8.7
Chronic rheumatic diseases of the heart	26,211	20.1				
Diseases of the coronary arteries and angina pectoris	89,423	68.5	270.0	269.1	267.0	246.1
Diseases of the heart (other forms)	245,000	187.6				
Pneumonia (all forms)	77,633	59.4	67.8	85.4	93.4	82.3
Ulcer of stomach or duodenum	8,875	6.8	6.5	6.8	6.7	6.6
Diarrhea, enteritis, etc	15,128	11.6	14.3	14.7	16.4	14.2
Appendicitis	14,113	10.8	11.0	11.9	12.9	12.7
Hernia, intestinal obstruction	12,267	9.4	9.7	10.2	10.5	10.4
Cirrhosis of the liver	10,904	8.3	8.3	8.5	8.3	7.9
Biliary calculi, etc	8,087	6.2	6.5	6.7	6.9	6.8
Nephritis	108,512	83.1	77.5	79.9	83.6	81.6
Diseases of the prostate	8,635	6.6	6.4	6.7	6.9	6.7
Puerperal septicemia	3,834	2.9	2.6	2.9	3.6	4.1
Puerperal toxemia	2,232	1.7	1.9	2.1	2.2	2.1
Other puerperal causes	3,085	2.4	3.2	3.4	3.7	3.7
Congenital malformations	12,413	9.5	9.3	9.2	9.5	9.3
Premature birth	32,251	24.7	25.2	26.1	26.3	26.1
Suicide	18,511	14.2	15.3	15.0	14.3	14.4
Homicide	8,394	6.4	6.8	7.6	8.0	8.3
Motor-vehicle accidents	32,386	24.8	25.1	30.8	29.8	28.7
Other accidents	60,237	46.1	47.2	50.9	56.3	50.0
All other causes	137,782	105.5	104.5	108.8	114.8	111.2

\* Not strictly comparable with prior years because of shift to nephritis of certain inclusions under diseases of the heart

hold power under the Islands' local laws. A Legislative Assembly has power to enact, subject to Federal approval, measures relating to the Islands as a whole. This Assembly consists of the combined membership of two Municipal Councils. The councils also each have considerable authority to make local laws for their respective municipalities. The two municipalities, that of St. Croix and that of St. Thomas and St. John, exercise home rule to a degree that greatly limits the Assembly's field. In each municipality the people elect the Council. The natives of the Islands are U.S. citizens, in general, though the phrasing of the grant of citizenship and of its later amendment failed to take in some natives no longer in the Islands. Governor in 1940, Lawrence W. Cramer.

As to finance, the chief Insular officers are paid by the United States. All taxes collected from inhabitants of the Islands, whether under Federal laws or under local laws, go into the treasuries of the respective municipalities. The revenue of the two municipalities and their expenditures, for the fiscal year 1940 were: St. Croix, \$176,013 in revenues and \$256,943 (or somewhat more) in expenditures; St. Thomas and St. John, similarly, \$232,849 and \$276,750. The yearly deficit of either municipality has recurred without exception throughout the period of U.S. possession. Yearly Federal appropriations cover each year's approximate deficits, as anticipated.

**History.** Efforts under way, to do away with the tax of \$6 a ton on exports of sugar from the Virgin Islands, made slight progress in 1940. The U.S. Congress had under consideration, as in two previous sessions, a bill to transfer to the Islands the Federal receipts in excise taxes collected on their products in the United States; supporters of this bill had in mind that such receipts would enable the Insular treasuries to give up the revenue from the sugar-export duty and would thus render the latter's repeal practicable. Governor Cramer in his annual report stressed the critical ills of the sugar-producing industry in the Islands and indicated the export tax as a difficulty that other exporters of sugar to the United States did not have to face.

A plan, reportedly urged by the Insular government, to harbor European refugees in the Islands came before the Department of the Interior late in the year. Governor Cramer resigned on November 26. Up to the end of 1940 the President named no successor.

**VITAL STATISTICS.** According to a report of the Bureau of the Census (Feb. 21, 1941), there were 2,265,588 births and 1,387,897 deaths reported for the United States for 1939, a decrease in the number of births and a slight increase in the number of deaths, as compared with the corresponding figures for the preceding year. The birth rate declined from 17.6 per 1000 estimated popula-

TABLE 2—BIRTHS, DEATHS, INFANT DEATHS, AND MOTOR VEHICLE FATALITIES BY STATES, 1939

	Total Births	Birth Rate *	Total Deaths	Death Rate *	Total Infant Deaths <sup>b</sup>	Infant Death Rate *	Motor Vehicle Deaths	Motor Vehicle Death Rates <sup>d</sup>
United States	2,265,588	17.3	1,387,897	10.6	108,846	48.0	32,386	24.8
Alabama	61,385	21.8	28,301	10.0	3,675	59.9	632	22.4
Arizona	10,928	22.2	5,851	11.9	1,031	94.3	224	45.4
Arkansas	35,565	18.3	16,514	8.5	1,637	46.0	311	16.0
California	103,453	15.2	77,130	11.4	4,385	42.4	2,860	42.2
Colorado	20,692	18.6	12,558	11.3	1,134	54.8	335	30.1
Connecticut	23,463	13.8	17,696	10.4	842	35.9	374	22.0
Delaware	4,384	16.6	3,169	12.0	193	44.0	79	29.9
District of Columbia	14,037	21.6	8,292	12.8	669	47.7	155	23.8
Florida	32,328	17.5	21,295	11.5	1,822	56.4	708	38.4
Georgia	64,781	20.9	31,843	10.3	3,780	58.4	686	22.1
Idaho	11,068	21.4	4,753	9.2	508	45.9	175	33.8
Illinois	117,841	15.0	86,994	11.1	4,474	38.0	2,231	28.4
Indiana	58,349	17.1	39,510	11.6	2,302	39.5	1,095	32.2
Iowa	43,765	17.3	26,465	10.5	1,697	38.8	545	21.5
Kansas	29,115	16.1	18,469	10.2	1,146	39.4	414	22.9
Kentucky	60,587	21.5	29,507	10.5	3,187	52.6	690	24.4
Louisiana	48,844	20.9	24,521	10.5	3,077	63.0	493	21.1
Maine	14,987	17.8	10,815	12.9	785	52.4	193	22.9
Maryland	28,291	15.8	20,831	11.6	1,422	50.3	401	22.4
Massachusetts	63,657	14.7	50,917	11.8	2,358	37.0	656	15.2
Michigan	94,418	18.3	52,019	10.1	3,955	41.9	1,534	29.7
Minnesota	50,237	18.1	26,784	9.7	1,798	35.8	607	21.9
Mississippi	51,721	23.8	22,646	10.4	2,907	56.2	419	19.3
Missouri	58,876	15.6	42,585	11.3	2,655	45.1	817	21.7
Montana	10,897	19.7	5,901	10.7	534	49.0	147	26.6
Nebraska	22,338	16.9	12,194	9.2	816	36.5	275	20.9
Nevada	1,940	17.8	1,263	11.6	87	44.8	78	71.7
New Hampshire	7,934	16.3	6,301	12.9	363	45.8	109	22.3
New Jersey	56,379	13.6	43,959	10.6	2,184	38.7	852	20.6
New Mexico	14,215	27.3	5,917	11.4	1,549	109.0	194	37.3
New York	187,575	14.1	149,501	11.2	7,370	39.3	2,485	18.7
North Carolina	79,149	22.4	31,793	9.0	4,683	59.2	908	25.7
North Dakota	13,158	20.5	5,424	8.4	645	49.0	100	15.6
Ohio	109,272	15.9	76,927	11.2	4,691	42.9	1,965	28.6
Oklahoma	43,471	18.6	20,391	8.7	2,162	49.7	515	22.1
Oregon	16,715	15.5	11,797	10.9	593	35.5	337	31.3
Pennsylvania	161,049	16.3	108,007	10.9	7,143	45.6	2,103	21.3
Rhode Island	10,444	14.8	7,775	11.0	412	39.4	78	11.0
South Carolina	42,811	22.6	19,296	10.2	2,834	66.2	543	28.7
South Dakota	11,616	18.0	5,517	8.5	481	41.4	121	18.7
Tennessee	53,353	18.5	28,722	9.9	2,874	53.9	599	20.7
Texas	121,049	19.0	60,218	9.4	8,110	67.0	1,610	25.3
Utah	13,007	23.9	4,712	8.6	514	39.5	169	31.0
Vermont	6,375	17.8	4,544	12.7	291	45.6	82	22.9
Virginia	52,921	20.0	28,636	10.8	3,221	60.9	809	30.6
Washington	26,538	15.5	18,516	10.8	976	36.8	466	27.3
West Virginia	41,545	22.0	17,490	9.3	2,272	54.7	360	19.1
Wisconsin	54,168	17.4	31,424	10.1	2,179	40.2	728	23.4
Wyoming	4,897	20.0	2,207	9.0	223	45.5	119	48.5

\* Per 1000 estimated population    <sup>b</sup> Under one year of age.    \* Per 1000 live births.    <sup>d</sup> Per 100,000 estimated population.

tion in 1938 to 17.3 in 1939, and the death rate decreased from 10.7 to 10.6 per 1000 estimated population. The death rate in 1939 was the lowest ever recorded for the United States death registration area.

The birth rate in 1939 was lowest in the Middle Atlantic States and highest in the Mountain States, the range being 14.8 to 21.4 birth per 1000 estimated population. The variation in the regional distribution of the death rates was not so great as that for the birth rates. The death rates ranged from 9.4 per 1000 estimated population for the West South Central States to 11.7 per 1000 estimated population for the New England States.

Although the death rates for such causes as heart diseases, cancers, and diabetes, reached new record highs, the favorable mortality experience relative to other causes of death was impressive. The death rates for influenza and pneumonia, for tuberculosis, and the infant and maternal mortality rates were, in 1939, the lowest ever reported for the United States death registration area.

See the accompanying tables, pages 798 and 799, for (1) deaths from selected causes in the United States in 1939, together with death rates for a five-year period, and (2) a report by States on total figures and rates for births, deaths, infant deaths, and motor-vehicle fatalities. Rates are based on estimated population figures. For actual population according to the 1940 census, see *POPULATION*. For trends in accidents, infant mortality, and maternal deaths, see *ACCIDENTS*; *BIRTH CONTROL*; *CHILDREN'S BUREAU*.

**VITAMINS.** See *BIOLOGICAL CHEMISTRY*; *CHEMISTRY*; *PSYCHIATRY*.

**VOCATIONAL TRAINING.** See *CIVILIAN CONSERVATION CORPS*; *EDUCATION*; *EDUCATION, U.S. OFFICE OF*; *NATIONAL DEFENSE ADVISORY COMMISSION*; *PRISONS, PAROLE, AND CRIME*; *WAGE AND HOUR ADMINISTRATION*; *WORK PROJECTS ADMINISTRATION*.

**VOORHIS ACT.** See *COMMUNISM* under *Communism in the United States*.

**VULTEE AIRCRAFT COMPANY STRIKE.** See *DEFENSIVE MEASURES, U.S.* under *Attitude of Organized Labor*; *LABOR CONDITIONS* under *Strikes*.

**WAGE AND HOUR DIVISION.** The Fair Labor Standards Act of 1938—better known as the Federal Wage-Hour Law—places a "floor" under wages and a "ceiling" over hours and prohibits "oppressive" child labor for employees engaged in interstate commerce or in the production of goods for interstate commerce. The administration and enforcement of the Act is vested in the Wage and Hour Division and the Children's Bureau of the U.S. Department of Labor (q.v.).

The wage "floor" was 25 cents an hour and the hours "ceiling," without payment of time and a half for overtime, was 44 a week from Oct. 24, 1938, the effective date of the Act, until Oct. 24, 1939. On that date the statutory minimum advanced to 30 cents and the statutory work week was lowered to 42 hours. On Oct. 24, 1940, the "ceiling" was reduced to 40 hours per week. There will be no further reduction in the maximum work week and no further change in the general minimum wage rate until Oct. 24, 1945, when 40 cents an hour will become the minimum. The Federal Wage-Hour Law does not prohibit overtime work beyond 40 hours a week—but it does require the payment of time and a half the regular wage rate for such overtime work.

Important developments under the Federal

Wage-Hour Law in 1940, in addition to the reduction of the hours maximum from 42 to 40 on October 24, included a re-definition of "area of production" and a re-definition of "executive, administrative, professional . . . outside salesman" by the Administrator of the Wage and Hour Division.

The re-definition of "area of production" under the new regulations exempts from the benefits of the Act only persons employed in establishments canning or packing fresh fruits and vegetables having not more than 10 employees, and whose commodities come from farms in the general vicinity. An additional seasonal exemption is also granted fresh fruit and vegetable packing and canning plants up to not exceeding 12 hours per day and 56 hours per week for 14 weeks.

The re-definition of "executive, administrative, professional . . . outside salesman," affecting almost all interstate commercial establishments, exempts certain "white-collar" employees who need not be paid overtime after 40 hours a week. The principal change was a separate definition for "administrative employee." An executive, as defined, remains one whose primary duty consists in management and who, among other qualifications, receives \$30 a week or more. Administrative employees are more broadly defined in the new regulations to include those whose duties, while important and associated with management, are functional rather than supervisory, and who are paid "a salary commensurate with the importance supposedly accorded the duties in question." The regulations require that such salary be not less than \$200 a month. A similar salary requirement was included in the definition of "professional."

It has been estimated that more than \$100,000,000 a year will be added to wage-earner's pay envelopes in 1941 by the 30-cent-an-hour minimum wage and by wage orders fixing minimum wage rates at more than 30 cents in certain industries. These wage orders provide for the establishment of minimum wages, industry by industry, at a rate higher than the statutory minimum, but not in excess of 40 cents an hour. The Administrator is empowered to issue wage orders upon the recommendation of industry committees to be appointed by him.

As of Jan. 1, 1941, 13 industrial wage orders had been issued, providing for an estimated increase in wages of \$35,000,000 to some 600,000 wage earners throughout the country. These wage orders applied to the following industries: Hosiery, cotton textiles, millinery, shoes, knitted underwear and commercial knitting, woolen textiles, hats, knitted outerwear, apparel, pulp and primary paper, leather, luggage and leather goods, and embroideries. In addition, a special industrial wage order was issued for the needlework industries in Puerto Rico in accordance with an amendment to the Act adopted by the Congress in June, 1940.

During 1940 provision was made for the employment of student-learners in vocational training programs at less than the statutory minimum rate. Under these regulations special certificates are issued authorizing the employment of student-learners at wage rates lower than those applicable under the Act, if such employment is in connection with a bona fide vocational training program. A "bona fide vocational training program" under these regulations means "a program providing for part-time employment of student-learners for a part of the working day, or for alternating weeks, or for limited periods during the year, such employment providing training which is supplemented by related instruction given the student-learner as a regular



part of his school course by the school, college, or university." The law provides for the employment of learners, messengers, apprentices, and mentally or physically handicapped workers at subminimum wages upon certification by the Administrator.

Improvements in procedure in 1940, together with an increase in the Division's personnel, resulted in more and swifter inspections, and "drives" for compliance in whole industries were initiated. The work was carried on in 14 regions throughout the country. Co-operative agreements were entered into by the Division and the Children's Bureau with the States of Connecticut and Minnesota and the District of Columbia. A co-operative agreement with North Carolina was renewed. These agreements, authorized by the Act, permit, on a basis of reimbursement, the use of State Labor department inspectional staffs in the work of enforcement. During the calendar year 1940, 1189 civil court cases were instituted, and 1098 injunctions were granted. A total of 72 criminal court cases were instituted during the year. The fines imposed totaled \$152,703.

Some important court decisions involving the constitutionality of the Act were rendered in 1940. The Darby Lumber Company, a Georgia lumber mill, attacked the constitutionality of the Act as an invasion of States' rights. A Federal District Court in Georgia upheld the contention. The United States, acting under the Criminal Appeals Act, took an appeal directly to the U.S. Supreme Court, which granted a review of the case. The Opp Cotton Mills of Alabama challenged the validity of the Administrator's Wage Order for the Textile Industry. The Administrator's Wage Order was upheld in the Fifth Circuit Court of Appeals and the U.S. Supreme Court granted a review of this case also. The appeals in both the Darby case and Opp case were argued Dec. 20, 1940.

The right of the Administrator to make routine inspections of employment records, regardless of whether or not a complaint has been filed, and despite the employer's contention that his workers were not covered by the Act, was attacked by Montgomery Ward and Company of Chicago. The company appealed from a decision of the Federal District Court upholding the Act and the Administrator's subpoena power. The Circuit Court of Appeals affirmed the decision, denying contentions of the company that the Act was not a valid exercise of the power of Congress to regulate commerce, and that the subpoena violated rights under the Constitution. The U.S. Supreme Court refused to grant a writ of certiorari in this case, thus upholding the right of the Administrator to inspect employment records.

During 1940, the Administrator issued 2650 certificates to handicapped workers, 2334 learner certificates, and found 27 industries or branches of industry to be of a seasonal nature and therefore entitled to the overtime exemption up to 12 hours a day or 56 a week for a period or periods totalling in the aggregate 14 weeks a year.

See **LABOR CONDITIONS**; **NEWSPAPERS AND MAGAZINES**; **UNITED STATES under Administration**.

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**WAGES.** See **LABOR CONDITIONS**; **LABOR LEGISLATION**; **WAGE AND HOUR ADMINISTRATION**; also, **AMERICAN FEDERATION OF LABOR**.

**WAKE ISLAND.** A possession of the United States in the central Pacific, 2130 miles west of Hawaii, consisting of the three small islets of Wake, Peale, and Wilkes enclosing a lagoon. Area,

4 square miles. In 1935 a base was established for the transpacific service of Pan American Airways. During 1939 the U.S. Congress appropriated special funds for the construction of a naval air base and submarine base. The administration is under the jurisdiction of the U.S. Navy Department.

**WALES.** See **GREAT BRITAIN under Area and Population**.

**WALLIS ARCHIPELAGO.** See **NEW CALLEDONIA**.

**WAR, European.** See **EUROPEAN WAR**.

**WAR DEBTS.** See **REPARATIONS AND WAR DEBTS**.

**WAR DEPARTMENT, U.S.** See **MILITARY PROGRESS**; **UNITED STATES under Administration**; also, articles on **ENGINEERS, CORPS OF** and **PANAMA CANAL**.

**WAR MATERIALS.** See topics listed under **DEFENSE, NATIONAL**.

**WARM SPRINGS FOUNDATION, Georgia.** See **BENEFACTIONS**.

**WAR RELIEF ACTIVITIES IN THE UNITED STATES.** An article concerning war relief activities in 1940 in its broad outlines may be described by countries aided, by the general purposes of the organization, or divided by periods during which war conditions were controlling.

With the outbreak of World War II in September, 1939, a number of organizations sprang up in this country to give relief to Poland, to Great Britain, and to France. The attack on Finland the end of November, 1939, caused a general outpouring of sympathy and help, and in the spring of 1940 the invasion of Norway, Holland, Belgium, (the Grand Duchy of Luxemburg), and Greece started a new series of relief groups together with the intensification of aid by the organizations interested in Great Britain and France. With the exception of the Finnish relief groups, all relief organizations were controlled by the provisions of the Neutrality Act and had to comply with the regulations of the Department of State.

These regulations were issued under the general authority of a joint resolution of Congress approved on Nov. 4, 1939. Funds may not be solicited for the governments of States at war, as proclaimed by the President, but only for "medical aid and assistance, or for food and clothing to relieve human suffering" in accordance with rules laid down by the Department of State. Registration of all relief organizations is required, each organization must have an active governing body serving without compensation and a trustworthy treasurer, proper accounts must be kept and monthly reports submitted. The rules also forbid the use of solicitors on commission, the "remit or return" method for the sale of merchandise or tickets, the giving of entertainments where the estimated costs exceed 30 per cent of the gross proceeds, or "any other wasteful or unethical method of soliciting contributions."

The list of organizations on Dec. 31, 1940, included more than 300 different groups appealing to the American public and to persons especially interested in one country or another because of local ties. Those groups which had collected more than \$100,000 by that time are listed in the accompanying table, page 802.

Certain attempts were made during the year, particularly in May and June, to form some general council or agency to act as a clearinghouse for overseas relief appeals and to issue some joint appeal for relief. It was felt that any relief appeals for abroad should not prejudice domestic relief

## CONTRIBUTIONS FOR RELIEF IN BELLIGERENT COUNTRIES SEPT. 6, 1939-DEC. 31, 1940

(Department of State Bulletin, Feb. 1, 1941)

<i>Name of registrant, location, date of registration, and destination of contributions</i>	<i>Funds received</i>	<i>Funds spent for relief in countries named</i>	<i>Funds spent for administration, publicity, affairs, campaigns, etc.</i>	<i>Unexpended balance as of Dec. 31, 1940, including cost of goods purchased and still on hand</i>	<i>Estimated value of contributions in kind sent to countries named</i>	<i>Estimated value of contributions in kind now on hand</i>
American Field Hospital Corps, New York, N.Y., Dec. 12, 1939 France, Belgium, Holland, and England	\$228,545	\$185,621	\$ 24,608	\$ 18,315	\$ 2,694	None
American Field Service, New York, N.Y., Sept. 27, 1939 France, Great Britain, British East Africa, Greece, and French African Colonies	334,947	292,208	16,975	25,762	None	None
American Friends of France, Inc., New York, N.Y., Sept. 21, 1939 France, Germany, and England	338,401	182,360	34,272	121,769	19,904	None
American Friends Service Committee, Philadelphia, Pa., Nov. 9, 1939 United Kingdom, Poland, Germany, France, Norway, Belgium, the Netherlands, Italy, and Portugal	117,235	107,861	9,073	301	14,512	None
The American Jewish Joint Distribution Committee, Inc., New York, N.Y., Sept. 29, 1939 United Kingdom, Poland, Germany, France, Norway, Belgium, Luxembourg, and the Netherlands	2,955,505	2,673,193	282,312	None	51	None
Bishops' Committee for Polish Relief, Washington, D.C., Poland, England, France, Switzerland, Hungary, Rumania, Italy, and Portugal	394,340	266,324	62	127,953	None	None
British-American Ambulance Corps, Inc., New York, N.Y., June 11, 1940 Greece, England, and France	837,816	293,011	89,374	455,429	None	None
British War Relief Association of Northern California, San Francisco, Calif., Oct. 20, 1939 Great Britain and France	125,876	88,445	4,131	33,299	61,250	None
The British War Relief Association of Southern California, Los Angeles, Calif., Dec. 8, 1939 Great Britain and Greece	323,171	274,220	25,223	23,727	96,326	None
The British War Relief Society, Inc., New York, N.Y., Dec. 4, 1939 (Combined with the Allied Relief Fund, Inc., Dec. 1, 1940) United Kingdom, Canada, France, Belgium, the Netherlands, Norway, Kenya, and Newfoundland	4,075,925	2,385,732	290,063	1,400,129	463,408	None
Bundles for Britain, New York, N.Y., Dec. 28, 1939 Great Britain and Dominions	631,947	200,499	148,526	282,921	628,230	\$24,562
Commission for Polish Relief, Inc., New York, N.Y., Sept. 12, 1939 Poland and England	541,111	471,563	56,094	13,453	1,500	None
English-Speaking Union of the United States, New York, N.Y., Dec. 26, 1939 Great Britain, Canada, and France	112,864	98,301	4,980	9,582	95,188	256
Fortra, Inc., New York, N.Y., Mar. 7, 1940. Germany and Poland	796,934	643,166	82,571	71,195	None	None
Foster Parents' Plan for War Children, Inc., New York, N.Y., Sept. 21, 1939 France and England	128,669	68,075	27,990	32,604	None	None
Greek War Relief Association, Inc., New York, N.Y., Nov. 18, 1940. Greece	1,081,694	1,000,345	24,787	56,562	5,789	None
Hadassah, Inc., New York, N.Y., Nov. 15, 1939 Palestine	1,055,238	824,508	42,895	187,833	62,649	3,484
Hamburg-Bremen Steamship Agency, Inc., New York, N.Y., Mar. 21, 1940. Germany and Poland	266,042	231,126	58,807	None	None	None
Harvard University, Cambridge, Mass., Aug. 30, 1940. Great Britain	111,174	None	14,409	96,764	None	None
International Committee of Young Men's Christian Associations, New York, N.Y., Sept. 22, 1939 All belligerent countries	123,667	45,658	7,230	70,778	None	None
The Mother Church, The First Church of Christ, Scientist, in Boston, U.S.A., Boston, Mass., Apr. 25, 1940. Canada, France, and the United Kingdom	204,202	20,620	4,305	179,276	15,927	\$32,937
Norwegian Relief, Inc., Chicago, Ill., May 1, 1940 Norway	411,484	None	12,158	399,326	None	None
Paderewski Fund for Polish Relief, Inc., New York, N.Y., Feb. 23, 1940 Poland and Great Britain	188,000	64,500	33,746	19,753	None	None
Polish-American Council, Chicago, Ill., Sept. 15, 1939. Poland	509,041	339,582	13,167	156,291	118,500	None
Polish National Alliance of the United States of North America, Chicago, Ill., Sept. 27, 1939 Poland	308,953	232,165	2,058	74,729	None	None
Polish National Council of New York, New York, N.Y., Sept. 14, 1939. France and Poland	104,504	89,914	13,021	1,569	365,617	\$174,486
Polish Relief Committee, Detroit, Mich., Sept. 11, 1939. Poland	161,027	108,646	6,306	46,073	62,974	None
Queen Wilhelmina Fund, Inc., New York, N.Y., May 17, 1940 Netherlands, France, Poland, United Kingdom, India, Australia, New Zealand, Canada, Union of South Africa, Norway, Belgium, and Luxembourg	380,330	182,233	30,751	167,345	None	None
Registrants whose registrations were revoked prior to Dec. 1, 1940, and who had no balance on hand as of that date	518,361	432,594	88,935	None	1,341,611	None
The Salvation Army, New York, N.Y., May 23, 1940 England, France, Norway, Belgium, and the Netherlands	208,347	184,723	1,782	21,841	52,402	None
Save the Children Federation, Inc., New York, N.Y., Sept. 8, 1939. England, Poland, Belgium, and the Netherlands	195,085	141,176	47,336	6,572	None	None
United Committee for French Relief, Inc., New York, N.Y., Oct. 26, 1939 France, England, and Germany	124,057	80,520	13,106	30,430	8,504	\$801

campaigns and that local needs came first. Informal conversations were conducted by certain of these relief groups and this movement received the support of the Community Chest and Councils at their annual convention in May held in Detroit. Unified appeals had been made in the last war, and it was felt highly desirable that such joint appeals would not only lessen overhead expense but would simplify both collection and distribution problems.

At a time when local relief was needed in the United States the multiplicity of appeals for Europe tended to discourage and confuse the possible givers. Such attempts failed, however, due to inherent difficulties of organization and the inability of the American Red Cross, which was then conducting its own drive for twenty million dollars to aid civilians in war-torn Europe, to define the scope of its activities or to assume the leadership,

which all felt was rightfully its province. See CATHOLIC WELFARE CONFERENCE; ENGLAND, CHURCH OF; RED CROSS, AMERICAN NATIONAL; ETC.

Brief outlines of the accomplishments of certain of these organizations which carried on their principal work in 1940 follow:

**Poland.** Since the end of 1939 efforts have been made by various groups, including the Red Cross, the Commission for Polish Relief, the Quakers, and the Jewish Joint Distribution Committee to provide aid. It soon became apparent that relief was not possible in those parts of Poland annexed to Germany or occupied by Russia, so that the relief by necessity went to Central Poland—the so-called General Government of Poland—in addition to aid to Polish refugees in Rumania, Hungary, Greece, Lithuania, France, Portugal, and England. The actual distribution of foodstuffs in Poland was under the direct supervision of American Representatives of the Commission for Polish Relief through local Polish organizations. The German authorities granted free rail transport and warehousing. The Commission's total distribution to the end of December was nearly 1,000,000.

**Great Britain.** Some seventy separate agencies are providing civilian aid to Great Britain. The British War Relief Society, now merged with the Allied Relief Fund under the former's name, was successful in raising more than \$4,000,000. Its funds, sent partly in cash and principally in supplies, have been used to provide ambulances, mobile kitchens, hospital equipment, and civilian supplies of all kinds as well as direct transfers of cash. Originally set up to meet needs in France and England, the Allied Relief Fund has concentrated on help to Britain since the fall of France.

"Bundles for Britain" at first concentrated its effort on obtaining knitted articles, woolen goods, used clothing, medical supplies, for soldiers and civilians, recently concentrating on blankets and children's cots for use in air-raid shelters. In the year ending in February, 1941, more than \$1,600,000 had been received in cash donations from benefits and from contributions of clothing, surgical supplies, and other articles.

**France.** The numerous societies and groups organized to provide help to France were unable to carry on effective work after May. Most of these groups, such as the American Friends of France, found it difficult to obtain funds, or to send necessary supplies even to unoccupied France, after the Armistice in June. The Quakers (American Friends Service Committee) has been carrying on relief, particularly for children and women in refugee camps, in unoccupied France.

**Finland.** The Finnish Relief Fund, organized in early December of 1939, under the national chairmanship of Herbert Hoover, was most active in appealing for general civilian relief in Finland until the close of the Russo-Finnish war in March, and a grand total \$3,440,119 was received to July 31. The success of the Fund was initially due to the immediate response of American newspapers which threw open their facilities to receive and acknowledge contributions, to careful organization of divisions for special groups, notably the industrial division, the corporation employee groups, sports events, theater benefits, and entertainments, and to the American Scandinavian organizations. Funds collected in this country were cabled to the General Relief Committee, set up by the Finnish Government to administer civilian relief from abroad, and used locally. The Red Cross shipped considerable quantities of medical supplies which

were used for the Army and some efforts were made to provide military supplies by other groups. The General Relief Committee in Finland used its funds for financial first aid to the evacuees, who totalled about 600,000, for families of soldiers, and for medical care. Of a total of 295,000,000 Finnish marks received from world charity more than 167,000,000 marks came from the Hoover Committee.

**China.** Despite the closing of the Burma Road, and in the face of other obstacles interposed by the Japanese government, American aid continued to trickle into China throughout 1940. On several occasions, medicines, including rare vaccines, were flown direct to bombed and beleaguered areas. "Bowl of Rice" parties, auction sales, dances, dinners, art exhibitions, etc., were staged in money-raising campaigns. Toward the close of the year a China Emergency Relief Committee was formed under the leadership of Pearl S. Buck. This organization functioned as a part of the American Bureau for Medical Aid to China. The American Red Cross reported on November 18 that the value of supplies sent by that organization into China since the beginning of hostilities until Nov. 1, 1940, totalled \$303,068.

**Greece.** Soon after the invasion of Greece at the end of October, the Greek War Relief Association was organized, and under able leadership it has merged practically all pro-Greek efforts into a single agency. Within a month after organization, more than 650 local committees were formed throughout the United States and its possessions. A goal of \$10,000,000 was set by the Association for relief of the civilian population of Greece. In fewer than two and one-half months, the committee had cabled directly to Athens \$2,500,000 and raised a similar amount in gifts of food, clothing, medical, and surgical supplies. During this short period of time three ships were dispatched to Greece loaded with food, clothing, and badly needed medical supplies. Due to war conditions these ships required three months or more to reach Greece with their precious cargoes. Because of this fact the major portion of the money raised by the Association was cabled directly to Athens, where an administrative committee was able to buy needed supplies from surrounding countries. Funds were raised through the usual mediums employed by organizations of this type; dinners, balls, dances, benefit shows, collection boxes, and the sale of pins and ornaments.

A break-down of the funds raised during the first three months of the drive showed that approximately 90 per cent of the money came from 800,000 Greeks and persons of Greek descent living in the United States. This, it was explained, was because the drive was in its infancy and the general public had not been contacted for contributions. But the Association is now receiving generous help also from the Americans. The Association's national committee includes: Harold S. Vanderbilt, honorary national chairman; Mrs. Huntington Astor, honorary chairman women's committee; the Most Rev. Athenagoras, national chairman; Spyros P. Skouras, national president.

**Child Relief.** The United States Committee for the Care of European Children was organized as a central agency and a clearinghouse to provide refuge in America for children evacuated from European war zones. Functioning in June with branches in many cities, the Committee made plans to bring many thousands of children under sixteen years of age, largely from England. Chil-

dren who were known to their foster parents and children who were unknown were provided for by the plan which was set up in co-operation with the Children's Overseas Reception Board in England and with officials in this country. More than 200,000 children were registered by their parents in England to come to the United States and Canada. Difficulties of providing safe passage for the children across the Atlantic, as well as the inherent troubles of selection of children for refuge, caused the British Government to announce the suspension of the plan on October 3. About 5000 children had been evacuated, some 1000 came to the United States under the Committee's auspices, and some 3000 children came independently, sponsored by university groups, manufacturing companies, and individuals. The Committee curtailed its activities but maintained a small staff at the end of the year capable of undertaking the work in 1941 should conditions change.

The Children's Crusade for Children carried its carefully organized appeal in April to the school children of America to aid their fellow children overseas. Through tin-can collections in the school-rooms nearly \$140,000 was raised and has been distributed to organizations aiding children in nine countries abroad or to refugees from war-torn countries. See CHILDREN'S BUREAU

PERRIN C. GALPIN.

**WAR WOUNDS.** See MEDICINE AND SURGERY.

**WASHINGTON.** Area, 69,127 square miles, includes water, 2291 square miles (but not the State's waters in Gulf of Georgia and Strait of Juan de Fuca). Population (U. S. Census), April, 1940, 1,736,191; 1930, 1,563,396. Seattle (1940), 368,302; Spokane, 122,001; Tacoma, 109,408; Olympia, the capital, 13,254. The urban population (dwellers in places of 2500 or more) gained (1930-40) 37,430 and attained 921,969, the rural population, mounting by 135,365, to 814,222, cut in half the lead of the urban group.

**Agriculture.** Washington harvested, in 1940, 3,548,000 acres of the principal crops; wheat and tame hay took up five-sixths of this area. Wheat, on 1,978,000 acres, bore 41,808,000 bu. (\$25,921,000 in estimated value to the cultivator). Tame hay, 1,001,000 acres, made 1,864,000 tons (\$14,912,000); apples for market totaled 28,804,000 bu. (\$24,483,000); pears, 6,585,000 bu. (\$4,840,000); potatoes, 45,000 acres, grew 8,325,000 bu. (\$4,662,000); dry peas, 136,000 acres, 1,768,000 bu. (\$3,713,000); hops, 6000 acres, 11,700,000 lb. (\$3,276,000); oats, 222,000 acres, 8,658,000 bu. (\$3,030,000); barley, 135,000 acres, 3,915,000 bu. (\$1,683,000).

**Mineral Production.** Washington's yearly production of its native minerals, as estimated by the U. S. Bureau of Mines, totaled \$21,167,004 for 1938. Coal, the leading item, yielded 1,566,973 net tons, (value \$4,939,000) in 1938; the yearly quantity mined rose to some 1,690,000 tons for 1939; the approximate output for 1940 was 1,688,000 tons.

**Metal mines'** production of ores of gold, silver, copper, lead, and zinc rose, in value of recoverable metal, to \$7,193,391 for 1940, from \$6,739,467 for 1939 and \$5,510,440 for 1938. The yearly total of gold diminished to some 84,665 oz. (1940), from 90,420 (1939), and by value to \$2,963,275, from \$3,164,700. But the total of zinc increased to 23,942,000 lb. (1940), from 20,262,000 lb. (1939); by value, to \$1,556,230, from \$1,053,624. That of copper rose also, to 18,858,000 lb., from 17,996,000 lb., and to \$2,130,954, from \$1,871,584.

**Education.** Enrollments of pupils in all the ordinary public schools of Washington numbered 331,409 for the academic year 1939-40. The total comprised 225,429 in elementary study and 105,980 in high school. Apart from these figures, the system of evening schools reported 10,434 elementary and 31,665 secondary enrollments. The year's expenditure for public-school education totaled \$29,442,858. The teachers numbered 11,216 and averaged, in yearly pay, \$1641.20.

**History.** A strike of groups in the International Longshoremen's Union in September halted considerable shipping in Tacoma and some other Sound ports, one of the vessels loading lumber for an aeronautical base of the U. S. Army in Alaska was delayed.

Against the State law requiring a license for catching salmon in the Columbia River, certain tribes of Indians brought Federal suit on behalf of the specific right of salmon-fishing accorded them by the United States in a treaty of 1855. In a similar situation the neighboring State of Oregon had been brought by public opinion only shortly before to enact exemption, from its fishing-license requirements, of Indians with treaty rights. See also BRIDGES, for collapse of the Tacoma Narrows Bridge; DISTRICT OF COLUMBIA; LABOR LEGISLATION; PUBLIC BUILDINGS ADMINISTRATION, RECLAMATION, BUREAU OF

**Elections.** At the general election (November 5) the popular vote for President went to Roosevelt (Dem.), by a total of 462,145, against 322,123 for Willkie (Rep.). Mon C. Wallgren (Dem.) was elected U. S. Senator, and an all-Democratic delegation of six were elected U. S. Representatives. The Governorship went to Arthur B. Langlie (Rep.), opposed by former U. S. Senator C. C. Dill (Dem.), in a close vote.

**Officers.** Washington's chief officers, serving in 1940, were Governor, Clarence D. Martin (Dem.), Lieutenant Governor, Victor A. Meyers; Secretary of State, Belle Reeves; Auditor, Cliff Yelle; Treasurer, Phil H. Gallagher; Attorney General, G. W. Hamilton; Superintendent of Public Instruction, Stanley F. Atwood.

**WATER POWER.** See ELECTRIC LIGHT AND POWER, POWER PLANTS.

**WATER SUPPLY.** See AQUEDUCTS; GEOLOGICAL SURVEY; SOIL CONSERVATION SERVICE, TUNNELS.

**WATERWAYS, Inland.** The largest enterprise of this kind in the United States is the control of the Mississippi River, south from the Missouri River to the Gulf, for both safe navigation and protection from floods. Its purpose is to maintain a minimum depth and clear channel during low-water periods, and to prevent flood damage along the river. This, however, is a continuous job, under the direction of the U. S. Engineer Corps (q. v.), going on year by year in the building and reinforcement of levees and the dredging, clearing, and straightening of the navigable channel.

Canalization of the Upper Mississippi, from the mouth of the Missouri to Minneapolis, was completed March 13, with the putting into service of lock and dam No. 24, at Clarksville, Mo. This was the last of the series of 26 dams, with locks for barge traffic. The lift of the locks averages 12½ ft., with a maximum of 38.2 ft. at the Keokuk dam, and a minimum of 5.5 ft. at the Winona dam. The locks are 600 ft. long and 110 ft. wide, the standard dimensions for government inland waterways. Flow over the Clarksville dam is regulated by a row of 15 radial Taintor gates 80 ft. long,

along the crest. Navigation is the main purpose of this project, with flood protection and power development as secondary considerations. The Cape Cod Canal is being deepened to have 32 ft. of water, and is being widened from 500 ft. to 700 ft.

Improvement of the New York State Barge Canal, started in 1935, is approaching completion. This work provides for deepening the canal from the former 12-ft. depth to 14 ft., from the Hudson River to Oswego, on Lake Ontario. It provides also for widening at bends and other points, and for raising all bridges to give a minimum clearance or headroom of 20 ft. above maximum water level for navigation. About 25 bridges have been raised so far. The deepening will be completed probably by July, 1941, and the raising of bridges by 1943.

For the Illinois State Water Waterway connecting Lake Michigan (at Chicago) with the Mississippi, application was made to the courts in 1940 for permission to increase the present flow from Lake Michigan for both navigation and sanitary purposes. This flow was reduced to 1500 cu. ft. per second on Jan. 1, 1939, by court order, and owing to the present discharge of some sewage effluent from Chicago it is claimed to have resulted in unsanitary conditions along the Illinois River. Increased flow will not affect navigation, as the waterway has a navigable depth of 9 ft., with 14 ft. of water on the sills of the locks.

The project of the Tennessee Valley Authority (q.v.) includes the formation of a navigable channel 9 ft. deep in the Tennessee River, from the Ohio, at Paducah, Ky., to Knoxville, Tenn., 650 miles, with a rise of about 500 ft. from the normal level of the Ohio. The ten dams on this river will have locks 110 x 600 ft., with an average lift of 57 ft. The Kentucky Dam is the largest, situated 23 miles from the Ohio, and having a lift of 73 ft. in the lock.

A large waterway with minimum depth of 10 ft. of water from the Atlantic Ocean at Charleston, S.C., to Columbia, S.C., will be a part of the Santee-Cooper hydroelectric development project, now under construction. Two dams on the Santee and Cooper rivers will form storage reservoirs which will be connected by a channel or canal 7½ miles long, thus diverting the water of the Santee into the Cooper River. The Cooper River dam at Pinopolis, with the power house, will have a lock 60 x 184 ft., giving a lift of 75 ft. A second canal, 5 miles long, 300 ft. wide, and with 11 ft. of water, will connect the lower end of the lock with the Cooper River. Above the lock, barges will pass through the two reservoirs and up the Congaree River to Columbia, a distance of over 100 miles.

Another small coastal inland waterway is that across Florida, by canal from the Atlantic near Miami to Lake Okeechobee, and from that lake along the Caloosahatchie River to the Gulf, near Fort Myers. The minimum depth is 10 ft. of water. New locks, 50 x 250 ft., to accommodate modern barge traffic, replace old locks 30 x 150 ft. This waterway is distinct, of course, from the project for a ship canal across Florida.

The old but often revived Lake Erie and Ohio River Canal project has been reported adversely by the Interstate Commerce Commission, as being an unnecessary competitor of railways covering the route. Its traffic would be what it could take from the railways, which could not stand such a loss. Furthermore, these railways have ample line and terminal capacity to carry any traffic likely to develop.

The St. Lawrence seaway project, to enable

large steamers to pass between the Atlantic Ocean and the Great Lakes, was still under consideration. In December, 1940, the President Roosevelt ordered another study of the power aspect, although several such engineering studies have been made. Opposition was based on the limited use in relation to the enormous cost (\$550,000,000); on the fact that part of the length and some of the locks would be in Canada, and on the possible detrimental effect on the flow and levels of the Great Lakes.

Canalization of the San Juan River, in Nicaragua, to provide a shallow-draft waterway between the Atlantic Ocean and Lake Nicaragua, was advanced in 1940 by an agreement between the governments of Nicaragua and Costa Rica as to certain rights and responsibilities for both countries. These conditions will apply also to the possible future extension of the waterway from the lake to the Pacific Ocean, which would require heavier construction work. Surveys and river studies for a waterway with navigable depth of either 8 ft. or 12 ft. have been made under the direction of the Chief of Engineers, U.S. Army, at the request of the government of Nicaragua.

The Albert Canal, in Belgium, opened in 1939 as a navigable waterway and a line of defense against invasion, failed of its latter purpose against the German advance in 1940. This failure seems to have been due largely to the number of bridges crossing the canal and the neglect to destroy these bridges in time, although such destruction had been carefully planned. Important canal and river navigation developments have been reported from Russia and Germany. The Corinth Canal, in Greece, has been attacked by bombs, but apparently without suffering serious damage.

E. E. RUSSELL TRATMAN.

## WATER WORKS AND WATER PURIFICATION.

The Quabbin reservoir on Swift River, heading the additional water supply system for the Boston Metropolitan District, had filled to a depth of 85 ft. by December 1, storing 70 billion of its ultimate capacity of 415 billion gallons. When filled the maximum water depth will be 150 ft. and the area flooded 38.6 square miles. Aqueducts connecting with the trunk mains leading to the various municipalities of the district and a large part of the 18-mile pressure tunnel-aqueduct at the eastern end of the aqueduct system are in use. New York City had holed through 80 miles of the 85-mile Delaware River Aqueduct by the close of the year and lined 25 miles of it with concrete. Construction of the Merriman and Never-sink dams had been started. The 242-mile Colorado River aqueduct of the Metropolitan Water District of Southern California and the half dozen pumping and repumping stations which lift water 1616 ft. had delivered enough water to the Cajalico terminal reservoir (renamed Lake Mathews) to store 80 per cent of the initial capacity of 35 billion gallons. Delivery of water to Los Angeles and the other 12 cities of the district by March 1 was expected. The initial 100 million-gallon unit of a lime-zeolite water-softening plant was under construction. The ultimate capacity of the project is one billion gallons. (For details of these three great projects see earlier issues of the YEAR BOOK.)

For Baltimore the pressure aqueduct connecting Loch Raven reservoir with the filtration plant was nearly completed. Its inside diameter is 12 ft., its length nearly 7 miles, and its capacity 275 million gallons a day. It is lined with concrete, smoothly finished on the inside for two-thirds of its length

and inner lined the rest of the way with continuously-welded steel plates. It supplements an unlined tunnel completed in 1874. At Toledo work continued on the \$9,000,000 project to bring water from Lake Erie through nearly 10 miles of 72-in. steel pipe to an 80-million-gallon filtration plant. This will replace the supply from the Maumee River. Grand Rapids has introduced a supply from Lake Michigan, 30 miles distant, and built a filtration plant replacing its old supply from Grand River. Wichita, Kan., has sunk wells, built a 30-mile conduit and a new iron-removal and filtration plant. Included in the conduit is a 16-mile stretch of 48-in. cement-lined centrifugally-cast iron pipe, the largest of its kind. Water is delivered by the city to the Wichita Water Co. for distribution, displacing a somewhat similar supply of poorer quality. See PENNSYLVANIA.

Of Chicago's three immense water purification projects to treat a total of a billion gallons a day, one was well under way and layout plans for the other two were being made at the close of the year. At St. Paul, water softening was begun in January at the enlarged filtration plant. Atlantic City, N.J., is building a 20-million-gallon aeration and filtration plant to remove taste and odor from the portion of its supply drawn from surface sources. In Canada, Toronto completed a 100-million-gallon filtration plant to supplement two already in use but postponed putting it in operation. Moose Jaw, Sask., has a unique new system of supply. Water is collected in a gallery alongside the South Saskatchewan River, pumped to an open ditch 68 miles long which delivers water to a 50-acre tract of land from which the top soil was removed to uncover a deep stratum of sand. Into the sand thus saturated 192 well points have been sunk and connected with pipes leading to pumps. (See *American City*, July, 1940.)

Guarding public water supplies from damage by covert enemies and preparation for possible damage in case of war is receiving increased attention. Some pumping stations and filtration plants have been closed to visitors. Watchmen at dams and along aqueducts have been increased. Plans to meet various emergencies have been made. In Great Britain civil defense authorities have issued orders for disinfection of water supplies by chlorination, where not already practiced, in order to eliminate possible contamination by enemy or other sources.

**Bibliography.** American Water Works Association, *Index, 1881-1939*, to Proceedings, also *Water Quality and Treatment* (New York); Turneaure, Russell, and Nicholls, *Public Water Supplies*, 4th ed. (New York); New England Water Works Association, *First Report* by Committee on Water Works Emergencies (Boston); Report on *Sabotage and Water Service*, *Engineering News-Record*, July 18, 1940.

M. N. BAKER.

**WEATHER, WEATHER BUREAU.** See METEOROLOGY; also, AGRICULTURE; FLORIDA under *History*; HORTICULTURE. For heat wave, see ACCIDENTS. For Atlantic Weather Patrol, see COAST GUARD, U.S.

**WEEVILS.** See ENTOMOLOGY, ECONOMIC.

**WELDING.** See ELECTRICAL INDUSTRIES.

**WELFARE WORK.** See COMMUNITY CHESTS AND COUNCILS; COMMUNITY TRUSTS; articles on churches and foundations, as the ROCKEFELLER FOUNDATION; WAR RELIEF IN THE UNITED STATES. For government activities in this field, see RELIEF.

**WESTERN AUSTRALIA.** A State of Australia. Area, 975,920 square miles; population

(Mar. 31, 1940), 466,686, exclusive of full-blood aboriginals. Vital statistics (1939): 9036 births, 4336 deaths, 4203 marriages. Capital, Perth, 224,800 inhabitants (1939) including the port of Fremantle and other suburbs. Other important cities (1938 populations): Subiaco, 18,340; Kalgoorlie, 10,650. Education (1938): 1011 schools and 71,646 students enrolled.

**Production.** Chief crops: wheat (40,860,000 bu. in 1939-40), oats, barley, hay, grapes, apples, and potatoes. Livestock (1938): 9,177,531 sheep, 767,680 cattle, 143,674 horses, 81,383 swine, 14,144 goats. Wool (as in the grease) output (1940): 78,000,000 lb. Chief dairy products (1938-39): 16,244,449 lb. of butter, 980,254 lb. of cheese, 4,242,083 lb. of bacon and ham. The gold output for 1939 was valued at £11,796,085. Manufacturing (1938-39): 2129 factories, 23,211 employees, £8,775,586 net value of production. There were 4378 route miles of State railway in 1938-39; 11,415,615 passengers and 3,605,912 tons of freight were carried.

**Government.** Finance (1939-40): revenue, £11,120,000; expenditure, £11,267,000; public debt, £96,230,000. The executive authority was vested in a governor, aided by an executive council of responsible ministers. Parliament consists of a legislative council of 30 members elected for a 6-year term, and a legislative assembly of 50 members elected for a 3-year term by universal adult suffrage. The standing of the various political parties at the election of Mar. 18, 1939, was: Labor 27, Country 12, Nationalist 9, and Independent 2. Governor (position vacant); Lieutenant Governor, Sir James Mitchell (appointed July, 1933); Premier, John Collings Willcock. See AUSTRALIA.

**WESTERN SAHARA.** See SPAIN under *Colonial Empire*.

**WESTERN SAMOA.** See under SAMOA.

**WEST INDIES NATIONAL COUNCIL.** See BRITISH WEST INDIES under *History*.

**WESTRICK CASE.** See FASCISM.

**WEST VIRGINIA.** Area, 24,170 square miles; includes water, 148 square miles. Population (U.S. Census), April, 1940, 1,901,974; 1930, 1,729,205. Charleston, the capital (1940), 67,914. The State's rural population increased (1930-40) by 129,981, to 1,367,682; the urban population (dwellers in places of 2500 or more) rose by 42,788, to 534,292.

**Agriculture.** West Virginia harvested, in 1940, 1,491,600 acres of the principal crops. Corn, on 476,000 acres, bore 12,852,000 bu. (\$10,282,000 in estimated value to the cultivator; tame hay, 726,000 acres, made 833,000 tons (\$8,746,000); potatoes, 33,000 acres, 3,630,000 bu. (\$3,013,000); apples for market totaled 4,868,000 bu. (\$3,408,000); wheat, 139,000 acres, 2,016,000 bu. (\$1,774,000). Farms numbered 99,282 in 1940 and averaged 89.7 acres.

**Mineral Production.** The value of native minerals produced by West Virginia in 1938, as estimated by the U.S. Bureau of Mines, came to \$254,995,309; of this sum coal contributed over seven-tenths and natural gas, over one-fifth. From 93,288,172 net tons (value, \$179,356,000) for 1938, the mines' output of coal advanced to 107,938,000 tons for 1939 and to some 126,302,000 tons for 12 months of 1940. Natural gas delivered to consumers totaled 134,342 million cu. ft. (value, \$55,910,000) for 1938. Though drilling for natural gas diminished in 1939, it brought a number of additions to the reserve of gas in the ground and some finds in fresh fields or formations. Gasoline was obtained from natural gas, to the quantity of 50,-

612,000 gal. in 1939, as against 50,398,000 gal. (value, \$2,063,000) in 1938. The production of Pennsylvania-grade petroleum diminished somewhat, to 3,444,000 bbl. (1940) from 3,580,000 bbl. (1939), and 3,684,000 bbl., value \$5,600,000 (1938).

**Education.** For the academic year 1939-40, West Virginia's inhabitants of school age (from 6 years to 20) were reckoned at 541,873. Enrollments of pupils in the public schools numbered 452,821: those in elementary study, 312,640; those in high schools, 140,181. The year's expenditure for public-school education totaled \$26,808,014. The teachers numbered 16,133; their salaries for the year averaged \$1169.40.

**History.** The manufacturing industries in the State gained heavily in business on account of orders created by the new Federal program of increased armament. The Government's great establishment for producing armor plate underwent reconditioning and enlargement with a view to its soon resuming production on a higher scale, after years of idleness. A contract between the Government and the Du Ponts called for the latter's building near Morgantown, at Federal expense, a \$15,000,000 establishment for producing ammonia, and for their operation of the undertaking.

A State Court order was granted in August, restraining the Secretary of State from including Communist candidates on the ballot. U.S. Senator Rush D. Holt was removed from the number of the Senate's Democratic opponents of the New Deal; at the primary elections (May 14) he failed of renomination, and Judge Harley M. Kilgore, a whole-hearted approver of the Federal Administration, was chosen in his place. See **COMMUNISM**.

At the general election (November 5) the voting ran consistently Democratic. The popular vote for President totaled 496,146 for Roosevelt (Dem.) and 372,662 for Willkie (Rep.). U.S. Senator M. M. Neely (Dem.) was elected Governor, defeating D. Boone Dawson (Rep.). For U.S. Senator, Harley M. Kilgore (Dem.) beat T. B. Sweeney (Rep.). Six Democrats were elected U.S. Representatives.

**Officers.** West Virginia's chief officers, serving in 1940, were: Governor, Homer A. Holt (Dem.); Secretary of State, William S. O'Brien; Treasurer, Richard E. Talbott; Auditor, Edgar B. Sims; Attorney General, Clarence W. Meadows; Commissioner of Agriculture, J. B. McLaughlin; Superintendent of Free Schools, W. W. Trent.

**WHEAT.** The wheat crop in the United States in 1940 was estimated by the U.S. Department of Agriculture at 816,698,000 bu., about 9 per cent larger than the 1939 crop of 751,435,000 bu. and substantially above the 1929-38 average of 754,685,000 bu. The total area harvested in 1940, 53,503,000, compared with 53,482,000 acres in 1939 and the 10-year average of 56,869,000 acres. Total acreages differed little but yield per acre averaged 15.3 bu. in 1940 and 14.1 in 1939. The acreages harvested, average acre yields, and total production, respectively, were for winter wheat 36,147,000 acres, 16.3 bu., 589,151,000 bu.; durum 3,121,000 acres, 11.1 bu., 34,776,000 bu.; and other spring wheat 14,235,000 acres, 13.5 bu., 192,771,000 bu. The States leading in winter wheat production included Kansas 123,648,000 bu., Oklahoma 56,332,000, Ohio 42,097,000, Illinois 39,555,000, Nebraska 33,696,000, Missouri 31,690,000, Indiana 30,030,000, and Texas 29,355,000 bu. Spring wheat production in leading States was in North Dakota 97,054,000 bu., Montana 36,950,000, Minnesota 28,061,000, South Dakota 25,121,000, and Washington 15,824,-

000 bu. The durum crop included 27,082,000 bu. harvested in North Dakota, 6,270,000 in South Dakota, and 1,424,000 bu. in Minnesota. The season average price per bu. (preliminary) received by farmers was 67 cents and the value of production was estimated at \$547,084,000 in 1940 compared to 69.1 cents and \$519,575,000 in 1939.

World wheat production in 1940 was estimated at 4,116,000,000 bu., substantially below the 4,268,796,000 grown in 1939; and world wheat supplies, excluding U.S.S.R. and China, for the year beginning July 1, 1940, were estimated in late December at about 5,536,000,000 bu. compared with 5,474,000,000 bu. in 1939-40.

See **AGRICULTURAL ADJUSTMENT ADMINISTRATION**; **AGRICULTURE** under *Crop Production*; **COMMODITY CREDIT CORPORATION**; **ENTOMOLOGY**, **ECONOMIC**; **FEDERAL CROP INSURANCE CORPORATION**; **SURPLUS MARKETING ADMINISTRATION**. Also, **CANADA** under *History*; countries under *Production*.

**WHITE RUSSIAN SOVIET SOCIALIST REPUBLIC.** See **UNION OF SOVIET SOCIALIST REPUBLICS** under *Area and Population*.

**WHITE SLAVE TRAFFIC.** See **FEDERAL BUREAU OF INVESTIGATION**.

**WHOLESALE PRICES AND TRADE.** See **BUSINESS REVIEW**; **MARKETING**.

**WIDENER COLLECTION.** See **ART** under *Museums*.

**WILDLIFE.** See **FISH AND WILDLIFE SERVICE**.

**WILLKIE, Wendell L.** See **ELECTIONS, U.S. NATIONAL**; **UNITED STATES**.

**WINDSTORMS.** See **INSURANCE**.

**WINDWARD ISLANDS.** An insular group in the British West Indies comprising the colonies shown in the accompanying table.

<i>Colony (Capital)</i>	<i>Sq. mi.</i>	<i>Pop (1938)</i>
Dominica (Roseau) . . . . .	304	50,617*
Grenada (St. George's) . . . . .	133 <sup>b</sup>	89,415 <sup>b</sup>
St. Lucia (Castries) . . . . .	233	69,084
St. Vincent (Kingstown) . . . . .	150*	58,381*
Windward Islands . . . . .	820	267,497

\* The estimated population on Dec. 31, 1939, was 51,951. <sup>b</sup> Includes the islands of the southern Grenadines—Carriacou, etc (13 sq. mi.). \* Includes the islands—Bequia, Canouan, Mayreau, Mustique, and Union—of the northern Grenadines (17 sq. mi.).

St. George's, the capital, had 4629 inhabitants (1921 census); Roseau, 9000; Castries, 21,124; Kingstown, 4269.

**Production and Trade.** Chief products: arrowroot, cotton, sugar, molasses, rum, copra, cacao, peanuts, cassava, spices, limes, citrus fruits, and vegetables. St. Vincent is noted for its arrowroot and its sea-island cotton. Trade (1938): imports, £785,215; exports (excluding re-exports), £666,713.

**Government.** Finance (1938): revenue, £429,181; expenditure, £447,363; debt, £537,335. There is one governor for all the four colonies but there is no common legislature and each colony has its own executive and legislative councils. In view of the transfer of Dominica to the Windward Islands on Jan. 1, 1940, a conference was held in St. Lucia to determine the arrangements between the four governments. Governor and Commander-in-Chief, Sir Henry Popham (appointed Jan. 19, 1937). See **SR. LUCIA**; **BRITISH WEST INDIES** under *History*.

**WINE.** See **ALCOHOLIC BEVERAGES**.

**WIRE TAPPING.** See **COURTS** under *Admissibility*.

**WISCONSIN.** Area, 56,066 square miles; includes water, 810 square miles (but not the State's



part of the Great Lakes). Population (U.S. Census), April, 1940, 3,137,587; 1930, 2,939,006. Milwaukee (1940), 587,472; Madison, the capital, 67,447. The urban population—dwellers in places of 2500 or more—increased (1930-40), by 125,301, to 1,679,144; the rural population, by 73,280, to 1,458,443.

**Agriculture.** Wisconsin harvested, in 1940, about 10,166,000 acres of the principal crops. Corn, on 2,255,000 acres, bore 93,582,000 bu. (\$56,149,000 in estimated value to cultivator). Tame hay, 4,086,000 acres, made 7,416,000 tons (\$49,687,000); tonnage (and its estimated farm value) were the year's highest, for this crop, in the Union. Oats, 2,251,000 acres, produced 96,793,000 bu. (\$30,006,000); barley, 654,000 acres, 24,525,000 bu. (\$11,527,000); potatoes, 193,000 acres, 15,054,000 bu. (\$7,527,000); tobacco, 24,500 acres, 36,532,000 lb. (\$3,678,000); wheat, 86,000 acres, 1,743,000 bu. (\$1,307,000); rye, 193,000 acres, 2,509,000 bu. (\$1,079,000).

**Manufacturing.** The yearly value of Wisconsin's manufactured products totaled \$1,604,506,797 for 1939 (for 1937, \$1,772,310,417). Other related totals for 1939 (each with that for 1937 subjoined) follow. Establishments numbering 6718 (6318) paid to 200,897 (234,067) persons wages totaling \$251,947,973 (\$296,365,346); spent for materials, contract work, etc., \$917,868,435 (\$1,062,486,184); and added to materials, etc., by manufacture, \$686,638,362 (\$709,824,233).

**Mineral Production.** The value of native minerals produced in Wisconsin, as stated in 1940 by the U.S. Bureau of Mines, totaled \$10,636,741 for 1938. The shipments of iron ore from the two mines in Iron county rallied to 1,173,828 gross tons for 1939, from 625,378 for 1938; by value, to \$3,526,980, from \$1,886,477. The mines' actual production varied less, being 972,685 tons for 1939 and 854,795 for 1938. The mining of zinc, increasing in importance, produced in 1940 an estimated 5950 tons of recoverable zinc, having a value of some \$773,500. Production (1939) of stone, 3,182,780 tons, was valued at \$3,564,045, including about \$1,000,000 in granite and limestone sold in specified dimensions for building, etc.

**Education.** For the academic year 1938-39 (latest covered by the data that follow), Wisconsin's inhabitants of school age (from 4 years to 20, inclusive) were reckoned at 834,095. The enrollments in all public schools numbered 537,653: this comprised 382,245 in elementary study and 155,408 in high school. The year's expenditure for public-school education totaled \$53,688,670. The teachers numbered 21,600; their yearly salaries averaged \$1307.

**History.** The State administration, still troubled by high expenditure and a depleted general fund, both inherited from its predecessor, was aided by the better yield of the State's taxes on incomes, raised in some respects by the Legislature in 1939. A curtailment of work on improving highways and a considerable curtailment of personnel in departments that had been consolidated were effected for economy.

The moderation of liberalism among the voters appeared anew in Milwaukee's municipal election, which interrupted after 24 years the tenure of the city's Socialist Mayor, Daniel W. Hoan; Carl F. Zeidler was elected Mayor (April 2), defeating Hoan by a moderate margin. Zeidler had no Democratic or Republican affiliation; although he had a brother in the local Socialist organization, he made his campaign largely against Socialism. The voters

had no particular quarrel with Hoan, who had kept up the widely praised type of government established when he freed the city of corruption at the outset of his tenure; Hoan indeed made his disastrous campaign on a generally acknowledged record of honest and successful administration. Zeidler's victory was attributed to a winning personality and a well-organized following, plus a well-timed appeal to the revulsion against liberal theories.

A Research Bureau created by the Legislature in 1939 to seek out possible malfunctioning in the organs of the State government was active in 1940. One of its inquiries went into indications of irregularity in deals of the Department of Conservation, under the previous administration, to exchange public for private lands.

**Elections.** At the State's general election (November 5), victory was divided among the tickets of the Republican, Democratic, and Progressive parties. The popular vote for President went to Roosevelt (Dem.) by a total of 704,821, as against 679,206 for Willkie (Rep.). Julius P. Heil (Rep.) was re-elected Governor, defeating Orland S. Loomis (Progressive) and Francis E. McGovern (Rep.). Robert M. LaFollette (Progressive) won re-election to the U.S. Senate, against Fred H. Clausen (Rep.) and James E. Finnegan (Dem.). Republicans and Progressives shared up seats in the U.S. House of Representatives. The main successes of Democratic and Progressive candidates were ascribed to a friendly understanding between the two groups: the Progressives refrained from nominating a Presidential candidate and thus left the party's members free to vote for Roosevelt; LaFollette himself, who had attacked the Administration's course in foreign policy, declared continued support, as Senator, for Roosevelt's domestic policies; and Henry A. Wallace, Democratic nominee for Vice-President, expressed, in an address at Madison (October 22), such praise of LaFollette's Senatorial record as virtually to invite votes for the Senator in preference to Finnegan, the Democrats' own nominee. These moves, in combination, encouraged a Progressive vote for Roosevelt.

**Officers.** Wisconsin's chief officers, serving in 1940, were: Governor, Julius P. Heil (Rep.); Lieutenant Governor, Walter S. Goodland; Secretary of State, Fred R. Zimmerman; Treasurer, John M. Smith; Attorney General, John E. Martin; State Superintendent of Schools, John Callahan.

**WOMEN IN INDUSTRY.** See LABOR CONDITIONS; WOMEN'S BUREAU.

**WOMEN'S BUREAU.** The. A bureau in the U.S. Department of Labor authorized by law to "formulate standards and policies which shall promote the welfare of wage-earning women, improve their working conditions, increase their efficiency, and advance their opportunities for profitable employment."

The Women's Bureau in 1940 found its efforts once more concentrated on the needs of women in defense work. A labor advisory committee composed of representatives of international unions that have active women members in industries directly connected with the defense industries was established to assist the Bureau in determining the types of employment in the defense program for which women are best suited and the measures necessary for their welfare. Based on experiences in the war of 1914-18 and more recent developments, standards for the employment of women who must play so important a part in the manu-

facture of war materials were drafted and made public in a pamphlet entitled *Effective Industrial Use of Women in the Defense Program*. In addition, the Bureau made a preliminary survey of about 40 plants filling defense contracts, and on the basis of this investigation made recommendations as to the types of work for which women are best fitted and the technical and vocational training they require. Next a joint conference of the Bureau's advisory committees was held to consider possibilities and plans for training women workers in connection with the defense program. Since discussion disclosed that almost no women were involved in either the vocational training courses or within-industry training system, developed to meet defense needs, the conference urged that suitable numbers of women be included in such programs, since skills in which women can excel will be in demand.

Though of first importance, defense activities have not entirely overshadowed the other services the Bureau performs for wage-earning women. This year additions have been made to its already extensive files on the gainful employment of women: Their occupations; their health and welfare; their wages, hours, and working conditions; the trends of their employment and earnings; their income, cost of living, and responsibilities; their economic and legal status; the census and other data concerning them; legislation in their behalf; and the efforts of Federal, State, and private groups to improve their conditions. Assistance has been given to State and local authorities in improving procedures, enforcement methods, and statutory provisions of various labor legislative programs.

In response to requests, thousands of copies of charts, maps, written materials of all sorts, and various exhibits and films, illustrating and explaining the problems of women in industry have been sent to schools, trade unions and other organizations, and to inquiring individuals, in the United States and abroad.

Of special interest are the various bulletins (including the one mentioned above) issued in 1940. The following deal with employment in special fields and particular communities: *Application of Labor Legislation to the Fruit and Vegetable Canning and Preserving Industries*—comprising a thorough study of earnings, hours, trends of employment, and labor costs; *Earnings in the Women's and Children's Apparel Industry in the Spring of 1939*—a comprehensive analysis of pay-roll data of more than 135,000 workers in this industry; *Hours and Earnings in Certain Men's-Wear Industries, Part 5—Raincoats and Sport Jackets, and Part 6—Caps and Cloth Hats, Neckwear, Work and Knit Gloves, Handkerchiefs; Wages and Hours in Drugs and Medicines and in Certain Toilet Preparations; Earnings and Hours in Hawaii Woman-Employing Industries; Employment in Service and Trade Industries in Maine; Women's Wages and Hours in Nebraska*. Two additional reports deal with legal questions: *Major Legal Distinctions Between Sexes*—condensed from bulletins for every State on the legal status of women; *State Minimum-Wage Laws and Orders: 1939*—this supplements material already available in this field and presents a ready reference manual as of December, 1939.

Certain important facts concerning women's employment in the United States were published this year in Spanish and in Portuguese as a pamphlet entitled *The Woman Worker in the United States*, for distribution in the Latin-American countries.

*The Woman Worker*, the Bureau's bi-monthly publication, which keeps its readers informed as to current developments in the employment of women, was widely circulated.

MARY ANDERSON.

**WOOL.** The strong mill demand for wool and the upward trend in prices at the close of 1940 was in sharp contrast to the relatively weak demand and declining prices during the first quarter of the year. Consumption of apparel wool for the first half of 1940 was 16 per cent below the 1939 level. Stimulated by large Army orders plus increased demand of woollen goods for civilian use, monthly mill consumption increased sharply after July and reached record proportions during November and December. Total consumption for the year was about 2 per cent above the 1939 level of 630 million lb. The price, on the Boston market, for territory fine staple wool, scoured basis, averaged 108.5 cents per lb. during November and December and 96.3 cents for 1940, as compared with 82.7 cents for 1939 and 70.4 cents for 1938. Other grades followed similar price trends. Army contracts for cloth and blankets let during the last half of the year, covering requirements to June 30, 1941, called for approximately 200,000,000 lb. of unscoured wool, chiefly of the fine domestic grades. Heavy unfilled orders were carried into the new year.

The 1940 wool clip in the United States was estimated to total 387,763,000 lb., the largest on record. This is 3 per cent above the shorn wool production of 1939 and 7 per cent above the preceding 10 year average. The total domestic production was augmented by about 62 million lb. of pulled wool. The average price received by farmers for grease wool in December was 31.2 cents per lb. as compared with 27.5 cents in December, 1939, and averages of 19.2, 22.3, and 28.4 cents during 1938, 1939, 1940, respectively.

Imports of apparel wool into the United States during 1940 totaled 222,983,000 lb. as compared with 98,193,000 lb. in 1939. Imports of carpet wool were 134,691,000 lb. in 1940 and 144,875,000 lb. in 1939.

World production of wool during 1939-40, exclusive of the Soviet Union and China, totaled 3670 million lb., of which 2202 million lb. were produced in the five major exporting countries of the Southern Hemisphere, Australia, New Zealand, South Africa, Argentina, and Uruguay. Preliminary estimates place the 1940-41 wool clip of these countries at 2104 million lb., or about 4 per cent below that of the preceding season, with Australia accounting for most of the decrease.

The British Government, following the action of 1939 in contracting for the entire wool production of Australia and New Zealand for the duration of the war, took over the South African clip in 1940 so that about 85 per cent of all Southern Hemisphere wool is now subject to the British Wool Control. Reasonable quantities from these sources were released to fill United States orders during the year. In addition, an agreement between the British and United States Governments, consummated Dec. 9, 1940, provided for the storage-in-bond of 250 million lb. of British-owned, Australian wool in the United States, to be used by this country whenever the U.S. Government decides that an emergency wool shortage exists. Heavier-than-normal exports of new wool moved out of Argentina and Uruguay during the last quarter of 1940, 87 per cent went to the United States. In contrast, only 49 per cent of the 1939-

40 wool exports and 18 per cent of the 1938-39 exports from Argentina, and even smaller percentages from Uruguay, came to this country. See CUSTOMS, BUREAU OF; FEDERAL TRADE COMMISSION; GARMENT INDUSTRY; TEXTILES.

E. C. ELTING.

**WORKMEN'S COMPENSATION.** See LABOR LEGISLATION; ARKANSAS under *History*; INSURANCE under *Casualty Insurance*.

**WORK PROJECTS ADMINISTRATION (WPA).** That part of the Federal Works Agency which conducts a program of useful public work, in co-operation with State and local governments, in order to provide work and wages for the needy able-bodied unemployed.

The outstanding development in the WPA program during 1940 was the provision made for more extensive use of its organization and personnel in strengthening the defenses of the nation. Legislation passed by Congress facilitated the co-operation of the WPA in the defense program and at the same time provided for continuance of its operation of the principal program supplying jobs for the unemployed.

The number of unemployed people in the United States, after jumping from 9,200,000 in December, 1939, to a peak of 10,700,000 in January, 1940 (estimate of American Federation of Labor), dropped gradually during the rest of the year under the influence of improving business conditions. Following the same trend, WPA employment rose from an average of 2,100,000 in December, 1939, to 2,300,000 in February and March, 1940, and then followed unemployment downward. By the end of the year, unemployment had dropped to 7,900,000 and WPA employment totaled 1,900,000. WPA employment includes a relatively small number of workers, averaging 65,000 throughout the year, employed on WPA projects operated by other Federal agencies with funds allocated to them by the WPA.

During the year, the WPA spent \$1,388,293,000 of Federal funds—of which 3.7 per cent was devoted to administrative costs and 96.3 per cent to project work. Of the \$1,337,471,000 devoted to project work, 92 per cent was paid out in wages to workers. These project funds were supplemented by project sponsors' funds aggregating \$532,207,000, most of which was used for other than labor costs—for materials, equipment, etc. The sponsors' share of the total cost of WPA project work was 28.5 per cent. During the four and one-half preceding years of its existence, the WPA had spent in all some \$7,385,073,000 of Federal funds—4 per cent of it on administration and 96 per cent on project work. To supplement the approximately \$7,073,893,000 of WPA project funds, local sponsors had contributed some \$1,547,614,000, or 18 per cent of the total amount spent on project work. In addition, other Federal agencies spent the following amounts of WPA funds allocated to them for the operation of WPA projects under their direct supervision: some \$51,795,000 in 1940, and a total of \$154,060,000 since July, 1938, when the policy of allocating WPA funds to other agencies for operation of projects was initiated.

The primary function of the WPA during 1940, as during preceding years, was to provide work and wages for the unemployed. Experience had shown that work was better for the unemployed than direct relief, because it preserved their skills and morale; better also for the country as a whole, because it built up public facilities and provided

many needed services at the same time that it contributed to recovery by increasing purchasing power.

Certain characteristics which the WPA had acquired in the course of its development remained essentially unchanged during 1940. Its projects were adjusted to the skills of the people whom it employed, and were carried on in the communities where they lived. Its projects conformed also with the needs and desires of the communities themselves—this being assured through local sponsorship of the projects. (Some projects, however, were sponsored by Federal agencies, such as the War and Navy Departments.) Local relief agencies certified the need of workers for WPA employment, while actual assignment of workers to projects was left to the WPA. About 96 per cent of those employed were taken from local relief rolls. Wages varied with the section of the country and with the size of the community in which the worker lived as well as with his skill; the average monthly wage being about \$56.

The kinds of work undertaken during 1940 were much the same as in previous years, except for the greater emphasis on activities that fit into the national defense plans. About three-fourths of the WPA program (on the basis of employment as well as of expenditures) was devoted during 1940, as during preceding years, to construction work. More than two-fifths of all WPA workers were on road projects—a slightly larger proportion than in earlier years. (While most of this work was on farm-to-market roads, an increasing share was done on strategic highways and on roads giving access to airports, military reservations, and training centers.) About a tenth each were employed on public buildings and public utilities; parks, white-collar work, and sewing projects also provided jobs for large numbers of workers.

No statistics showing physical accomplishments during 1940 are yet available, but the amount of work done was proportional to that accomplished during the first five years of WPA operation. Some idea of the extent and diversity of the program may also be derived from the following statistics for projects completed during the five-year period that ended on June 30, 1940.

More than 517,000 miles of roads, mostly in rural areas, and more than 104,000 bridges were built or improved. More than 96,000 public buildings were newly built, remodeled, renovated, or erected as additions to existing structures. Over 14,000 miles of water lines and over 21,000 miles of sewer lines were newly laid or reconditioned. Over 7200 parks, over 4800 athletic fields, over 11,000 playgrounds, and about 600 landing fields for aircraft were built or improved.

The amount of non-construction work done was also considerable. By Sept. 30, 1940, some 369,000,000 garments and household articles had been made in WPA sewing rooms for distribution among needy families, and 504,600,000 lunches had been served to undernourished school children. Millions of needy adults and children had received aid from WPA medical clinics and nursing service. Some 1,000,000 people were enrolled in 100,000 WPA educational classes. About 116,000 drawings, paintings, murals, and sculptured works had been produced by art workers; music performances (numbering about 4700 in June, 1940) had attracted monthly attendance of around 4,000,000; and writers, chiefly occupied in producing a series of guide-books, had completed nearly 700 books and pamphlets.

Much of the work done was related to national defense. Besides the airports, about 11,500 of the buildings built or improved by the end of June serve a defense purpose, as do also 1500 other buildings on which work was completed some time during the three months from July through September, 1940. Among the total of 13,000 buildings were nearly 5000 new or remodeled barracks and officers' quarters, some 900 mess halls and kitchens, about 600 armories (chiefly for the National Guard), about 2000 storage buildings, and many hospitals, infirmaries, garages, and buildings of other types. WPA defense work has also included many other improvements at military and naval reservations, such as the installation of sewers, water mains, and telephone, telegraph and electric power lines, road building, construction of gun ranges and maneuver grounds, and other activities, some of which were conducted on a camp-wide basis.

Concentration on defense work during the latter half of 1940 was encouraged by legislative provisions which made it possible to exempt certified defense projects (i.e. projects certified by the Secretary of War or the Secretary of the Navy as important for military or naval purposes) from many of the restrictions that usually apply to WPA projects. For example, certified defense projects may be exempted from the limitation on WPA expenditures for non-labor purposes to a State average of \$6 per man per month, and the WPA may spend as much as \$25,000,000 to supplement its usual non-labor expenditures. Certified defense projects may also be exempted from the requirement that Federal expenditures for any public building in the construction of which the WPA participates must not exceed \$100,000, as well as from the requirement that sponsors must pay 25 per cent of the total cost of projects approved after Jan. 1, 1940, in any State. Finally, they may be exempted from the usual regulations concerning hours of work and wages of workers.

In addition, the WPA was authorized to undertake projects for the training of workers for nursing and for manual occupations in industries engaged in production for national defense purposes. A nation-wide vocational training project, sponsored by the Advisory Commission to the Council of National Defense and co-sponsored by the United States Office of Education, was initiated in July, and by the end of the year had enrolled a cumulative total of 58,000 WPA workers.

Recent legislation differs slightly in some other respects from the previous act governing the operation of the WPA program. The Emergency Relief Appropriation Act for fiscal 1940-41 raised to \$100,000 the limitation on the amount of Federal funds that may be used for any public building in the construction of which the WPA participates. (The previous act restricted expenditures to \$50,000 and \$52,000, respectively, for Federal and non-Federal buildings.) The recent act extended to wives of unemployable veterans and to veterans' widows who had not subsequently remarried, two provisions that previously applied only to veterans—preference in project employment and exemption from the requirement that all relief workers who have been continuously employed on WPA projects for 18 months must be dismissed. It also extended the previous act's prohibition of the employment of aliens to apply to members of any Nazi bund organization, to Communists, and to any persons who advocate, or belong to an organization which advocates, the overthrow of the United States Government. See COMMUNISM;

MUSIC; RELIEF; UNITED STATES under *Investigations*.

HOWARD O. HUNTER.

**WORLD COURT.** The functioning of the Permanent Court of International Justice was interrupted by the German occupation of The Hague, seat of the Court. A session was held from February 19 to 26, but a further session scheduled for May was adjourned because of the intervening occupation. The officials of the Court remained at The Hague till July 16, when the occupying authorities cancelled their diplomatic status and they sought hospitality in Switzerland, ready to function when called.

The Court's membership remained unchanged, except for the death of Count Rostworoski in Poland on March 24. No step was taken in regard to the general election of judges postponed in 1939, the present judges continuing as provided in the Statute, with Mr. Guerrero of Salvador as President, Sir Cecil J. B. Hurst of Great Britain as Vice-President, Mr. Lopez Olivan of Spain as Registrar, and Mr. Manley O. Hudson as the judge of American nationality.

The Court's jurisdiction was somewhat modified in 1940. Greece ratified and Thailand renewed for ten years its acceptance of the Court's compulsory jurisdiction, while Great Britain on February 28, paralleled shortly by India, New Zealand, South Africa, and Australia, made a new declaration accepting that jurisdiction for five years, except for disputes arising during hostilities.

ARTHUR SWEETSER.

**WORLD SERIES.** See BASEBALL.

**WPA.** See WORKS PROJECTS ADMINISTRATION.

**WÜRTEMBERG.** See GERMANY under *Area and Population*.

**WYOMING.** Area, 97,914 square miles; includes water, 366 square miles. Population (U.S. Census), April, 1940, 250,742; 1930, 225,565. Cheyenne, the capital: (1940) 22,474. All the State's gain (1930-40) in population, except an increase of 1697 in the rural group, occurred in the urban population—dwellers in places of 2500 or more; the urban population, by a rise of 23,480, attained 93,577, or 37.3 per cent of all the inhabitants.

**Agriculture.** Wyoming harvested, in 1940, about 1,868,000 acres of the principal crops. Tame hay, on 746,000 acres, bore 927,000 tons (\$7,416,000 in estimated value to the farmer); sugar beets, 47,000 acres, made 634,000 tons (the smaller crop of the previous year, 1939, was estimated at \$2,533,000); wheat, 300,000 acres, 3,410,000 bu. (estimated at \$2,012,000); dry beans, 55,000 acres, 605,000 100-lb. bags (\$1,237,000); potatoes, 20,000 acres, 2,400,000 bu. (\$1,416,000); corn, 193,000 acres, 1,930,000 bu. (\$1,235,000); oats, 110,000 acres, 2,915,000 bu. (\$1,049,000); barley, 75,000 acres, 1,838,000 bu. (\$882,000).

**Mineral Production.** Wyoming produced \$37,364,363, in value, of its native minerals in 1938; the chief components, petroleum, coal, and natural gas, furnished within \$5,000,000 of the whole. From 19,022,000 bbl., value \$18,000,000 (1938), the yearly yield of petroleum increased to 21,417,000 for 1939 and to 25,683,000 for 12 months of 1940. The addition to yield in 1939 resulted mainly from success in deeper drilling and lateral extension in the Lance Creek field, which displaced the 20-year-old Salt Creek field as the chief producer. Natural gas delivered to consumers attained, for 1938, 26,678 million cu. ft., in value at points of

consumption, \$4,853,000. The gasoline extracted from natural gas in 1938 totaled 30,024,000 gal. (value, \$1,634,000). The coal mines' output, 5,203,877 net tons, \$9,851,000 in value, for 1938, totaled 5,383,000 tons (1939) and 5,748,000 tons (1940).

**Education.** For the academic year 1939-40, Wyoming's inhabitants of school age (from 6 years to 21) were reckoned at 72,283. The year's enrollments of pupils in public schools numbered 56,220. This comprised 39,761 in elementary study, 15,931 in high school, and 528 otherwise classified. The year's expenditure for public-school education totaled \$6,025,333. The teachers numbered 2720; the average yearly pay, according to teachers' groups, ran from \$1350 in high schools to \$650 in the rural schools.

**History.** Strife over the tendencies and merits of some of the teaching staff at the University of Wyoming brought on a situation somewhat similar to that in Montana (q.v.). Governor Smith of Wyoming called upon the trustees of the University not to renew the contracts of eleven of its teaching body. One of the number, Dean Arnold of the law school, was a brother of the Federal Attorney General; another, Prof. Arthur Himbert of the Law School, had served as special assistant to the Federal committee investigating monopolies. The impression went out that some at least of the eleven incurred disapproval by reason of their social-political ideas. The Episcopal diocesan Bishop, W. H. Zeigler, took the part of the eleven in a published protest (April 6) accusing the Governor, in turn, of seeking to fill the University's faculty with "political tools." The trustees renewed (April 8) the contracts of all the eleven.

At the general election (November 5) the popular vote for President totaled 59,287 for Roosevelt (Dem.) and 52,633 for Willkie (Rep.). U.S. Senator Joseph C. O'Mahoney (Dem.) was re-elected by 65,022 votes, defeating Milward Simpson (Rep.), who received 45,682. No election of major State officers fell due. See COLORADO.

**Officers.** Wyoming's chief officers, serving in 1940, were: Governor, Nels H. Smith (Rep.); Secretary of State, Lester C. Hunt; Treasurer, Mart T. Christensen; Auditor, William Jack; Attorney General, Ewing T. Kerr; Superintendent of Public Instruction, Esther L. Anderson.

**X-RAYS.** See CHEMISTRY; CHEMISTRY, INDUSTRIAL; ELECTRICAL INDUSTRIES; PHOTOGRAPHY.

**YACHTING.** With international competition among the larger craft cancelled because of war conditions, American yachting during 1940 experienced a comparatively quiet season. Even the much-advertised Cruising Club's Bermuda race was called off because of a more important contest involving British and German boats in those environs. A 455-mile substitute for the Bermuda classic was staged off Block Island and in adjacent Massachusetts and Maine waters. The winner of the event was Henry C. Taylor's well-known yawl *Baruna*, champion of the 1938 Bermuda pageant and one of the finest ocean yachts afloat. Through choppy seas and heavy fog it proved itself the leader of the pack, outdistancing another famous racing craft, James Grove's *Blitzen*.

Another distinguished competition of the year, the King's Cup Race, was won by Harold S. Vanderbilt's *Vim*, which snatched the late King George V's coveted prize away from F. T. Bedford's *Nyala*. The Vanderbilt yacht also wrested the cherished Astor Cup from *Nyala* in one of the most spectacular regattas of the season.

The second longest race in 1940 was the Stamford Yacht Club's 232-mile sail around Vineyard Lightship and return. It was led by Rudolph C. Lowenstein's little ketch *Soerabaja*. Frank C. Paine's sloop *Gypsy* took first honors in the Eastern Club's annual frolic from New London to Marblehead. *Viking*, Kenneth Millett's miniature sloop, appropriated the Myrick Trophy in the New Rochelle Club's 130-mile waltz around Cornfield Lightship. The annual dash of yachts across the Gulf Stream from Miami to Nassau was won by William H. Labrot's yawl *Stormy Weather*, for the fourth consecutive year. The 11th annual St. Petersburg-Havana race was captured by Robert W. Johnson's yawl *Good News*, a newcomer to the pastime. In Star Class racing, the world championship was taken from Germany by James and Gordon Cowie of Los Angeles, Calif., with their vessel *Rambunctious II* in maneuvers off San Diego, Calif.

**YANAON.** See FRENCH INDIA.

**YAP ISLAND.** See JAPANESE PACIFIC ISLANDS.

**YEMEN.** See under ARABIA.

**YOUTH MOVEMENT.** While there is no militant and regimented nationwide youth movement in the United States, there is a growing nexus of thought compounded of eagerness on the part of young people to foster and defend democracy, good will toward youth on the part of the adult population, and a pervasive recognition that the nation's human resources can be conserved and strengthened by continued improvement in the facilities for the education, employment, health, recreation, and general welfare of children and youth.

Progress during the year 1940 may be noted by observing advances in the programs of governmental agencies concerned with youth, and developments among the principal non-governmental youth-serving organizations. The principal agencies of the national government dealing directly with youth are the Civilian Conservation Corps (q.v.), and the National Youth Administration (q.v.). Among other national governmental agencies concerned in part with various aspects of the care and education of youth are: Education, U.S. Office of (q.v.), Public Health Service (q.v.), Children's Bureau, U.S. (q.v.), and the Employment Service Division of the Bureau of Employment Security in the Social Security Board. The Extension Service of the Department of Agriculture works in co-operation with State and local agencies, and conducts varied activities affecting many rural young people.

After the course of international events led to the inauguration of the comprehensive national defense program in the summer of 1940, the Congress appropriated an aggregate of about \$75,000,000 for the speedy training of technicians and other workers for defense industries. With the stimulation and guidance of the U.S. Office of Education, summer courses of technical training were immediately instituted in many local public school systems, and with the coming of the academic year 1940-41 this program was continued and expanded. The problem of co-ordinating all current efforts to train the skilled workers whom it is anticipated will be needed in the national defense program is the responsibility of the Division of Labor Supply, under the Labor Commissioner in the 7-member National Advisory Commission to the Council of National Defense.

The national policy of compulsory military training under a system of selective service was adopted

in the late summer of 1940, and subsequently October 16 was designated as the day on which 16,500,000 men aged 21 to 35 were registered for possible military service. It is expected that by July 1, 1941, 800,000 young men will have been selected by local draft boards and placed in military training camps for a period of one year. The program of peace-time military training will not only contribute to immediate military preparedness, but will also add much to the physical stamina and general efficiency of many of the nation's young men. It may well be, in the words of Dr. Clarence A. Dykstra, Director of Selective Service, that the experience will "not take a year out of a young man's life, but put a year into his life." The young men of the nation have, with the rarest exceptions, responded with good will and enthusiasm to the unprecedented policy of peace-time compulsory military service.

Among the larger non-governmental associations touching the lives of many young people are the Young Men's Christian Associations, the Young Women's Christian Associations, the 4-H Clubs for rural boys and girls, the Boy Scouts of America, the Girl Scouts, and the Camp Fire Girls. There are many other active youth-membership organizations. A recent survey, published in book form by the American Youth Commission in February, 1941, identified a total of 80 such national associations, as well as 250 national voluntary societies of adults, a substantial part of whose activities are devoted to the welfare of youth. Among these a place of importance is held by the religious societies for young people. See SOCIETIES AND ASSOCIATIONS

A conspicuous effort to mobilize the opinion of American youth is the American Youth Congress, in existence since 1934. It is composed of delegates from a large variety of loosely affiliated national and local societies of young people, and in 1940 claimed an aggregate underlying membership of 4,697,915. It held a "National Youth Citizenship Institute" in Washington, D.C., February 9-12, which received widespread notice in the press. Its sixth annual meeting at Williams Bay, Wisconsin, July 3-7 was marked by a factional dispute which took the form of refusal to seat a small group of dissenters who allegedly lacked proper credentials as delegates, whereupon this group withdrew and formed a rival agency known as the National Foundation for American Youth, under the sponsorship of Gene Tunney, former heavyweight boxing champion. An earlier schism had occurred in 1939, when a group representing a small number of Socialist, labor, and Jewish organizations, principally in New York City, instituted the agency known as the Campaign for Youth Needs.

A non-governmental agency engaged in large-scale research regarding the welfare of youth is the American Youth Commission, a body of fifteen nationally prominent persons set up in 1935 by the American Council on Education, and originally financed for a five-year period by the General Education Board. This period was subsequently extended to July 1, 1941. Newton D. Baker was chairman of the Commission until his death in 1937, and it is now headed by Owen D. Young. During 1940 the Commission continued its program of research and publication, issuing a notable series of five books reporting a comprehensive study of Negro youth in several selected localities. It also published during the year the report of a co-operative project with the U.S. Employment Service in which the co-ordination of local agen-

cies for the guidance and placement of youth was promoted in several localities, entitled *Matching Youth and Jobs*; and the fruits of several years' study of the situation and prospects of young people in rural America, entitled *Guideposts for Rural Youth*. A pamphlet entitled *The Community and Its Young People* was also issued.

The comprehensive investigation of the Civilian Conservation Corps for the American Youth Commission was continued and broadened to embrace a study of the National Youth Administration resident centers. New projects of the Commission include one in which stimulation and in some cases limited financial aid will be given to meritorious local efforts in behalf of rural youth in several selected communities in four States. During the year the Commission held three deliberative meetings and adopted concise recommendations which were issued and widely distributed in the form of leaflets entitled respectively *Occupational Adjustment for Youth*, *Community Responsibility for Youth*, *Shall Youth Organize?*, *Youth, Defense, and the National Welfare*, and *The Civilian Conservation Corps*. These recommendations have been the subject of very widespread discussion in the press and forum throughout the nation, and have already considerably influenced national and local action in behalf of youth. The Commission conceives of the national defense as requiring not only industrial and military expansion, but also the strengthening of the nation's human resources by continued advances, nationally and locally, in provision for suitable education, health service, employment, and recreation for youth. Its principal office is at 744 Jackson Place, Washington, D.C.

See COMMUNISM; JUVENILE DELINQUENCY; PRISONS, PAROLE, AND CRIME.

M. M. CHAMBERS.

**YUGOSLAVIA.** A kingdom in the Balkan region of Europe. Capital, Belgrade (Beograd). King, Peter II, who succeeded to the throne on the assassination of Alexander I, Oct. 9, 1934.

**Area and Population.** Yugoslavia occupies an area of 95,576 square miles. Its population, by estimate of December, 1939, numbered 15,703,000; by the census of 1931, 13,934,038. About 80 per cent of the people are rural. Births in 1938, 411,362; deaths, 240,302. Marriages in 1937, 117,646. Chief cities' population (1931): Belgrade (Beograd), 241,542; Zagreb (Agram), 185,581; Subotica, 100,058; Sarajevo, 78,182; Skoplje, 64,807; Novi Sad, 63,966; Ljubljana, 59,768. Included in data above, the autonomous Banovina of Croatia occupies 25,634 square miles and has 4,403,199 inhabitants (Croats, 3,325,830).

**National Defense.** Military service is compulsory. The army were said to number, on Nov. 1, 1939, 500,000 in active service and 1,340,000 trained reserves. The strength of the air force was stated as 6500 men and 800 aircraft. The navy included 1 flotilla-leader, 3 destroyers, 4 submarines, 6 torpedo boats, 8 motor torpedo boats, and 35 auxiliary vessels; naval personnel, 583 officers and 8041 men. Occurrences in 1940 caused precautionary addition to the active army.

**Education and Religion.** Attendance at school is compulsory for those of appropriate age; free, in schools under the Ministry of Education. Pupils attending in the academic year 1938-39 numbered 1,474,224 in elementary; 177,034 in secondary schools; students in universities, 16,969. By the census of 1931, 48.7 of the population belonged to the Serbian Orthodox Church; 37.45 to the Roman

Catholic Church; Moslems, 11.2 per cent; Protestants, 1.66; Jews, 0.49 per cent; Greek Catholics, 0.32.

**Production.** Agriculture supports about 85 per cent of the inhabitants. The crops of 1940 fell generally short of those of 1939, but among the cereals corn (maize) considerably exceeded 1939's production of 4,045,600 metric tons. The crop of wheat totaled 1,980,000 tons (1940), as against 2,875,600 (1939); rye, made an estimated 200,000 tons (1940), much below the 243,514 of 1939; for barley the estimate was 200,000 tons, as against 424,223 (1939); the crops of fruit were similarly deficient, the important yield of plums apparently scarcely over one-fifth of that for 1939. Other important crops, not definitely reported for 1940: potatoes in 1938, 17,016,000 metric tons; beet sugar, 1939, 108,000 metric tons; tobacco, 1939, 15,400 metric tons; hemp, 1939, 53,500 tons. The farms had the following livestock in 1938: cattle, 4,267,000; swine, 3,451,000; sheep, 10,137,000; goats, 1,890,000; buffaloes, 38,000; poultry, 22,763,000; horses, mules, and asses, 1,407,000.

Mines produced in 1939 ore containing 41,700 metric tons of copper; the output of bauxite (source of aluminum) totaled 314,400 tons; that of coal, 446,000 tons, was supplemented by a heavy output of lignite, 5,622,000 tons, and of brown coal, 1,262,533 tons, for 1938. In 1939 was mined ore containing 26,000 tons of chromite. The minerals produced in 1938 had an aggregate value of 2,230,688,000 dinars, or approximately \$50,000,000 in U.S. money. Manufacturing industries, which employed about 400,000 persons in 1938, had to do mostly with the products of agriculture; but textile production was on the increase and iron was made from native ore.

**Foreign Trade.** Exports in 1940 went increasingly to Germany and Italy and to some of the central European countries not engaged in the European War but cut off by it from distant sources of supply. For 1939 (calendar year), imports totaled 4,757,383,000 dinars (for 1938, 4,975,342,000); exports, 5,521,187,000 (1938, 5,047,433,000). Germany took 1,762,003 thousand dinars of the exports of 1939 and sent 2,268,198 of the imports; Italy took 583,516 of exports and sent 556,953 of the imports; Bohemia-Moravia took 769,203 and sent 308,809; the United States took 280,736 and sent 248,012 (all figures in thousands). The principal exports of 1939 were timber (853,102,000 dinars), swine (484,161,000), copper ore (441,428,000), and wheat (375,101,000).

**Finance.** The dinar, Yugoslavian unit of money, was commonly valued in the United States, during 1940, around \$0.0227. The Yugoslavian fiscal year ends with March 31. The expenditures of the fiscal year 1940-41 were limited by decree to the monthly rate of the year before; but the need of meeting defensive emergency nevertheless caused the issue of a constitutional decree raising the year's total permitted expenditure to 14,708.2 million dinars, as against the 12,327.9 millions spent in 1939-40 (adjusted for credits transferred to the Croatian Banovina upon the latter's receiving financial autonomy). The actual budget of 1939-40 set the government's receipts at 12,786 million dinars and its expenditures at 11,920 millions. The national debt on Mar. 31, 1939, totaled 12,620 million dinars interior and 12,000 millions exterior; these sums did not include any liability of Yugoslavia for parts of the old Ottoman and Austro-Hungarian debts.

**Transportation.** There were 6436 miles of rail-

road line in 1938; of this, 5862 miles operated by the State. Passengers on the State lines numbered 54,327,793 for 1938; the freight hauled totaled 20,759,000 metric tons for 1938 and 20,938,000 for 1939. These lines' operating revenue for 1937 was 2,211,782,163 dinars; operating expense, 1,659,484,104. The Yugoslav Air Transportation Co. flew, in 1939, 386,856 miles, carrying 12,687 passengers, 23,372 lb. of mail, and 60,639 lb. of other matter; flights numbered 2776.

**Government.** Under the constitution of 1931, Yugoslavia is a constitutional monarchy. It is subdivided into banovinas (banovine) having in general the character of administrative provinces. But by decree of Aug. 26, 1939, an enlarged Banovina of Croatia (Banovina Hrvatska) acquired a great measure of home rule, notably over finances, public education, and social and economic functions. The Yugoslavian legislative power rests in the Crown and the Parliament; the executive power in the Crown. The Crown acts through a ministry, which is not responsible to the Parliament. There are two legislative houses: the Senate, of 94 members, half of them elected and half appointed by the Crown; and the Lower Chamber (Skupština), elective, of 371 members, but temporarily in abeyance, having been dissolved on Aug. 26, 1939. King Peter being still a minor in 1940, his powers were exercised by a Regency headed by Prince Paul, cousin of the late King Alexander.

#### HISTORY

**Drift toward War.** Yugoslavia during 1940 was drawn steadily nearer to the vortex of the European War. The Chief Regent, Prince Paul, who was actual ruler of the kingdom; the government, and the mass of the population were strongly pro-Ally or pro-Soviet and just as strongly anti-German and anti-Italian. But the country was boxed between the powerful armies of Germany and Italy, while Hungary and Bulgaria both sought the return of territories lost to Yugoslavia in the Balkan and World wars. Yugoslav cities were exposed to easy Italo-German air attack. Moreover dissensions between the Serbs, Croats, and Slovenes still divided the kingdom, despite the distinctly better atmosphere created by the partial autonomy extended to Croatia and Slovenia under the accord of Aug. 24, 1939 (see YEAR BOOK, 1939, p. 815). There was religious dissension between the Serbian Orthodox and the Roman Catholic faiths. Minority groups of Germans, Hungarians, and Bulgarians, aided and directed from Berlin, Budapest, and Sofia, provided further elements of internal disunity and dissension.

These circumstances forced the Belgrade Government to follow a policy of strict neutrality as long as that proved feasible. But with the collapse of France, the entrance of Italy into the war, the adhesion of Hungary and Rumania to the Axis's "new order" in Europe, and Bulgaria's tacit capitulation to German pressure, Yugoslavia became even more isolated and its external and internal problems more menacing.

The government repeatedly reaffirmed its determination to fight any infringement upon Yugoslavia's independence and territorial integrity. It reaffirmed its neutrality when Italy entered the European War, and again when Mussolini launched his attack upon Greece. But the growing diplomatic, economic, and military pressure from Germany, Italy, and their satellite States drew the kingdom gradually into closer collaboration with the Axis.

Toward the end of the year Prince Paul ap-



peared resigned to the necessity of some form of more active co-operation with Berlin. In this he was supported by the principal figures in the cabinet—Prime Minister Dragisha Cvetkovich, Vice Premier Vladimir Matchek (leader of the Croat Peasant party), and Foreign Minister Alexander Cincar-Markovich. The Serb military leaders and the bulk of the Serb population vigorously opposed this policy. They preferred war against any odds to acceptance of a subordinate role in the Axis's "new order," which they believed meant eventual servitude and disruption of their State. Thus at the end of 1940 the stage was set for a break between the Chief Regent and the government on the one hand and the army and people on the other over the crucial issue of acceptance of Adolf Hitler's "new order" in Europe.

**Internal Developments.** Axis efforts to use Yugoslavia's internal dissensions as a lever for forcing the kingdom into the "new order" were persistent. During the German campaign in Norway in April, a simultaneous Axis propaganda drive and "war of nerves" was launched in the Balkans, with the aid of carefully organized "fifth columns" within the Balkan countries. The Belgrade authorities took the lead in repulsing this non-military offensive by breaking up the "fifth column" throughout Yugoslavia. Former Premier Milan Stoyadinovich, the most influential pro-Axis leader in the country, was arrested on April 18 on a charge of plotting the overthrow of the government and the establishment of a pro-Nazi regime with the aid of German Nazis, who had organized Yugoslavia's German minority of some 500,000. He was interned under heavy guard to prevent further contact with German agents and his own Yugoslav followers. The same measures were taken with Milan Achimovich, former Minister of Interior and Police Chief of Belgrade, and several other prominent Stoyadinovich adherents.

Defying pressure from both Berlin and Rome, the government during April and May took extensive measures to eradicate the pro-Axis subversive organization. To curb the activities of German "tourists" many foreigners were forced to leave the country and the freedom of others was curtailed. Homes of suspected fifth columnists were searched, caches of arms, ammunition, and uniforms were seized, and numerous arrests were made, particularly among the German minority. On May 18 the army requisitioned 10,000 motorcycles from the districts along the frontier inhabited mainly by Germans and Hungarians. Early in June army officers suspected of connections with the German minority were demoted.

Further measures against subversive elements were taken early in November, when the government struck at the rapidly growing semi-Fascist Zbor movement. About 100 of the chief assistants of the Zbor leader, former Minister of Justice Dmitri Ljotich, were reported to have been arrested and the headquarters were closed and sealed. On November 16 the movement was declared illegal. Ljotich himself was discovered in hiding and arrested on December 20.

The breach between the government and the army over foreign policy came to the surface as a result of repeated bombing raids on the Yugoslav town of Bitolj (Monastir), near the Greek-Albanian frontier early in November. The raids, which killed a score or more of people, were attributed to Italian planes. The army, led by the pro-Ally War Minister, Gen. Milan Nedich, favored retaliatory action against Italy. But the government,

swayed by the Slovenian Catholic leader Father Anton Koroshetz (Minister of Education and President of the Senate), who was pro-Italian in his sympathies, decided to ignore the raids. Consequently War Minister Nedich resigned on November 6. He was succeeded by the retired Gen. Petar Pesich. The death of Father Koroshetz on December 14 (see **NECROLOGY**) removed one of the principal advocates of compromise with the Axis.

War Minister Pesich on November 16 effected a shake-up in the army's high command, the most important change being the promotion of Gen. Dusan Simovich from command of the Second Army to supreme command of the Air Force. Meanwhile there had been a steady increase in the number of men under arms and in war preparations of all kinds. The compulsory military service term was increased from 18 to 24 months on August 31.

**Food Riots.** The mustering of large numbers of peasants in the armed forces reduced the harvest and added to the economic strain under which the kingdom had labored since the economic crisis of the 1930's. Large shipments of foodstuffs to Germany and Italy further restricted food supplies and, together with drastic inflation of the currency, caused rapidly rising prices. Commencing in September, this situation provoked a series of food riots and demonstrations during which numerous persons were injured in clashes with the police and many arrested. Communist agitators were said to have stirred up many of these outbreaks. They charged the government with being a "fifth column" for the Axis and demanded a Yugoslav-Soviet military alliance. On December 30 the government was moved to action by sporadic bread shortages in the capital. Corn prices were stabilized and a number of bakers and brokers were arrested on charges of hoarding and profiteering on corn, wheat, and flour. The government on March 29 had assumed complete control over foreign trade.

Other repressive measures were taken to curb anti-government agitation. All trade unions were dissolved on December 31, and further union activity was forbidden. Press restrictions, a prohibition against all Masonic activities, and discriminatory measures against Jews were carried into effect earlier in the year. Some of these measures seemed primarily intended to placate the Axis.

**Situation in Croatia.** Under Prince Paul's guidance, the policy of conciliating the Croats through the extension of autonomy was carried forward during 1940 with the co-operation of the outstanding Croat leader, Vice Premier Matchek. On January 14 Prince Paul paid a State visit to Zagreb, the Croat capital, and signed an electoral law for the election of a Croatian Diet. His cordial reception testified to the great change in Croatian sentiment produced by the 1939 Croat-Serb accord. Early in February agreement was reached for the extension of similar autonomous rights to the Serb and Slovene districts of the kingdom.

An extremist faction of Croats, demanding the complete separation of Croatia from Serbia and the acceptance of an Axis protectorate, began a terroristic campaign against Dr. Matchek's dominant Croat Peasant party. There were clashes between Matchek supporters and opponents among the students at Zagreb University and a number of the anti-Matchek minority leaders were arrested. Some of them were accused of serving the German and Italian governments.

**Defense of Neutrality.** In its feverish efforts to remain outside the widening circle of the war,

the Belgrade Government followed two major courses. It sought to play Italy and the Soviet Union off against Germany, and thus prevent the Reich from gaining a free hand in Yugoslavia. Secondly, it attempted to strengthen friendly relations with the other Balkan States and to win their collaboration in preventing the spread of the war into the Balkan peninsula. At the same time, it firmly rejected Allied and Turkish efforts to draw the kingdom into an anti-Axis coalition.

These policies determined Yugoslavia's attitude during the annual conference of the Balkan Entente held in Belgrade during February 2-4. The Yugoslav Foreign Minister opposed Turkey's suggestion that the Balkan Entente be extended to provide mutual military support against an attack upon any one of its members from any source. Thus the conference disbanded with some innocuous resolutions that offered no obstacle to Axis methods of undermining the independence of small States.

In April the British Government protested shipments of Yugoslav bauxite from Ragusa to Trieste, threatening to sink ships engaged in this traffic. Italy in turn indicated that she would not allow the British navy to interfere with neutral commerce in the Adriatic. Later the same month Italy adopted a threatening tone toward Belgrade after the Yugoslav Government had rejected a Hungarian-Italian request that Italian troops be permitted to cross Yugoslav territory to aid Hungary in the event of a Hungarian-Soviet clash. Italian troops were concentrated on the Yugoslav frontier, and Italian sources launched a propaganda drive for the expansion of Albania to include the Albanian minority residing in Yugoslavia. Simultaneously, there was an intensification of German diplomatic and economic pressure.

**Rapprochement with Russia.** Belgrade countered by sending a trade mission to Moscow on April 20 as a gesture in the direction of closer Soviet-Yugoslav co-operation. A trade and shipping accord was signed in Moscow on May 11, but the Soviet Government declined to undertake any political obligations toward Yugoslavia that would bring Russia into collision with the Axis. However the negotiations along this line were continued and resulted on June 24 in the extension of mutual recognition by the two governments. Diplomatic representatives were exchanged for the first time since the Bolshevik revolution in the U.S.S.R. Milan Gavrilovich, vigorous leader of the Serb Peasant party, was sent to Moscow as the Yugoslav Minister.

**Attempts to Placate Axis.** The rapprochement with Russia aroused more complaints of Yugoslav unfriendliness in Berlin and Rome. There were further menacing troop movements and on May 21 the Italo-Yugoslav frontier was suddenly closed. Throughout the summer the Yugoslavs watched the Italian war preparations in Albania without knowing whether they were directed against Yugoslavia or Greece. To placate the Axis, Belgrade early in October disbanded the anti-Italian Slovene Association of Yugoslav Immigrants, active for years among the Slovenian minority in Italy. The war crisis with Italy arising from the air raid on Bitolj early in November was ended November 18 with an Italian admission that Italian planes had bombed the town "by mistake." Italy expressed profound regret and undertook to pay for all material damages.

**Concessions to Berlin.** Belgrade meanwhile made placatory gestures toward Berlin in the hope

of lessening German pressures. With Yugoslav consent and the co-operation of the Vichy Government, the Reich in June succeeded in obtaining control of the French-owned Bor copper mines in Yugoslavia, the largest source of copper in Europe. In October Belgrade curtailed passenger service on the railways in order to give Germany increased transit facilities for the shipment of Rumanian oil to the Reich. At German demand, steps were taken to curb sabotage of German oil trains passing through Yugoslavia.

After four weeks of negotiation by a German economic mission, Yugoslavia on October 19 signed a new economic accord with the Reich giving Germany approximately 60 per cent of all Yugoslav exports, as against some 50 per cent under the previous agreement. The accord increased the purchasing power of the reichsmark in terms of the dinar by about 20 per cent. In announcing this agreement, Foreign Minister Cincar-Markovich declared that Yugoslavia's co-operation with Germany was "not only economic but political." On December 3 it was announced that the Germans had obtained control of the largest bank in Yugoslavia, formerly in Belgian hands. The German Consul General and leader of the German Nazis in Yugoslavia was appointed president of the institution.

These concessions brought no relaxation of German pressure. On the contrary the Berlin Government in December began to insist that Yugoslavia align itself definitely with the Axis or suffer the consequences. This demand, which was accompanied by heavy German troop movements to the Yugoslav frontiers, was in line with Hitler's decision to bring the Italo-Greek war to a close and drive the British from their foothold in Greece. To attack Greece, or force it to yield without fighting, the Germans had to cross Bulgaria and Yugoslavia. The best and safest route for a German drive on the Greek port of Salonika was down the Vardar River through Yugoslavia. Consequently the conquest of Yugoslavia by peaceful or warlike means was essential to the consolidation of Axis control over the Balkans.

Hoping to induce Belgrade to accept its assigned role in the Axis without fighting, the German Government undertook to guarantee Yugoslavia's independence and territorial integrity and to assure it of an outlet to the Aegean Sea through the cession of Greek territory. It was reported that Yugoslavia was also promised part of Albania. On December 6 Premier Cvetkovich declared that Yugoslavia was willing to participate in the creation of a new European order, but only on the basis of the retention of its security and freedom. These crucial negotiations were still in progress at the end of the year.

Meanwhile the Belgrade authorities sought to obtain the support of the Hungarian, Bulgarian, and Turkish governments in refusing to permit the movement of foreign troops across their territories. This was the primary motive for Belgrade's signature of the Yugoslav-Hungarian treaty of "constant and perpetual friendship" on December 12. Hope of Bulgaria's co-operation in resisting Germany waned toward the year's end, however, when demands for the cession of the Yugoslav portion of Macedonia were made in the National Assembly at Sofia.

See ALBANIA, BULGARIA, GERMANY, GREECE, HUNGARY, ITALY, RUMANIA, and TURKEY, under *History*; BALKAN ENTENTE; COMMUNISM; REPARATIONS and WAR DEBTS.

**YUKON.** A territory of northwestern Canada. Area, 207,076 square miles; population (1939), 4000. Capital, Dawson. Mining is the main occupation. Mineral output (1939) was valued at \$4,961,321, including gold (87,745 fine oz.) \$3,171,102, silver (3,830,864 fine oz.) \$1,551,040, lead (7,544,632 lb.) \$239,089. Fur production (1938-39) was valued at \$267,700. There were 58 miles of railway. The territory is governed by a controller and a territorial council of 3 elected members. One commoner represents Yukon in the Canadian parliament at Ottawa. Controller, George A. Jeckell (appointed June 30, 1932).

**ZANZIBAR.** A British protectorate in East Africa, comprising the islands of Zanzibar (640 sq. mi.) and Pemba (380 sq. mi.). Population (1931 census), 235,428 (Zanzibar, 137,741; Pemba, 97,687). Capital, Zanzibar, 45,276 inhabitants. Chief products: cloves, copra, sesame oil, tobacco. Trade (1939): imports, £833,000; exports, £1,167,000, including cloves (13,187 tons) valued at £857,596 and copra (10,715 tons), £81,133. Finance (1939): revenue, £484,900; expenditure, £454,700. Budget (1940): revenue, £445,800; expenditure, £435,800. The nominal ruler is the Sultan. A British Resident administers the government. There is an executive council over which the Sultan presides, and a legislative council of 15 members including the British Resident as president. Sultan, Seyyid Sir Khalifa bin Harub (succeeded Dec. 9, 1911): British Resident, John H. Hall (assumed office, Oct. 5, 1939).

**ZINC.** The war seriously disrupted the activities of the world zinc industry in 1940. When Germany overran the Low Countries she obtained control of three-quarters of the European capacity for zinc reduction, but lacked a corresponding source of supply. It was therefore inevitable that the producers whose European smelting facilities were cut off should seek an outlet for their ores and concentrates in the United States. Adequate statistics are not available, but it is known that imports into the United States, mostly from Mexico, were very heavy, also that exports of zinc products were unusually large, particularly to Great Britain. The effect of this pressure on the domestic smelting facilities was to rehabilitate several obsolete and idle smelters and to construct some wholly new capacity in an effort to satisfy the unexpectedly large demand from Great Britain. At the end of 1940 smelter production of zinc in the United States was at the rate of nearly 790,000 tons per annum, including secondary metal.

The St. Louis price for prime Western zinc clearly reflected the effect of the war. Opening the year at 5.75¢ per lb. the price rose steadily to 7.25¢ in September, at which figure it remained to the end of the year. The average price for 1940 was 6.335¢ compared with 5.11¢ in 1939. The metal was not quoted abroad because the London Metal Exchange was closed and the Ministry of Supplies fixed the price at which consumers might buy.

The Census of Manufactures, 1939, showed a general decline from 1937 in all major essentials of zinc smelting and refining. The number of establishments decreased 25 to 21. Salaried personnel and salaries; wage earners and wages; cost of materials and energy purchased, value of products and value added by manufacture were all substantially decreased. This reflected the distressed state of the industry in 1939 for which it sought relief by revocation of the tariff reduction made in the Canadian treaty. Protest against this revocation

was made without success, and subsequently the problems of the war became paramount. Postwar adjustments will probably call for further tariff consideration.

Production of primary metallic zinc in the United States from domestic ores was estimated by the Bureau of Mines to be 588,600 short tons in 1940, compared with 491,058 tons in 1939, and the largest reported since 1929. Production from both domestic and foreign ores in 1940 totaled 674,100 tons, 33 per cent more than in 1939. Electrolytic zinc accounted for 186,100 tons of the 1940 total output of primary metal. Total supply of distilled and electrolytic primary and secondary zinc in 1940 was about 721,900 tons, composed of 190,700 tons of special high grade, 101,300 tons of ordinary high grade, 62,900 tons of intermediate, 83,000 tons of selected brass special, and 284,000 tons of prime western.

Imports of slab zinc for consumption for the calendar year of 1940 amounted to 10,095 tons, according to the Bureau of Foreign & Domestic Commerce. Total imports of zinc in ore for the same period were 180,655 tons. For the entire year 1939 the respective figures were 30,960 and 36,100 tons. Apparent consumption of primary slab zinc by domestic consumers established a new high record in 1940, amounting to about 662,900 tons, an increase of 9 per cent over 1939.

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**ZIONISM.** See JEWS; PALESTINE; Organizations listed under SOCIETIES.

**ZOOLOGY. Ecology and Taxonomy.** Ecology is a study of the relationship of the organism to its environment, taxonomy attempts a classification of animals and plants in accordance with their structural characteristics. The British Ecological Society held a symposium on the *Reciprocal Relationship of Ecology and Taxonomy*, the general conclusion being that the two should co-operate and be of mutual assistance. The *New Systematics*, edited by Julian Huxley, contains a series of essays by workers in ecology, genetics, and cytology, all leading to the co-operation of workers in these distinct subjects toward furthering the advance of taxonomy along more liberal and inclusive lines than frequently has been the case in the past.

As a result of recent developments, the Tennessee river has largely been converted into a series of reservoirs and this condition raises practical questions such as mosquito control and the conservation of wild life, including fisheries. A Technical Committee appointed to consider these problems made (*Science* 92, p. 201), a preliminary report on the work of 1939. The most important feature of this report dealt with the effect of insecticides (such as arsenic which may have been used for mosquito control), especially in relation to fish. So far no deleterious effect upon either fish or vegetation has been observed. Andrews, (*Ecology* 21, p. 335), found that the snail *Neritina virginea* in a salt pond in Jamaica, B.W.I., showed over a period of years that optimum living conditions resulted in a deterioration in size.

**General.** The U.S. Bureau of Fisheries and the Bureau of Biological Survey have been consolidated into a new bureau to be known as Fish and Wild Life Service (q.v.). By presidential proclamation, Barro Colorado Island in the Canal zone has been set aside for permanent preservation in its present condition. The Board of Directors are to be the Secretaries of War, Agriculture, and

Interior; the Secretary of the Smithsonian Institution; the President of the National Academy of Sciences and three biologists to be appointed. Ten thousand dollars a year has been appropriated for expenses. The Marine Biological Laboratory at Woods Hole, Mass., announced the beginning of the construction of an addition to its library to be paid for by a donation from the Rockefeller Foundation. At San Diego, Cal., the Biological Research Institution is conducting investigations into diseases and nutritional requirements of animals (*Science* 92, p. 212). The Mt. Desert Biological Laboratory in Maine reported that three new buildings will be erected for next year's use. Roy Forster was elected Director. *Nature* reported that a large number of the potentially dangerous animals, such as poisonous snakes and young lions, have been killed in the London Zoological Garden as an air raid precaution, and others removed to a shelter at Whipsnade. At the time of a raid visitors are taken into shelters and are not allowed outside until rifle patrols determine if any dangerous animals are at liberty.

**Sex Determination.** For sentimental reasons in man and of economic importance to breeders of lower animals would be the possibility of regulating the sex of unborn offspring, and for more than a century the subject has been discussed and many theories of sex determination proposed. Coe (*Science* 91, p. 175), discussed the problem partly from the standpoint of his own researches on reversal of sex where the animal is at one time of one sex and later becomes the opposite, his work having been mainly on oysters (See 1938 YEAR BOOK). In the majority of observed cases the animal is first male and later female. Coe thought that all of these phenomena support the belief that sex is determined by a qualitative balance between male determinant as opposed to female. In vertebrates it seems to be certain that internal secretions govern the determination, but this has not been demonstrated in the invertebrates. In some insects and amphibia a sex reversal may be artificially induced, but there is no reason to think that this is possible in mammals.

**Genetics.** As stated in the 1939 YEAR BOOK, Russian geneticists refused to attend the 1939 Genetics Congress held in Edinburgh. Pincus (*Jour. Heredity* 31, p. 165) stated that the Russians have formed a genetics school of their own and are discarding both the Mendelian theory as well as the pure-line hypothesis, and are basing their science on selection methods. Gardner and Newman (*Jour. Heredity* 31, p. 419), discussed the question of the relative influence of heredity and environment in forming the character of the individual, using a case of quadruplets in which two are obviously one-egg twins (e.g. arise from the division of a single egg) while the others are from two separate eggs. The first have identical hereditary equipment, while the second pair are hereditarily no more alike than any two brothers or sisters not twins. Although brought up under identical conditions, the one-egg twins retain their original differences from the others and do not tend to grow like them as they grow older.

**Embryology.** The "primitive streak" is a grouping of cells in a linear area which is the first visible indication of the developing embryo in birds and mammals and has been supposed to be an evanescent structure, disappearing early in the course of development. Streeter (*Nat. Acad. Sciences*, Oct.), announced his discovery of the fact that so far from being temporary this streak is really a

reservoir of material, "a continuing residuum of the primitive germplasm from which specialized cells and cell masses emerge to become the various body tissues," or, in other words, a supply of raw material out of which the developing embryo is built up to the final stages of its formation.

**Twinning.** As the first of a proposed series of popular scientific books published under the auspices of the American Association for the Advancement of Science, Newman, in *Multiple Human Births*, discussed the physiological, social, and psychological problems of human twinning, answering in part numerous inquiries that interested persons have proposed to him in the course of an extended study of multiple births in vertebrate animals in general. A question often asked is whether twins are or are not "desirable." His general conclusion seemed to be that because of "interference" of one twin with the other during fetal life there is in the case of twins a greater risk of injury with resulting abnormality during this period than in single births.

**Protozoa.** Jennings (*Science* 92, p. 539), showed that in a population of *Paramecium bursaria* there are series of families or clones and that in the interrelations between the individuals of one clone as well as between those of different clones there are "complicated codes of taboos, inhibitions, and permissible practices connected with the mating behavior, a complex social system." In animals in general the most primitive behavior is that involved in seeking mates and this appears even in the protozoa. Jennings concluded that this seeking of mates is the "fountainhead of both social behavior and self consciousness."

**Mollusca.** In the limpet (a snail) the conical shell accurately fits along its margin into irregularities in the rock on which it lies, this being the "home" of the snail from which it migrates in search of food but to which it returns. Hewatt (*Midland Naturalist* 24, p. 205), studied this homing process in the limpet *Acmaea scabra*. He found no evidence for geotropism or response to the pull of gravity, nor for the existence of any "homing sense." In homing the limpet retraced its outward path apparently following this through response to some sensory stimulus from something left on this path on its outward journey. If the margin of the shell is filed so that it no longer fits its home locality it will return there but is "uneasy" and will not remain for any length of time.

Galtsoff (*Biol. Bull.* 78, p. 117), found that the only stimulus leading to the spawning of female oysters is the presence of the sperm, while thermal changes may stimulate the males to discharge. In a large population, spawning by one individual chemically stimulates all of the others and advantage is taken of this fact in securing artificial impregnation of large numbers of individuals. Orton (*Nature* 145, p. 708), reported a very great destruction of English oysters in the cold winter of 1939-40. A possible cause was that the low temperature partially paralysed the adductor muscles, thus allowing injurious quantities of mud to enter the shells. A low degree of salinity in the sea water due to the melting of large quantities of snow may have contributed to this mortality. Luntz (*Science* 92, p. 310), reported that along the Atlantic seaboard an annelid *Polydora ciliata* has seriously injured the oyster crop by living in the inside of the oyster shell where it forms small blisters. Injury to the oyster is due to a restriction of its living space. The oysters are not inedible, but are unsightly and not readily salable. About

30 per cent of South Carolina oysters are reported to be infested. Prytherch (*Jour. Morphology* 66, p. 39), described the life history of a new protozoon parasite *Nematopsis ostrearum* which infests oysters from Virginia to Louisiana. It has an alternation of hosts, one host being two species of mud crab. Apparently it causes little injury if any, to the crab host, but may occur in epidemics causing a loss of from 50 to 90 per cent of oysters in both natural and cultivated beds.

**Crustacea.** The common fresh water crustacean *Daphnia* carries parthenogenetic eggs in a brood chamber and it has been supposed that the liquid in this chamber has a definite nutritive value. Obreskove and Frazer (*Biol. Bull.* 78, p. 428) showed that normal development will go on if the young are reared in sterile pond water. Lloyd and Yonge (*Nature* 146, p. 334), found in the crayfish *Crangon* a confirmation of an observation made earlier on *Homarus* (a lobster). In each a secondary sex character is the possession of special setæ on the abdomen which carry glands and to which the eggs are attached. These setæ appear only at the breeding season and possibly are produced by hormones secreted from the ovary.

**Fishes.** Huntsman and Dymond (*Science* 91, p. 447) discussed the numerous attempts that have been made to transplant Pacific salmon to streams of the Atlantic coast of North America and, although the evidence is conflicting, decided that there is no reason for believing that any of these experiments had been successful. Powers (*Science* 92, p. 353) gave reasons for thinking that a carbon-dioxide gradient in the water of rivers running into the ocean is a guiding factor in leading salmon to ascend streams. Sexually mature salmon are more sensitive to this gradient than are the immature and, hence, the former go up the streams while the others remain outside. Gudger (*Mem. Royal Asiatic Society of Bengal*) reviewed the literature of recorded cases where swordfish had attacked vessels. He considered the fish as naturally timid and not at all pugnacious, and that the attacks occur either when the fish are fighting against attacks by fishermen or, in some cases, when they are pursuing schools of smaller fishes and accidentally run into the vessel in the dark. Since a swordfish may weigh as much as 1250 lb. its momentum when swimming rapidly is very great. Cases are on record where the sword has pierced through 18.5 inches of hard wood in a ship's bottom.

Huggins (*Nature* 146, p. 206) warned conservationists that fish are the most delicately adjusted to their environments of all animals and hence most easily injured by unfavorable conditions; it is therefore desirable that before any conservation program is started a thorough study be made of all environmental conditions. The breeding habits and development of *Cladoselachus*, an archaic fish, as recorded in notes made by the late Bashford Dean, have been edited by Gudger and published in the series of *Dean Memorial Volumes*. This fish appears to be unusual in that the breeding season extends throughout the year instead of being limited

to certain months. Bridges (*Bull. N.Y. Zool. Soc.* 43, p. 74), reported the discovery in a Mexican cave of a blindfish, *Anoptichthys jordani*, in which all stages of eye development occur from complete blindness to well developed eyes. While most blindfish are found in cold water, the water in these caves is warm.

**Amphibia.** Smith (*Science* 92, p. 379) recorded observations on the mating habits of the Pacific tree frog, *Hyla regilla*. The males go into the water first and are usually more abundant than the females, so that mating takes place very soon after the females enter. Unless the females are allowed to mate, the eggs are retained in the body, and this causes the death of the animal. The maximum number of eggs laid by one female was 1250, though the average was from 500 to 700. Bragg (*Am. Nat.* 74, pp. 322 and 424), found decided and unexpected differences between the breeding habits of toads of the central and western plains and those found in the east. The eastern toad, *Bufo americanus americanus*, breeds early in the spring in pools, those of the central plains, *Bufo cognatus* and *B. woodhousii woodhousii*, usually breed only after a rain even though there may be abundant water in pools, and the breeding period extends well into the summer. Similar habits were observed in the frogs of this locality. The paper gives a detailed account of the development of the young toads of the plains living species.

**Birds.** The claim has been made, but doubted, that the hummingbird can fly backward. Tyler (*Rev. in Nature* 146, p. 466) verified this observation and describes the mechanisms involved. When backing away from a flower the bird stands almost vertical with its tail pointing forward and a little downward; in this position the beating of the wing forces the air forward away from the breast and pushes the bird backward.

The Trumpeter Swan has been so much hunted for its down and breast skin that for some time it was feared to be extinct. The press stated in September that as a result of protection in the Red Rocks Lakes refuge in Montana and in the Yellowstone Park the lowest estimate then made of the birds now living there is 212.

**Mammals.** Valuable hints to breeders of fur-bearing animals are contained in Kellogg's *Nutrition of Fur Animals*, published by the U.S. Printing Office as separate No. 177. Carr (*Bird Lore*, April-May, p. 141) reported that the introduction of beavers into the Bear Mountain Park has had important ecological consequences. As soon as ponds formed behind the beaver dams various species of birds began to nest in their vicinity, notably the Wood Duck. Woodpeckers found food in the trees killed by the flooding, and various mammals resorted to the ponds for drinking. Gradually silt washes down behind the dam and accumulates to such an extent that the beavers abandon that site and move elsewhere. This silted region is the basis for meadows which eventually form at that place. See also ENTOMOLOGY.

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